

**When Father Doesn't Bother:
Conditioning the Failure to Establish Paternity In-Hospital on Fathers' Presence at the Birth**

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Abstract

Children of unmarried parents do not have a legal father until paternity is established, a process completed by most families in the hospital at the time of the birth. Though nearly all fathers who are present at the birth establish paternity in-hospital, roughly one-quarter of unmarried fathers do not attend the birth and will overwhelmingly fail to establish paternity voluntarily. This paper proposes that the failure to establish paternity in-hospital consists of two distinct circumstances, often conflated in past research— fathers' absence from the birth, and fathers' choice not to establish paternity when present. Instead of evaluating the in-hospital paternity establishment decision as a binary choice, we consider it as a set of sequential choices, first to attend the birth and then to establish paternity. Using new data collected through the Paternity Establishment Study (PES), a longitudinal birth cohort study of approximately 800 Texas mothers who gave birth outside of marriage in 2013, we examine the failure to establish paternity in-hospital conditioning on fathers' presence at the birth. We find that more than two-thirds of fathers who do not establish paternity are not present at the hospital when the opportunity to establish paternity is offered; only 11 percent of birth-present fathers decline to establish paternity. Results from descriptive analyses and sequential logistic regressions suggest that the factors predicting non-establishment differ between fathers who are present and absent from the hospital. Fathers who are absent from the hospital often have a short and fragile history with the mother and provide little support during the pregnancy. A fathers' absence from the 20-week ultrasound emerges as the strongest predictor of his absence from the birth, suggesting this standard prenatal checkup may be an optimal time to provide unaccompanied mothers with information on paternity establishment and child support. For birth-present fathers, only father doubting the child's paternity approaches significance as a predictor of the failure to establish paternity. Offering free, non-conditional paternity testing to these fathers in the hospital may facilitate more accurate paternity establishment. Overall, results suggest rates of in-hospital paternity establishment may be near a maximum level given the prevalence of fathers' birth-absence. Further consideration should be given to fathers' birth-absence as a signal for looming concerns such as limited father involvement and support, especially in view of the birth as a potential point of intervention.

Keywords: Paternity Establishment, Acknowledgement of Paternity, Birth Attendance, Father Presence at Birth, Nonmarital birth, Prenatal Involvement, Father Involvement, Fatherhood, Sequential Logistic Regression

Introduction

Between 1980 and 2012, the proportion of nonmarital births in the United States doubled. Today, more than two in five U.S. children are born to unmarried parents. This dramatic rise in the proportion of nonmarital births is a concern not only because of the increased risk of negative child outcomes associated with nonmarital childbearing, but also because these children do not have a legal father until paternity is established. Paternity establishment legally certifies the father as a biological parent of the child and affirms his legal rights and responsibilities. For most unmarried parents, paternity is established either voluntarily at the time of birth or through court order. Fathers who voluntarily establish paternity in the hospital are more likely to be involved and supportive of their child, both of which are associated with a host of positive child outcomes (Mincy et al., 2005; Cabrera, Shannon, & Tamis-LeMonda, 2007; Amato & Gilbreth, 1999).

Given the steady rise in nonmarital childbearing and, by consequence, the growing importance of paternity establishment, the last three decades have seen the introduction of a number of laws and regulatory changes within state child support divisions intended to simplify and promote voluntary paternity establishment at the birth. From 1988 to 2005, the proportion of nonmarital births with paternity established rose from 30 percent to 75 percent; today, the vast majority of unmarried parents establish paternity in the hospital voluntarily (Pearson & Thoennes, 1996; Guzzo, 2009). Despite large increases to the rate of in-hospital paternity establishment, a significant number of children remain at risk of growing up without this important legal connection. In concert with federal performance measures, these concerns have led states to seek further increases in the rate of overall paternity establishment.

Alongside these efforts, a handful of studies have examined the predictors of in-hospital paternity establishment to better understand the characteristics of fathers least likely to establish paternity at the time of birth. These studies have generally considered unmarried fathers to be present and active participants in the paternity establishment decision; in practice, however, many fathers are not present in the hospital when the opportunity to establish paternity is offered. This paper proposes that the failure to establish paternity in-hospital involves two distinct circumstances, often conflated in past research—fathers who are absent from the birth, and

fathers who are present but choose not to establish paternity—and contends that a better understanding of in-hospital paternity establishment requires examining each of these separately.

To investigate this topic, we use original data collected through the Paternity Establishment Study (PES), a longitudinal birth cohort study of approximately 800 Texas mothers who gave birth outside of marriage in January 2013. The data provide a wealth of new information on paternity establishment, parental relationship quality, father involvement, and father support during the period leading up to, and following, a nonmarital birth.

The primary aim of this paper is to understand the extent to which establishing paternity is conditional on fathers' birth attendance. Specifically, we seek to distinguish between three groups of fathers: those who are present at the birth and establish paternity, those who are present at the birth and do not establish paternity, and those who are absent from the birth and do not establish paternity. Considering birth attendance and paternity establishment as two separate but sequential choices, we ask how the characteristics of fathers in each group differ across demographic, socioeconomic, and relationship domains. In addition, we ask which prenatal factors best predict whether fathers will attend the birth and establish paternity.

Background & Theory

Why Establish Paternity?

State and federal efforts to increase the rate of paternity establishment have been driven in large part by the numerous benefits, both legal and symbolic, associated with establishing paternity. One tangible and immediate benefit to establishing paternity in-hospital is the right of fathers to include their name on the child's birth certificate. Paternity establishment also ensures that children born outside of marriage are eligible for a wide range of benefits through their fathers, including health insurance, life insurance, social security, veteran's benefits, and inheritance. For children born to unmarried parents, an additional benefit of paternity establishment is the ability to access their paternal genetic history and determine if they may be at risk for any inherited health defects. Finally, establishing paternity is a necessary precondition for formal child support or the establishment of legal visitation orders.

In addition to the many legal benefits, establishing paternity symbolizes a direct connection between a father and child. Formalizing this connection lays the groundwork for future father involvement, which has been linked to numerous positive child outcomes. Nonresident fathers who voluntarily acknowledge paternity in the hospital are more likely to comply with child support orders than those who do not (Mincy et al., 2005). Moreover, fathers who establish paternity in the hospital are also more likely than fathers who establish paternity outside the hospital, or not at all, to be involved in their child's life through frequent contact and overnight visits (Mincy et al., 2005).

Compared to fathers with court-ordered paternity establishment, those who voluntarily establish paternity are both less likely to have a child support order *and* more likely to comply with the child support orders they do have (Brown, Cook, & Wimer, 2004; Brown & Cook, 2008). One partial explanation for these trends may lie in the tendency of fathers who establish paternity in-hospital to have a better relationship with the mother — whether they are romantically involved, living together, or simply more inclined to get along and jointly support their child without a formal obligation.

History of Paternity Establishment

Since the enactment of Title IV-D of the Social Security Act in 1975, federal legislation has driven many of the changes in paternity establishment policy. In part of an ongoing effort to increase the rate of paternity establishment, lawmakers have made a number of modifications to the procedures, incentives, and requirements surrounding paternity establishment.

In 1988, Congress enacted the Family Support Act to revise and strengthen existing AFDC policies around work, child support, and family benefits. The act also featured a number of amendments to paternity establishment, including setting incentives for states to establish paternity, requiring states to use genetic testing in cases of contested paternity, encouraging states to use civil processes for establishing paternity, and allowing for paternity to be established at any point before a child's 18th birthday. Several years later, Congress enacted the Omnibus Reconciliation Act of 1993, which required states to create a simplified, administrative process for parents to voluntarily establish paternity in the hospital at the time of their child's birth. States were further incentivized to capitalize on the voluntary paternity acknowledgement process through the Personal Responsibility and Work

Opportunity Reconciliation Act (PRWORA) in 1996, which increased the paternity establishment standard for states from 75 percent to 90 percent of all births to unmarried mothers. In addition, Congress required unmarried parents to sign a voluntary acknowledgement to allow the father's name to be identified on the child's birth certificate (Child Support Enforcement Program Final Rule, 1999).

Two additional developments have helped incentivize states to increase the rate of in-hospital paternity establishment. The first is a set of five federal performance measures enacted under the Child Support Performance and Incentive Act of 1998. As one of the five federal performance measures, the rate of paternity establishment for nonmarital births has become a critical metric for states seeking federal incentive funds. The second incentive is internal to state child support offices. Since paternity establishment is a necessary prerequisite for child support, achieving a higher rate of in-hospital paternity establishment effectively expedites the establishment of subsequent child support orders. In this way, state agencies are naturally motivated to increase the percentage of parents who voluntarily establish paternity in-hospital in order to obviate future barriers to child support filing.

Together, these incentive structures and policy changes have led to national and state increases in paternity establishment rates. From 1988 to 2005, the proportion of nonmarital births with paternity established rose from 30 percent to 75 percent, nationally (Pearson & Thoennes, 1996; Guzzo, 2009). Today, the vast majority of paternities are established voluntarily, with more than 1 million of the 1.6 million parents who established paternity in 2012 doing so in the hospital or through other acknowledgement programs (Office of Child Support Enforcement, 2013).

Who Establishes Paternity in the Hospital?

Alongside the surge in paternity establishment rates, a new crop of research has emerged in an effort to understand who establishes paternity in-hospital, who doesn't, and why.

Drawing on data from the Fragile Families and Child Wellbeing Study, Mincy et al. (2005) find that fathers who have more than a high school education, were employed prior to the birth, and do not have children from previous relationships are more likely to establish paternity in the hospital than fathers without these characteristics. Fathers are also more likely to establish paternity in the hospital if they display altruistic behaviors during the

pregnancy (e.g. contributing cash or in kind support during pregnancy, or demonstrating emotional support of the mother).

The biggest determinant of in-hospital paternity establishment, however, is the birth status of the parental relationship. Couples who are cohabiting, romantically involved, or in friendly relationships are considerably more likely to establish paternity in the hospital than parents with little or no contact at birth. These patterns are confirmed by Guzzo (2009), who uses the 2002 cycle of the National Survey of Family Growth to show that couples cohabiting at birth are not only more likely to establish paternity, but are much more likely to do so in the hospital relative to establishing paternity elsewhere. This association holds for both first births and higher-parity births.

The association between in-hospital paternity establishment and demographic characteristics of the father is somewhat more tenuous. When controlling for other characteristics, Mincy et al. (2005) find no association between in-hospital paternity establishment and a father's race/ethnicity or age. When considering whether paternity was established at all, however, Guzzo (2009) finds that Hispanic and Black fathers are significantly less likely than White fathers to have paternity established for first births.

Research on *why* fathers establish paternity is far more limited. Despite the clear need to understand what motivates the paternity establishment decision, few studies have examined this topic directly. A descriptive analysis of mother and father survey data, however, shows that for most parents—and especially those in cohabiting or dating relationships—the decision to establish paternity is largely a symbolic and emotional one, guided more by what it *means* than what it *does* (Osborne et al, 2013).

Though prior research has proven foundational to our understanding of the paternity establishment decision, it has also largely ignored a crucial distinction among the group of fathers who fail to establish paternity in-hospital. Previous studies have generally considered unmarried fathers to be present and active participants in the paternity establishment process, willfully declining to sign the legal paternity paperwork presented to them in the hospital. In practice, however, the failure to establish paternity in-hospital consists of two distinct circumstances— fathers who are absent from the birth, and fathers who are present but choose not to establish paternity. This paper addresses

the limitations of prior research by considering the decisions to attend the birth and establish paternity as two separate but sequential choice sets.

Fathers' Birth Attendance

Throughout the first half of the 20th century, the birthing process moved from the home to the hospital. During much of this time, fathers were excluded from birth attendance. By the early 1980s however, the role of fathers' attendance at the birth had "evolved from one of an unnecessary source of infection to an essential source of affection for both the mother and newborn" (Kunst-Wilson & Cronenwett, 1981, p.202). Running parallel to this history, fathers' birth attendance emerged as the subject of academic interest throughout the 1970s and 1980s; in more recent literature, however, the subject has received less attention as the practice of fathers attending the birth has become more routine and expected.

Today, attending the birth provides fathers with an important opportunity to support the mother, affirm their new role as father, and bond with the child (Palkovitz, 1987; Shannon et al, 2009). Fathers who are present at the birth send an important message to the mother and child, communicating their engagement and helping to "alleviate the loneliness, pain, and uncertainty during the delivery" (Squire (Ed.), 2009, p.230). In these ways, attending the birth has come to reflect a father's commitment to the mother as well as his "intention to be a 'father' to the child" (Squire (Ed.), 2009, p. 229). Of course, showing up at the birth is no guarantee that healthy and involved participation from the father will follow. For some fathers, attending the birth may spring from a desire for redemption or new beginnings, a phenomenon Edin and Kefalas call "hospital-bed conversions" (Edin & Kefalas, 2011, p.62). In these instances, a father's newly found commitment is likely to dissipate after the "magic moment" of the birth has faded. Still others may attend the birth in response to feelings of social pressure—either from the mother, friends, family, or society more broadly (Palkovitz, 1987). In general, however, most fathers want to attend the birth, and are motivated to do so by a variety of positive ideals—from supporting the mother to bonding with the child (Palkovitz, 1987).

Both quantitative and qualitative studies have noted, however, that fathers who do *not* attend the birth of their child may be fundamentally different from those who attend. In *Promises I Can Keep*, Edin and Kefalas write

that a fathers' absence from the hospital indicates an "unwilling(ness) to accept responsibility" (Edin & Kefalas, 2011, p.61). Others have suggested that a father who does not attend the birth may be "viewed as an incompetent father and an inadequate man who has shirked his duty to the child" (Squire (Ed.), 2009, p.229). In an effort to quantify these dynamics, a number of studies have examined the link between fathers' attendance at the hospital and subsequent involvement with the child. In a seminal, but now somewhat dated, review of the literature, Palkovitz (1985) concludes that little evidence exists to confirm a significant relationship between fathers' birth attendance and father involvement in infancy. More recent studies, however, point to a meaningful association. Cabrera et al (2008), for example, find that fathers' prenatal involvement (constructed as an index including fathers' presence at the birth) is significantly linked to levels of engagement when the child is 1- and 3-years-old. Shannon et al (2009) note a similar pattern; using a sample of 2,160 families from the Early Head Start national evaluation, they find that fathers with higher levels of prenatal involvement are more likely to attend the birth and maintain subsequent accessibility over the child's first 5 years. These studies highlight the importance of the prenatal period as a litmus test for fathers' commitment to the nascent family, and spell out a clear connection between prenatal father involvement, birth attendance, and future involvement with the child.

Theoretical Perspectives and Prenatal Constructs

Given that fathers' birth attendance and early involvement have roots in the prenatal period, it may also be the case that a father's paternity establishment decision has precedent in the prenatal period. This notion is supported by Mincy et al. (2005), who find that a father's lack of prenatal support—both financial and emotional—foretells a failure to establish paternity in-hospital.

To help structure the conceptual link between prenatal involvement, birth attendance, and the paternity establishment decision, we draw on a theoretical framework first popularized by Elder (1998), and later tailored to early fatherhood by Cabrera et al (2008) and Shannon et al (2009). The life course perspective, a cross-disciplinary paradigm for understanding the social context of peoples' lives, proposes that ongoing changes in individuals' lives move them through a sequence of events and roles that influence their development. The timing at which an individual takes action to engage with these changes has consequences for their future trajectory. The experience of

becoming a new parent is salient in this regard, a transformation associated with the onset of generativity, in which a person develops a deepening concern for the next generation (Roy, 2013). As men transition to fatherhood, they are faced with decisions about the timing and extent to which they will become involved and supportive of their new family. These decisions involve a substantial shift in identity. Marsiglio (2004) argues that by envisioning and planning for the fatherhood identity “men can venture into the expansive terrain of fatherhood prior to a child’s birth and conception” (p.54). Indeed, some fathers will engage with the fatherhood role in the process of conception planning; for others, the role may not take hold until after the birth. Still others may never fully engage with their new role.

These identity dynamics outlined by the life course perspective share significant overlap with a related model of parenting called identity theory (Stryker, 1968). Drawing on symbolic interaction theory, identity theory proposes that the self has multiple identities structured within a hierarchy, with some identities more salient to one’s sense of self than others (Fox & Bruce, 2001). The salience of any one identity can be seen in the commitment of time and resources to engage with that particular identity (Pasley et al., 2013). Becoming a first-time father introduces a substantial shift in identity; delays in assuming or committing to this identity may be borne out in fathers’ decisions during the prenatal period, at birth, or later in the child’s life.

In the sequence of opportunities to engage with the role of fatherhood, two come at the moment of birth. These decisions are 1) whether or not to attend the birth, and 2) whether or not to establish paternity. We hypothesize that by the time a father is confronted with these decisions, he has already been on a trajectory determined by dynamics at play during the prenatal period. Further, we hypothesize that these prenatal factors will strongly predict fathers’ decisions to attend the birth and establish paternity. Guided by prior research, we consider three distinct prenatal constructs as potential predictors of fathers’ decisions to attend the birth and establish paternity: 1) preconception commitment, 2) prenatal relationship quality, and 3) prenatal father involvement.

Preconception Commitment

Fathers who exhibit a lack of commitment to the mother prior to the pregnancy may have trouble transitioning to their new identity as a father. For some couples, a casual or haphazard relationship may become unexpectedly elevated with the news of a pregnancy (Edin & Nelson, 2013). Fathers who have only been dating the

mother for a short period of time may be hesitant to engage with their new role, especially if it is an accidental one. Researchers have examined the role of fathers' pregnancy intentions in future father involvement and found fathers who did not want the pregnancy are less likely to demonstrate paternal warmth with the child (Bronte-Tinkew et al, 2007). Others have considered paternity certitude as an indicator of commitment to the mother and child, noting that doubts about paternity may explain the apparent ease with which some fathers stray from the lives of the children "who are unintentional byproducts of casual relationships and haphazard contraception" (Fox & Bruce, 2001, p.401).

Prenatal Relationship Quality

The quality of parents' relationships during the prenatal period has a strong intuitive link to fathers' decisions around birth attendance and paternity establishment. A number of studies have linked parents' relationship status at birth to the in-hospital paternity establishment decision (Mincy et al., 2005; Guzzo, 2009); parents who experience a break up or worsening relationship during the prenatal period are less likely to be cohabiting or dating at the time of birth, and are thus less likely to establish paternity. Another indicator of poor relationship quality during the prenatal period is the experience of family violence; in addition, family violence is associated with lower rates of in-hospital paternity establishment (Osborne et al, 2013). Fathers who are involved in turbulent or violent relationships during the prenatal period may be more resistant to engage with their new identity as father and co-parent. Whether this is because the particular relationship does not comport with their concept of self, or because they are averse to becoming a father more generally, prenatal relationship fragility is likely to herald future disengagement from the fathering role.

Prenatal Father Involvement

Of all three prenatal constructs, extant literature is most versed on the topic of prenatal father involvement. Researchers have long noted that fathers can bond with their partners and the unborn child during the prenatal period (May, 1980). Fathers who are involved prenatally are more likely to have assumed the fatherhood identity, and therefore may be more likely to act in ways that are consistent with this identity at the time of birth (i.e. through birth attendance and paternity establishment). This notion comports with findings from previous studies,

which have concluded that fathers who are involved and supportive during the prenatal period are more likely to establish paternity and be involved with the child following the birth (Mincy et al., 2005; Marsiglio, 2004; Bronte-Tinkew et al, 2007; Cabrera et al, 2008; Shannon et al, 2009). These studies tend to draw on similar measures to operationalize the prenatal construct, including items such as: discussing the pregnancy with the mother, giving the mother money or buying things for the baby, helping in other ways such as providing transportation or doing chores, taking the mother to doctor's visits, attending prenatal appointments, attending childbirth classes with mother, seeing a sonogram, examining the ultrasound, listening to the baby's heartbeat, and feeling the baby move (Bronte-Tinkew et al, 2007; Cabrera et al, 2008; Cabrera et al, 2009; Shannon et al, 2009). Involvement in these prenatal activities often means that participating fathers have embarked on a trajectory of involvement that carries lasting implications for future parenting (Marsiglio, 2004).

Method

Data

The research questions posed in this study call for modeling fathers' decisions to attend the birth and establish paternity as two separate, sequential decisions resulting in four categorically distinct outcomes; in addition, the research aims necessitate a broad array of prenatal factors to serve as predictors of fathers' birth decisions. To accommodate these parameters, we use newly collected data from the Paternity Establishment Study (PES), a statewide survey of 800 unmarried Texas mothers who gave birth in January 2013. The PES study is broadly modeled after the Fragile Families and Child Wellbeing study, but includes additional questions about the prenatal period while providing an updated look at families who have given birth outside of marriage more recently. As one of the largest and most diverse states, Texas may be well-suited for a generalizable study. In 2012, Texas accounted for nearly 10 percent of births in the U.S. (Martin, 2013). Moreover, the demographic composition of the state is reflective of developing trends in U.S. demographics overall. In 2013, the Texas population was 44 percent white, 38.4 percent Hispanic, and 12.4 percent black (U.S. Census Bureau, 2014). Population projections for the U.S. as a whole increasingly mirror this racial and ethnic composition. By 2050, the U.S. is expected to be 47 percent white, 29

percent Hispanic, and 13 percent black (Passel and Cohn, 2008). Finally, Texas may be a useful case study with regard to paternity establishment itself. The state's in-hospital paternity establishment process is widely used, with 74 percent of unmarried parents establishing paternity in the hospital in 2012 (The Texas Office of the Attorney General, 2012).

Data used in this study were collected through a stratified random phone and email sample of unmarried Texas parents who gave birth during a two week period in January 2013. The sampling strategy oversampled mothers and fathers who did *not* establish paternity in the hospital at the child's birth to improve the reliability of estimates calculated for this subgroup. When weighted, the sample is representative of all mothers who had a nonmarital birth in Texas during the sampling period.

The survey was administered online and by phone during a two-month period beginning in April 2013, when the focal child was approximately three months old. It was offered in both English and Spanish to a final sample of 800 Texas mothers, and 286 Texas fathers. Among mothers with complete contact information, the overall refusal rate was 1.8 percent. Ideally, both mother and father survey data would inform this analysis; however, too few fathers completed the survey to constitute a representative sample. As a result, analyses in this study draw solely from mother reports.

Analytic Sample

A small number of survey respondents with incomplete information on key variables were dropped from the sample. We remove 21 cases where we do not have information on fathers' presence at the birth; 9 of these cases were also missing on parents' relationship status. We also exclude 25 cases where father failed to attend the birth, but later established paternity; though an important subgroup, the small sample size precludes meaningful analyses. The final analytic sample includes 754 mothers.

Measures

Dependent Variables

This paper relies on two separate dependent variables, defined as follows.

Father Birth Attendance. We use a dichotomous measure of fathers' birth attendance based on the question "Was [Father] present at [Child]'s birth?" Throughout this paper, fathers' birth attendance is considered a decision, however this variable may not always reflect a true choice on the part of fathers. Some fathers may be absent from the birth as a result of external factors, or decisions made by the mother.

Paternity Establishment. We use a dichotomous measure of in-hospital paternity establishment constructed from a combination of administrative data from the Office of the Attorney General (OAG) and mother survey responses. We consider parents to have established paternity in-hospital if: 1) Administrative records from the OAG indicate Acknowledgement of Paternity paperwork was filed within 5 days of the birth AND survey responses *do not* indicate that the process was completed outside of the hospital (at a community health center, at the child support office, or in court), or 2) Mothers answered yes to the question "Has [Father]'s legal paternity been established?" AND mothers indicated that the process was completed at the hospital AND administrative records *do not* indicate paternity was *not* established.

In multivariate analyses, fathers' birth attendance and paternity establishment are modeled as separate, sequential decisions. In descriptive analyses, we consider the birth attendance and paternity establishment decisions jointly by constructing a four-level categorical variable to examine the characteristics of parents in each decision set. These levels include 1) present, paternity established (present signer), 2) present, not established (present non-signer), 3) absent, paternity established (absent signer), and 4) absent, not established (absent non-signer). The 'signer' and 'non-signer' labels are used as shorthand throughout our analysis to indicate whether a father has signed the paternity establishment paperwork, known in Texas as an Acknowledgement of Paternity (AOP) form. Due to the small number of fathers who were absent from the hospital but established paternity in the days following the birth (category 3), we exclude these cases from the analysis, leaving a three-level dependent variable (N=754).

Independent Variables

For our primary predictor variables, we draw on 11 prenatal indicators capturing different aspects of the parents' relationship prior to the child's birth. Each of these variables is analyzed independently but, for theoretical

purposes, is categorized within a larger construct. Below, we group the 11 prenatal variables into three overarching constructs, and provide definitions accordingly.

Relationship commitment prior to pregnancy. We assemble a measure of parents' early commitment to the relationship using four binomial variables: 1) *Knew < 6 Months*=1 if parents had been seeing or dating each other for less than 6 months when mother became pregnant, or were never really dating, 2) *Unintended Pregnancy*=1 if mother does not strongly agree with the prompt "You and [FATHER] were trying to have a baby when you became pregnant with [CHILD]," 3) *Father Doubts Paternity*=1 if mother answers "yes" or "I don't know" to the question "During your pregnancy, did [FATHER] ever question whether [CHILD] was his biological child?", and 4) *Father Family Doubts Paternity*=1 if mother answers "yes" or "I don't know" to the question "During your pregnancy, did [FATHER]'s family ever question whether [CHILD] was his biological child?"

Prenatal relationship quality. To measure parents' relationship quality during the pregnancy, we rely on three distinct binomial indicators from the prenatal period: 1) *Rel Worse in Pregnancy*=1 if Mother indicates that the relationship with father got worse during the pregnancy, 2) *Broke Up in Pregnancy*=1 if Mother indicates that she experienced a break up with the father during the pregnancy, and 3) *Family Violence*=1 if Mother reports being physically hurt in an argument with the father since becoming pregnant OR feeling that the father has put her or the child at risk of physical or emotional harm.

Prenatal father involvement. To evaluate father involvement during the prenatal period, we consider four binomial indicators of fathers' engagement with the mother and unborn child: 1) *No Help*=1 if mother indicates that during the pregnancy, father 'rarely' or 'never' "helped in any way, such as providing transportation to the doctor or helping with chores?" 2) *No Money*=1 if mother indicates that during the pregnancy, father 'rarely' or 'never' gave her money or bought things for the child, 3) *No Prenatal Appts*=1 if mother indicates that father 'rarely' or 'never' attended prenatal appointments, and 4) *Not at Ultrasound*=1 if mother indicates that father was not present at the 20-week ultrasound (or that she did not attend an ultrasound).

Covariates

Parents' Relationship Status. In line with previous studies on the determinants of in-hospital paternity establishment, we include a measure of parents' relationship status near the time of birth. Previous studies have generally relied on a measure of the parent's relationships status at the time of birth; our data include a measure of relationship status captured three months after the birth. We consider this measure to be a strong proxy for parents' relationship status at the birth itself, though it is possible that some of the parents reporting no relationship in our sample were together at the time of birth. Our measure of parents' relationship status is constructed as a three-level variable, defined as follows: 1) Cohabiting, including married (n=46) OR living together and romantically involved (n=403) OR living together and not romantically involved (n=6), 2) Dating, including romantically involved and not living together (n=99) OR casual/on and off again (n=35), and 3) No Relationship, including separated or divorced (n=11) OR just friends (n=44) OR not any type of relationship (n=110). Though our data include a small number of cohabiting parents who report being married, all cases were drawn from births registered to unmarried parents in state administrative data.

The variable for parents' relationship status plays a critical role in our analysis. We include this variable because past studies have recognized it as a dominant predictor of paternity establishment. Our primary interest, however, lies in the extent to which the link between relationship status and paternity establishment can be explained by earlier signals from the prenatal period. We recognize that the decision to include parents' relationship status risks over-controlling the models and tempering the effects of our prenatal variables, however we do this intentionally to determine whether earlier experiences from the prenatal period can account for the association observed between relationship status and paternity establishment in prior work.

Sociodemographic Controls. We include age, race/ethnicity, and education level for both mother and father. Ages are included as continuous variables in regressions, but discretized for summary statistics. For both parents, we construct dummy variables for race and ethnicity, including Hispanic, Black, White, Other, and Not Reported. The education categories are Less than High School, High School Diploma (or equivalent), Some College, and College Degree (BA or Associates). For fathers' education, we include an additional category for Mom Doesn't Know.

Parental Risk Factors. In line with previous studies on paternity establishment, we also incorporate several risk factors coded as dummy variables. These include mother multipartner fertility (MPF), father multipartner fertility, and father unemployment. Cases where the mother does not know the fathers' MPF or employment status are coded as zero (i.e. not having the risk factor).

Imputation Strategy

All 754 cases in our sample include full information on dependent variables. We impute missing values for parents' age as the mean value (fathers' mean age=27; mothers' mean age=25). This imputation affects 6.5 percent of the sample for fathers and 5.8 percent of the sample for mothers. Missing values for race and education were coded as not reported, a procedure affecting approximately 5.5 percent of the sample for fathers, and 5 percent of the sample for mothers.

We also impute missing data for several dichotomous independent variables by assigning missing cases to the most prevalent category (i.e. the mode value); in each case, this conservative imputation strategy codes missing responses with a zero value, effectively assuming the respondent does not have the risk characteristic in question. Independent variables with imputation affecting more than 2 percent of the sample include: Family Violence (5.1%), Father MPF (3.8%), Mother MPF (3.7%), and Father Unemployment (4.7%).

Analytic Strategy

Our analysis is comprised of two parts. First, we provide a descriptive portrait of parents (N=754) in each of three cases: father is present and paternity is established (present signer; n=539), father is present and paternity is not established (present non-signer; n=65), and father is absent and paternity is not established (absent non-signer; n=150). Summary statistics are presented for parents in each group, and include all covariates and independent variables belonging to the three prenatal constructs.

Second, we model the in-hospital paternity establishment decision as a sequential logistic regression to reflect the two-stage decision process that characterizes establishing paternity in the hospital. In the first stage, we model fathers' decision to attend the birth; in the second stage, we model the paternity establishment decision among those present at the birth. Our independent variables include a vector of socioeconomic controls, the parents'

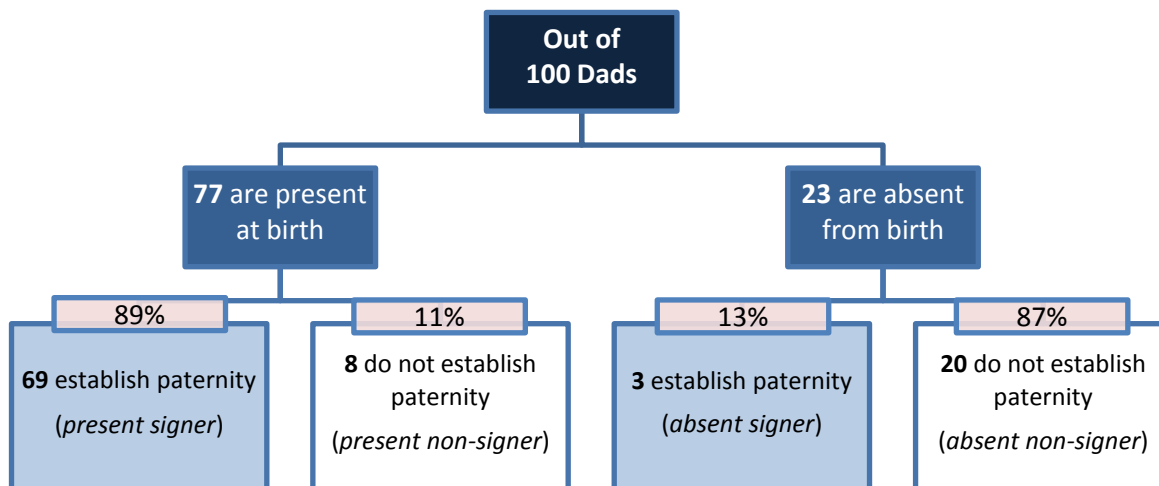
relationship status shortly after birth, and a broad set of prenatal factors intended to capture (1) relationship commitment prior to pregnancy, (2) prenatal relationship quality, and (3) prenatal father involvement. This approach allows us to examine the association between each independent variable and the odds of bypassing paternity establishment at each fork in the decision process.

In our first model, we include fathers' sociodemographic characteristics (age, race/ethnicity, and education), fathers' risk factors (MPF, and unemployment), and the parents' relationship status. Models 2 through 4 then build on this initial model, with each new regression considering a separate set of prenatal variables in addition to the variables included at baseline. Model 2 examines factors related to parents' commitment prior to pregnancy. Model 3 considers variables measuring parents' prenatal relationship quality, and Model 4 includes indicators of prenatal father involvement. In our fifth and final model, we include all variables in the analysis. With each model, we evaluate not only the effect of the prenatal variables, but also their combined attenuation effect on the strength of parents' relationship status as a predictor of not attending the birth or not establishing paternity when present.

Results

Figure 1 presents a decision tree illustrating the distribution of fathers' birth attendance and paternity establishment decisions. Though approximately 72 percent of unmarried parents in our sample establish paternity in the hospital (not shown), this rate is highly contingent on the father's presence at the birth. More than three-quarters of fathers are present at the birth, and of these, 89 percent establish paternity in-hospital. Roughly 23 percent of fathers, however, are not present at the hospital when the opportunity to establish paternity is offered. These fathers will overwhelmingly fail to establish paternity voluntarily; in fact, just 13 percent will take the steps to establish paternity in the days following the birth. As mentioned previously, this group is excluded from the remainder of our analysis due to inadequate sample size.

Figure 1: Decision Tree of Fathers' Birth Attendance and In-Hospital Paternity Establishment Decisions



As Figure 1 makes clear, the primary driver of non-signing is the father’s absence from the birth. In fact, of the 28 percent of fathers who do not establish paternity, more than two-thirds are not present at the hospital when the opportunity to establish paternity is offered. These fathers fail to establish paternity not through active choice, but as an indirect consequence of their absence. To better understand how fathers in each group differ from one another, we turn to a descriptive portrait of parents in each of our three outcome categories.

Descriptive Statistics

Table 1 presents weighted descriptive statistics for parents in each of three groups: present signers, present non-signers, and absent non-signers. Overall, we find that birth-absent fathers are very different from both groups of fathers who attend the birth. Though several of these differences emerge across demographic measures, the largest and most significant divergence appears in the prenatal period, as well as in parents’ relationship status near the time of birth.

As shown in Table 1, roughly two-thirds of unmarried fathers are under the age of 30, and nearly 1 in 10 are under 21. Across the three groups of fathers, however, we find no significant differences in age. In general, mothers appear to be younger than fathers, with nearly a quarter under the age of 21. Mothers also show several differences in age between groups. Compared to other mothers, those associated with present non-signers are significantly less likely to be under 21 and significantly more likely to be between the ages of 21 and 24.

More than half of our sample is Hispanic, with White and Black parents making up the majority of the remainder. Race and ethnicity, however, is not evenly distributed across groups. Fathers who attend the birth and establish paternity are significantly more likely to be Hispanic—and less than half as likely to be Black—than either group not establishing paternity. Similarly, mothers associated with present signers are significantly less likely to be Black than either group of non-signers. White fathers and mothers comprise roughly equal proportions across groups.

The education level of parents does not vary greatly across groups. While we find no meaningful difference between groups in the proportion of fathers who have less than a high school diploma or a high school diploma, we do find birth-absent fathers are significantly less likely than present signers to have completed some college. Additionally, when father does not attend the birth, mother is significantly more likely to not know his education level, perhaps suggesting a weak connection between parents. Mothers are fairly similar in education level across all three groups.

Larger differences begin to emerge when considering parental risk factors highlighted by previous literature. Though multipartner fertility is common among all unmarried parents, it is especially pervasive among those in the absent non-signing group. Fully half of fathers who do not attend the birth or establish paternity have previous children with other partners; 4 in 10 mothers who give birth without the father in attendance also have children from previous partners. We also find that fathers in the absent non-signing group are significantly more likely to be unemployed than their present signing counterparts.

The characteristics of parents in each group diverge further across prenatal and post-birth measures of the relationship. To align our discussion with the chronology of parents' experiences, we begin by considering indicators of parents' relationship commitment prior to the pregnancy. Not surprisingly, fathers who do not attend the birth are considerably more likely to have had a tenuous connection with the mother from very early on. As shown in Table 1, birth-absent fathers are significantly more likely than either group of present fathers to have been dating the mother for less than 6 months when she became pregnant; had an unintentional pregnancy; doubt whether they are the child's father, and; have family members who doubt they are the child's father. A substantial portion of fathers who

attend the birth but decline to establish paternity also harbor doubts about the child's paternity (29.6%), and these fathers are significantly more likely to question the identity of the child's biological father than present signers.

The relationships of birth-absent fathers splinter from those of birth-present fathers even more dramatically during the prenatal period. Over the course of the pregnancy, three-quarters of absent non-signers will experience a breakup and nearly two-thirds of mothers in this group will say their relationship with the father worsened, circumstances which set them apart from both groups with birth-present fathers considerably. Compared to present signers, those who attend the birth and fail to establish paternity are also more likely to experience a break up or worsening relationship. One of the more concerning statistics to come out of this study is the high prevalence of family violence among unmarried parents. Nearly 1 in 5 unmarried mothers report having experienced family violence since becoming pregnant; the prevalence of violence, however, falls disproportionately across subgroups. Mothers who are unaccompanied by the father at the birth are significantly more likely to have experienced family violence (43%) than mothers associated with a birth-present father.

Of all the prenatal variables, those measuring prenatal father involvement show the starkest pattern. In nearly all cases, fathers who fail to attend the birth and establish paternity also fail to provide the mother with emotional or financial support during the pregnancy. More than 8 in 10 absent non-signers do not help the mother with transportation, chores, or money during the prenatal period, and approximately 9 in 10 fail to attend the 20-week ultrasound or other prenatal appointments. Though both groups of birth-present fathers are significantly more likely to be involved during the prenatal period than birth-absent fathers, those who establish paternity in-hospital are clearly more involved than those who attend the birth but decline to establish. Present signers are significantly more likely than present non-signers to provide financial support to the mother and attend the 20-week ultrasound.

Fathers' decisions around birth attendance and paternity establishment are also closely linked to the status of the parents' relationship near the time of birth. Though our measure of relationships status was collected three months after the child's birth, we consider it a good proxy for parents' relationship status at the time of birth itself. We find that more than three-quarters of those who establish paternity in the hospital are living together three months later, compared to less than half of present non-signers, and only 7 percent of absent non-signers. Among

fathers who do not attend the birth, 7 in 10 are not in a relationship with the mother shortly after the birth.

Altogether, the data demonstrate that present signers are most likely to have strong relationships, absent non-signers are most likely to have weak relationships, and present non-signers fall somewhere in between. Though present non-signers still cohabit in large numbers after the birth, they remain significantly more likely to be dating or in no relationship than their counterparts who establish paternity in-hospital.

Table 1. Descriptive Statistics

	Present Signer	Present Non-signer	Absent Non-signer	Overall
<i>N</i>	539	65	150	754
<i>Parents' Demographic Characteristics</i>				
<u>Father Age</u>				
Under 21	9.5	6.3	10.0	9.3
21-24	29.3	21.5	22.7	27.2
25-29	30.2	30.6	34.7	31.2
30 +	31.0	41.7	32.7	32.3
<u>Father Race</u>				
Hispanic	55.8 ^{a*}	43.1	41.3 ^{c**}	51.7
Black	13.5 ^{a**}	30.9	30.0 ^{c***}	18.5
White	22.6	16.8	17.4	21
Other	3.0 ^{a***}	0 ^{b*}	4.0	2.9
Not Reported	5.0	9.2	7.3	5.9
<u>Father Education</u>				
Less than high school	21.3	25.9	20.0	21.5
High School Diploma	35.1	30.9	36.0	34.9
Some College	24.7	19.8	16.0 ^{c*}	22.4
College Degree	10.8	7.8	6.7	9.6
Mom doesn't know	3.5	6.3 ^{b*}	14.7 ^{c***}	6.1
Not Reported	4.6	9.3	6.7	5.5
<u>Mother Age</u>				
Under 21	24.5 ^{a***}	9.2 ^{b**}	24.0	23.0
21-24	29.3 ^{a*}	44.7 ^{b*}	27.9	30.4
25-29	29.7	27.8	24.7	28.5
30 +	16.5	18.3	23.4	18.1
<u>Mother Race</u>				
Hispanic	54.2	44.6	46.1	51.6
Black	9.8 ^{a**}	26.3	21.9 ^{c***}	13.8
White	27.6	20.0	22.7	25.9
Other	3.9	2.9	2.6	3.5
Not Reported	4.5	6.3	6.7	5.1
<u>Mother Education</u>				
Less than high school	16.7	21.5	21.3	18.1
High school diploma	28.2	33.7	28.0	28.7
Some College	33.8	23.0	31.3	32.3
College Degree (BA or Associates)	16.9	15.5	12.7	15.9
Not Reported	4.5	6.3	6.7	5.1
<u>Parental Risk Factors</u>				
Mother MPF	26.2	37.2	38.7 ^{c**}	29.8
Father MPF	28.2	27.9 ^{b***}	50.6 ^{c***}	32.9
Father Unemployed	12.6	21.9	24.7 ^{c**}	16.0

Source: PES Mothers at 3 months, weighted. (N=754)

Note: ***p<0.001, **p<0.01, *p<0.05; *a* denotes where present signers are statistically different from present non-signers; *b* denotes where present non-signers are statistically different from absent non-signers; and, *c* denotes where absent non-signers are statistically different from present signers.

Table 1. Summary Statistics (continued)

	Present Signer	Present Non-signer	Absent Non-signer	Overall
<i>N</i>	539	65	150	754
<i>Parents' Relationship Characteristics</i>				
<u>Parents' Relationship Status</u>				
Cohabiting	77.0 ^{a***}	45.9 ^{b***}	6.7 ^{c***}	59.5
Dating	14.1 ^{a***}	35.3	23.4 ^{c*}	17.9
No Relationship	8.9 ^{a*}	18.8 ^{b***}	70.0 ^{c***}	22.5
<u>Commitment Prior to Pregnancy</u>				
Knew < 6 months	13.7	15.4 ^{b***}	42.0 ^{c***}	19.8
Unintended pregnancy	69.4	67.6 ^{b**}	86.0 ^{c***}	72.7
Father doubts paternity	12.8 ^{a**}	29.6 ^{b*}	47.4 ^{c***}	21.5
Father family doubts paternity	17.8 ^{a*}	29.3 ^{b**}	48.0 ^{c***}	25.1
<u>Prenatal Relationship Quality</u>				
Rel worse in pregnancy	14.4 ^{a**}	31.5 ^{b***}	65.1 ^{c***}	25.6
Broke up in pregnancy	19.0 ^{a**}	38.0 ^{b***}	75.5 ^{c***}	31.4
Family violence	11.9	18.6 ^{b***}	43.3 ^{c***}	19.0
<u>Prenatal Father Involvement</u>				
No help	11.3	20.3 ^{b***}	82.0 ^{c***}	26.9
No money	12.8 ^{a*}	24.9 ^{b***}	83.3 ^{c***}	28.6
No prenatal appts	21.5	32.6 ^{b***}	90.0 ^{c***}	36.8
Not at ultrasound	19.5 ^{a*}	31.3 ^{b***}	88.0 ^{c***}	34.9

Source: PES Mothers at 3 months, weighted. (N=754)

Note: ***p<0.001, **p<0.01, *p<0.05; *a* denotes where present signers are statistically different from present non-signers; *b* denotes where present non-signers are statistically different from absent non-signers; and, *c* denotes where absent non-signers are statistically different from present signers.

Multivariate Analyses

Table 2 shows the results from a sequential logit estimation of fathers' birth attendance and the paternity establishment decisions. In the first stage, the model predicts fathers' absence from the birth; in the second stage, the model predicts non-signing among those present at the birth. We include results from 5 separate models, arranged in sequence to highlight the divergence in predictive factors for each stage in the decision process.

Birth Absence

We begin by considering fathers' decision to attend the birth. Model 1 includes fathers' sociodemographic characteristics, fathers' risk factors, and the parents' relationship status. Building on previous studies, we find that the parents' relationship status shortly after birth is strongly and significantly associated with fathers' birth attendance. Compared to fathers who are living with the mother, those who are dating have 13.12 times greater odds of not attending the birth. Fathers who are not in a relationship with the mother are even more likely to be absent; compared to cohabiting fathers, those in no relationship are at 68.36 times greater odds of being absent from the birth. Our baseline model also reveals that fathers with previous children from other relationships have more than twice the odds of not attending the birth, all else equal (OR=2.41, $p=0.001$). Sociodemographic factors are largely unassociated with the birth attendance decision, and remain muted across all models predicting birth absence.

In the next three models, we consider three sets of prenatal constructs that may influence fathers' birth attendance decisions. In addition to evaluating the explanatory power of variables within each prenatal construct, we note how each set of variables attenuates the effect of the parental relationship, thereby disclosing earlier indicators that fathers will fail to attend the birth.

Model 2 incorporates four measures of the parents' relationship commitment prior to pregnancy. Of these, only one emerges as individually significant. The odds of fathers' birth absence are 2.22 times greater for parents who knew each other for less than 6 months at the time the mother became pregnant.

In Model 3, we turn our attention to the quality of the parents' relationship during the prenatal period. Parents who broke up or experienced a worsening relationship during pregnancy are considerably more likely to have

a birth-absent father (OR=1.99, $p=0.024$; OR=1.91, $p=0.038$). Controlling for relationship characteristics, family violence does not emerge as a significant predictor of birth absence; however, in a model with sociodemographic characteristics and paternal risk factors alone, family violence becomes a significant predictor of birth absence (OR=4.75, $p=0.000$; not shown).

Our fourth model assesses the influence of father involvement during the prenatal period. Of all our prenatal constructs, a lack of father involvement during the pregnancy emerges as the strongest and most significant predictor that he will not attend the birth. Fathers who do not provide the mother with financial support during the pregnancy have five times greater odds of being absent from the birth. Whether a father accompanies the mother to prenatal appointments or the 20-week ultrasound also prove telling indicators of his birth attendance. A father's absence from the 20-week ultrasound is the single largest predictor that he will be absent from the birth; fathers who do not accompany the mother for this routine mid-pregnancy checkup have nearly 8 times greater odds of missing the delivery as well. Fathers' failure to attend other prenatal appointments attains marginal significance as a predictor of birth absence too (OR=2.29, $p=0.052$). Notably, the salience of prenatal father involvement variables in this model (M4) are so strong as to rival the predictive power the parents' relationship; a father's absence from the 20-week ultrasound is nearly as strong a predictor of birth absence as dating or having no relationship with the mother shortly after the birth.

Our fifth and final model includes all variables in the analysis. In this model, prenatal father involvement indicators remain highly significant predictors of birth absence, with absence from the 20-week ultrasound and lack of prenatal financial support posting the largest effect sizes. Other prenatal variables do not reach significance in this model. Though together our prenatal indicators work to significantly reduce the strength of the parents' relationship as a predictor of birth absence, the salience of the parents' relationship remains closely associated with fathers' decisions to attend the birth.

Non-signing among Birth Present Fathers

We now turn to the second stage of our model, which examines the decision to establish paternity in-hospital among unmarried fathers who are present at the birth. Fathers who attend the birth but actively decline to establish paternity account for roughly one-third of non-signers overall. Importantly, these circumstances reflect the paternity establishment decision implied by most previous research—that is, prior work has generally evaluated non-signers under the assumption that all fathers are present at the birth making a conscious choice. In this section, we effectively set aside fathers who are absent from the birth to assess the determinants of non-signing among those at the hospital. Mirroring the model specifications presented for birth absence, we proceed from a baseline model through three specifications evaluating each of our prenatal constructs, followed by a full model including all independent variables. Across all models, the predictors of non-signing among those present at the birth diverge considerably from the predictors of birth absence.

The influence of fathers' race/ethnicity is one such difference. In Model 1, the odds of not establishing paternity for birth-present fathers are more than twice as high for Black fathers as they are for White fathers (OR=2.56, OR=0.027). The magnitude of this effect remains relatively constant across subsequent models. Consistent with findings for birth-absent fathers, the parents' relationship status shortly after birth also emerges as significant factor in the paternity establishment decision; however, effect sizes for this predictor are far weaker for present non-signers than absent non-signers. Compared to parents who are cohabiting, those who are dating have 3.71 times greater odds of not establishing paternity when they are present in the hospital; parents in no relationship have 2.85 times greater odds. Notably, when both parents are present in the hospital, those in no relationship are at a lower risk of not establishing paternity than those who are dating—a finding that is counter to the observed pattern for absent non-signers.

In subsequent models considering the influence of parents' prenatal experience on the decision to establish paternity among birth-present fathers, we find no evidence of statistically significant predictors at the 0.05 level. The variable that most approaches significance as a predictor of present non-signing is father doubting paternity (OR=1.83; $p=0.111$). Among this relatively small group of birth-present fathers, the suggestion that those who

question the child's paternity are almost twice as likely to not establish paternity is noteworthy; across models, no other prenatal variable will achieve the same effect size or level of significance as a predictor of non-signing among fathers in the hospital.

For all model specifications, the salience Black race/ethnicity and parents' dating status remain significant. As we incorporate additional prenatal variables into the models, however, having no relationship disappears as a distinguishing factor between present signers and present non-signers, suggesting several indicators of prenatal relationship quality and father involvement work to explain the effects previously observed for parents in no relationship.

Table 2. Sequential Logit Estimation of Fathers' Birth Attendance and Paternity Establishment Decisions

	Birth Absence (N=754)					Non-Signing Among Birth-Present Fathers (N=604)				
	M1	M2	M3	M4	M5	M1	M2	M3	M4	M5
<u>Father Age</u>										
Age	0.99	1.00	0.99	0.99	1.00	1.04	1.04	1.04*	1.04	1.04
<u>Father Race/Ethnicity</u>										
Hispanic	1.10	1.19	1.23	1.22	1.18	0.88	0.87	0.91	0.89	0.90
Black	1.18	1.22	1.28	1.21	1.15	2.56*	2.59*	2.54*	2.54*	2.65*
Other/No Report	3.77*	4.10*	4.31*	3.38*	3.28	0.21	0.19	0.23	0.19	0.21
<u>Father Education</u>										
Less than High School	1.21	1.42	1.27	0.99	1.09	2.61	2.72	2.96	2.52	2.88
High School	1.38	1.60	1.46	1.92	2.20	1.47	1.58	1.69	1.43	1.62
Some College	0.97	1.14	0.97	1.37	1.57	1.25	1.34	1.37	1.24	1.36
Mom doesn't know	2.11	1.74	1.87	1.05	0.95	2.44	2.47	2.49	2.22	2.50
Not Reported	0.47	0.56	0.58	0.54	0.58	16.32	17.29	17.51	16.50	17.54
<u>Father Risk Factors</u>										
Father MPF	2.41***	2.35**	2.07**	1.29	1.34	0.59	0.58	0.56	0.57	0.57
Father Unemployed	1.67	1.72	1.61	1.84	2.05	1.44	1.34	1.34	1.41	1.29
<u>Parents' Relationship Status</u>										
Dating	13.12***	12.40***	9.27***	8.20***	9.56***	3.71***	3.46***	3.21***	3.76***	3.28***
No Relationship	68.36***	49.41***	32.48***	8.55***	10.24***	2.85**	2.29*	2.00	2.29 ^t	1.79
<u>Commitment Prior to Pregnancy Index</u>										
Knew < 6 months		2.22**			1.69		1.13			1.08
Unintended pregnancy		1.51			1.16		0.74			0.73
Father doubts paternity		1.30			0.63		1.83			1.74
Father family doubts paternity		1.39			1.38		1.13			1.11
<u>Prenatal Relationship Quality Index</u>										
Rel worse in pregnancy			1.91*		1.06			1.41		1.40
Broke up in pregnancy			1.99*		0.71			1.42		1.30
Family violence			1.03		0.75			1.00		0.91
<u>Prenatal Father Involvement Index</u>										
No help				1.49	1.70				0.67	0.53
No money				5.00***	5.21***				1.76	1.54
No prenatal appts				2.29 ^t	2.33 ^t				1.19	1.10
Not at ultrasound				7.73***	8.00***				1.19	1.05

Source: PES Mothers at 3 months, weighted. (N=754)

Note: ***p<0.001, **p<0.01, *p<0.05, ^tp<0.053

Note: We combine father race/ethnicity categories for "other" and "not reported" due to limitations in sample size.

Discussion

Fathers who fail to establish paternity in the hospital have traditionally been thought of as a homogenous group, actively declining to sign the legal paternity paperwork presented to them in the hospital. In reality, most fathers who fail to establish paternity in the hospital are not present at the birth. Throughout our analyses, it is this decision to attend the birth that emerges as the most meaningful distinction between fathers; on nearly every measure of relationship quality and prenatal involvement, fathers who attend the birth are far more similar to each other—regardless of whether or not they establish paternity—than either group is to fathers who never show up. It is the characteristics of birth-absent fathers, then, that seem to have colored much of the past literature on those who do not establish paternity in-hospital.

Fathers who do not attend the birth of their child send an implicit message to the mother and child that they are not committed to the new family. A central theme of this study is that a father's absence from the birth is, in many cases, foreseeable. The signs that an unmarried father will not attend the birth or establish paternity are typically evident long before the mothers' arrival at the hospital. In comparison to other unmarried parents, birth-absent fathers tend to share a comparatively brief and unstable history with the mother. For many of these couples, an unintended pregnancy arrives early in the relationship, launching them into a turbulent and precarious prenatal period marked by breakups, worsening relationships, and low levels of father involvement. Not only do absent non-signers provide the mother with little instrumental or financial support during this time, but they also fail to accompany the mother to important prenatal checkups in high numbers. In the context of this prenatal experience, not establishing paternity appears less an active choice for birth-absent fathers than a continuation of the general failure to commit to the mother and child. Several months after the birth, the vast majority of fathers who were absent from the hospital have poor or nonexistent relationships with the mother.

Several of our predictors of birth-absence, or what is effectively absent non-signing, are consistent with previous studies predicting the failure to establish paternity in-hospital. The salience of fathers' prenatal financial support echoes a finding from Mincy et al. (2005), who note that fathers who are unsupportive during the pregnancy are significantly less likely to establish paternity in-hospital. In addition, we confirm the significance of the parents'

relationship status near the time of birth as a predictor the failure to establish paternity in-hospital; findings from both Mincy et al. (2005) and Guzzo (2009) highlight the parents' relationship status at birth as a predictor of not establishing paternity in-hospital. Though our work reiterates the importance of this measure, we also explain a significant amount of its effect through earlier indicators in the prenatal period. The association between absent non-signing and parents in no relationship, in particular, is significantly attenuated by the effects of prenatal father involvement. Finally, Mincy et al. (2005) point to a significant association between fathers who have previous children from other relationships and in-hospital paternity establishment; we confirm the significance of this variable as a predictor of absent non-signing, however its significance fades in larger models considering prenatal father involvement.

The factors predicting birth absence connote important policy implications. For many of these men, absence from the birth is only the beginning of their absenteeism as a father; over time, men in these families are likely to become less involved and supportive of their children. One strategy to help foster the development and wellbeing of children in these households is to ensure that absent fathers have a formal connection to their children through child support or visitation orders. From a policy perspective, providing mothers with early information on how to cement these legal connections is ideal.

Our analyses illuminate one promising avenue through which policy might intervene to facilitate educational outreach to these at-risk families. Nearly all mothers who are unaccompanied by the father at the hospital were also unaccompanied by the father at the 20-week ultrasound—the routine mid-pregnancy procedure attended by roughly two-thirds of unmarried fathers overall; in fact, of all the prenatal factors associated with birth attendance and paternity establishment, a fathers' absence from the 20-week ultrasound emerges as the strongest predictor that he will not attend the birth or establish paternity. Given the likelihood that birth-absent fathers will be uninvolved and unsupportive of their children in the future, results from this study suggest the 20-week ultrasound may be an opportune time to provide unaccompanied mothers with information on paternity establishment, child support, and visitation orders. Further, outreach materials could connect mothers with services to aid them in arranging for these legal parameters through judicial processes, rather than through voluntary means that may never materialize.

As a proxy for future withdrawal, the 20-week ultrasound may be well-suited to intervention for several reasons. First, given nearly ubiquitous participation in the checkup, it offers a ready-made forum for accessing almost all pregnant mothers. Second, not only is a father's absence an objective and observable trigger for intervention, but it permits healthcare professionals the chance to address, or provide information about, a sensitive subject with the mother alone. Finally, given the prevalence of public programs and initiatives nested within the healthcare industry, medical facilities offer the ability for policymakers to integrate educational materials within a setting that is accustomed to such arrangements.

Turning to those who fail to establish paternity while in attendance at the hospital, a fundamentally different story emerges. Present non-signers share little in common with their counterparts who fail to establish paternity as a result of non-attendance. Because past research has tended to lump these two groups of fathers together due to their shared status as non-signers, the relatively small number of present non-signers is not well-understood by extant literature. In general, we find the prenatal experience of parents in this group tends to lie somewhere between that of present signers and absent non-signers, though it is undoubtedly more similar to their birth-present counterparts.

Nevertheless, a few distinguishing features emerge between the two groups of birth-present parents. Present non-signers tend to have weaker relationships with the mother than those who attend the birth and sign; compared to fathers who establish paternity in-hospital, present non-signers are more likely to have doubted paternity, split up during the pregnancy, and failed to provide prenatal financial support. Several months after the birth, they are less likely to be cohabiting and more likely to be dating or in no relationship with the mother than present signers. Though these differences are clear in descriptive statistics, many fade in multivariate models predicting the paternity establishment decision among birth-present fathers—a finding in itself, suggesting there is something fundamental about the decision to attend the birth that outshines the decision to establish paternity while there.

Only one demographic factor surfaces with persistence across multivariate models. Black fathers are less likely than White fathers to establish paternity while present at the hospital, a finding that fails to clarify

inconsistencies in previous work. Mincy et al. (2005) find no association between race/ethnicity and the decision to establish paternity in-hospital, while Guzzo (2009) finds that although black fathers are less likely to establish paternity overall, they are more likely to do so at the hospital than elsewhere. It is possible that our findings echo themes common to a separate line of research, which details an underlying distrust and apprehension around the U.S. legal system in black communities (Peffley & Hurwitz, 2010).

Apart from race/ethnicity and the parents' relationship status shortly after birth, no other factors significantly predict non-signing among those at the birth. The prenatal variable most closely associated with present non-signing, however, is father doubting the child's paternity. National data suggest some fraction of these doubts may be justified; roughly 3 in 10 lab-accredited paternity tests reject the target father every year (Henry, 2006). Among present non-signers, an equivalent proportion doubts the identity of the child's biological father. For these fathers, it is preferable that they do not establish paternity without the assurance of a DNA test. Offering free paternity testing to these fathers would likely facilitate more accurate paternity establishments and fewer rescissions. Not only should paternity testing be made free and readily accessible in cases of disputed paternity, but it should also be decoupled from any requirement to file for child support in advance of receiving free testing, as is the case in some states.^b Moreover, states should consider integrating access to free, nonconditional paternity testing within birthing hospitals themselves, so that parents who are unsure of the child's paternity can initiate DNA testing at the time of the birth.

Limitations

Our findings should be interpreted alongside several limitations. Chief among these is the exclusive reliance on mother-reported survey data. As noted in previous sections, the sample of fathers completing the survey was not large or heterogeneous enough to constitute an unbiased sample. The sole use of mothers' responses raises concerns about the impartiality of available information. Some values are likely to be biased; the prevalence of fathers who doubt paternity, for example, is almost certainly a lower bound estimate given that it is mother-reported. As research on nonmarital childbearing continues to evolve, stronger efforts should be made to capture

^bIn Texas, the Office of the Attorney General (OAG) provides lab-accredited paternity testing to unmarried parents for free; in order to access this service, however, parents must first open a child support case.

the perspectives of fathers, who are so often the focal point of the analysis despite remaining underrepresented in the numbers.

A second limitation of this study is the reliance on retrospective survey data. Mothers in our sample were surveyed roughly three months after the birth of their child, leaving adequate time for recall bias to affect participant responses. A related concern is whether certain variables, as defined and operationalized in this study, capture the construct they are intended to represent. The measure of family violence used in this study, for example, is based on whether mothers experienced physical or emotional abuse since becoming pregnant. At survey time, this period would have included the full term of pregnancy as well as a period of roughly three months since the birth. We interpret this variable largely as violence occurring *during* the pregnancy, however it is possible that reported violence did not begin until after the birth. The subgroup with the highest prevalence of family violence is absent non-signers (43%); because most of these fathers have largely disappeared from the mothers' life by the time of the birth, it seems reasonable to assume—at least for this subgroup—that the majority of family violence reports refer to events occurring prior to the birth.

The predictor variable measuring fathers' attendance at the 20-week ultrasound should be interpreted with some caution as well. Regrettably, our survey data do not include an indicator for whether the mother attended the 20-week ultrasound. Therefore, it is possible that, of the 35 percent of fathers who did not attend the 20-week ultrasound, some were unable to do so because the mother herself did not attend.

Our measure of birth attendance also comes with several caveats. Most notably, we interpret this variable as reflective of fathers' choice to attend the birth, however some fathers may not have had a true choice. A minority of birth-absent fathers may have been absent due to outside factors such as serving in the military, incarceration, work schedules, or living in another state. Other fathers may have been absent from the birth because the mother did not want them to attend. Finally, it is possible that some survey respondents interpreted our variable for father's birth attendance more narrowly than intended. Though the question asks whether father was present at the child's birth, it is of less concern whether the father was present at the precise moment of birth than it is whether he made the effort to visit the hospital at some point during the delivery. Although it is not possible to know the extent to which

mothers interpreted this question as referring to fathers' presence at the moment of birth itself, we believe the question to be a good approximation of the intended construct based on large differences between this group and others.

Estimates from logistic regressions may also be biased by unobserved factors not accounted for in the models. Though we include a robust set of controls, our specifications may incorrectly estimate the effects of predictor variables due to omitted factors.

Another limitation is the exclusion of an important subgroup of fathers—those who were absent from the birth but voluntarily established paternity in the days following the birth. As noted, these fathers were removed from the analysis due to inadequate sample size. More should be learned about this unique group, including why they do not attend the birth, and why they feel it is important to establish paternity subsequently.

Finally, while Texas is a diverse state with a widely used in-hospital paternity establishment process, findings generated from this population may not be generalizable to all states. Notably, Texas has a large Hispanic population that may not reflect the demographic makeup of others areas. Our work would benefit from replication with national data, or data from states with alternate demographic compositions and differing rates of in-hospital paternity establishment.

Conclusion

This study contributes to existing literature on paternity establishment through the consideration of a pivotal factor in the in-hospital paternity establishment process—fathers' presence at the hospital. We have argued that the paternity establishment decision, as traditionally considered by researchers, is actually comprised of two separate decisions—attending the birth, and establishing paternity. Without the first, the second is highly unlikely. We find that, as opposed to making an active decision, the majority of fathers who fail to establish paternity are not at the hospital when the opportunity to establish is offered. Results confirm that these birth-absent fathers differ in profound ways from fathers who attend the birth, but actively decline to establish paternity. Moreover, the two groups call for fundamentally different policy responses. Fathers who fail to attend the birth not only have a poor relationship with the mother, but often show a history of minimal engagement and commitment during the prenatal

period. Their absence from the 20-week ultrasound emerges as a strong and significant predictor of their absence from the birth, suggesting a father's decision to attend this routine checkup may act as a sort of 'writing on the wall' that foretells much about their future involvement and support. Fathers who attend the birth but decline to establish paternity are far more similar to their counterparts who establish paternity in-hospital, save for the fact that they are more likely to harbor doubts about the identity of the child's biological father. States without access to in-hospital paternity testing services should consider making such services available to unmarried parents without introducing an implicit connection to child support.

More generally, our study highlights the need for further research into the role of fathers' presence at the birth in determining parents' paternity establishment outcomes. As one of the five federal performance measures for state child support agencies, states have long sought to bolster rates of paternity establishment. Without increasing the number of fathers who attend the birth, however, results from this study suggest that in-hospital paternity establishment rates may be near a maximum level. Few birth-present fathers forgo paternity establishment, and many of those who do may hold doubts about the child's paternity. Our findings would benefit from replication across other settings and samples. In particular, we seek the contributions of other researchers on whether the distinction between present and absent non-signers emerges as equally meaningful elsewhere, and how policy might best respond to at-risk parents in each circumstance.

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