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## One's Enough for Now: Children, Disability, and the Subsequent Childbearing of Mothers

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### Abstract

This mixed-methods study explores the subsequent childbearing of mothers whose firstborn children have disabilities. I make use of matched data from the 1993 NHIS - 1995 NSFG ( $N=4,468$ ) to determine the effects of child disability on the hazard of a second birth and draw on a series of 24 in-depth interviews that explore the lived experience of raising children with disabilities. My findings suggest that mothers whose firstborn children are disabled have a lower hazard of a second birth. This reduction stems from mothers' recognition that children with disabilities have extensive needs and that, in order to meet those needs and maximize their potential, they need to make strategic choices such as delaying subsequent childbearing.

### Keywords

child with disabilities; event history analysis; fertility; parental investment; parenthood; qualitative research

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Health and well-being are normatively valued states. The experience of disability can have profound implications for the well-being not only of the individual affected, but can also have a considerable impact on the lives of his or her family members. This study assesses the impact of child disability on the subsequent childbearing decisions of mothers, a heretofore unexplored topic. Drawing upon rational choice theory as well as literature on the value of children and norms of parenthood, I explore the ways in which raising a child with a disability might impact the perceived costs and benefits of subsequent child-bearing by using matched 1993 National Health Interview Survey (NHIS) and 1995 National Survey of Family Growth (NSFG) data to model the hazard of a second birth among mothers. I also draw on a series of in-depth interviews conducted with the parental caregivers of children with disabilities to elucidate the complex ways in which the experience of raising a child with a disability influences subsequent childbearing decisions.

Earlier research has demonstrated that raising a child with a disability can strongly impact such families, leading to higher divorce rates, lower levels of labor force participation, and poorer well-being for caregivers (see, e.g., Brandon, 2000; Corman & Kaestner, 1992; Ireys & Silver, 1996; Joesch & Smith, 1997; Kuhlthau & Perrin, 2001; Mauldon, 1992; Porterfield, 2002; Rogers & Hogan, 2003). No research, however, has systematically explored the impact of raising a child with a disability on the subsequent childbearing of mothers. In doing so, this study makes several unique contributions. By exploring the impact of child disability on childbearing, this study contributes to our understanding of the impact of disability on families. This study also contributes to our understanding of both the meaning of parenthood generally, and the nature of childbearing decisions.

## Background

Childbearing in our society is largely considered to be voluntary. Parenthood is no longer necessarily considered a prerequisite for full adulthood, and there has been a rise in voluntary childlessness over the last several decades (Park, 2002; Sayer, Bianchi, & Robinson, 2004). The availability and acceptability of contraception and abortion, coupled with the easing social requirements for parenthood, means that childbearing has become a choice (Morgan, 1996; Sayer et al.). Those who do not desire children can take steps to avoid pregnancy, though such steps are sometimes unsuccessful, as is indicated by unintended pregnancies. Even among those who become pregnant, however, individuals can elect to terminate a pregnancy or place their child for adoption should they desire to avoid parenthood. As such, we presume that individuals who become parents primarily do so after consideration of the costs and benefits of such a decision (Becker, 1981). This rational calculus applies not only to the initial decision to have a child but also to decisions regarding additional births. There is evidence that childbearing decisions are made in a sequential manner. Although an individual may start off with an idea of how many children he or she might like to have, subsequent decisions about childbearing are made in light of current circumstances and experiences (Udry, 1983). That is, the experience of raising one's first child will have an impact on later decisions about whether and when to have a second child.

The increasingly voluntary nature of childbearing also has implications for cultural norms about parenthood. To the extent that parenthood is a choice, those "men and women who decide to become parents may increasingly be selected from those who have greater motivation and desire to invest heavily in children" (Sayer et al., 2004, p. 8). Many adults who seek to have children likely do so with a desire to raise their children and to be deeply involved with them. Pollard and Morgan (2002) argue that we might understand childbearing as in part stemming from the "intrinsic, nonsubstitutable pleasure derived from watching one's own children grow, interacting with the child, and participating with the child in particular events or tasks" (Pollard & Morgan, p. 602). Thus, although children in the past were desired for their economic value, modern children are seen as "priceless" on the basis of their social-psychological value (Zelizer, 1985). Childbearing, then, is largely considered to be motivated by social and psychological forces (Bulatao, 1981; Hoffman & Manis, 1979; Schoen, Kim, Nathanson, Fields, & Alstone, 1997). These priceless children are thought to require high levels of investment. An ideal mother will invest considerable time, energy, and money in raising her children, while ideal fathers coparent: "[M]odern fathering is no longer just procreating and bill paying" (Coltrane, 1996, p. 5; Hays, 1996; Pleck & Pleck, 1997). Cultural norms suggest that "good" parenting is intensive parenting and that children require considerable investment (Sayer et al.).

Taken together, these characteristics of modern childbearing and parenthood have implications for which costs and benefits are likely deemed important when making such decisions. As noted, children are valued primarily for their psychosocial significance. As such, central among the considered benefits to childbearing is the desire to experience parenthood: to have a child to love, interact with, and watch grow (Bulatao 1981; Pollard & Morgan, 2002). Among the relevant costs, adults must consider their capacity to invest in a child or children. If good parenting requires substantial investment in children, then parents must consider whether they have the time, energy, and financial resources necessary to invest in a(nother) child.

How might the disability status of a mother's firstborn child impact this decision-making calculus? I propose that the parenting challenges faced by those raising a child with a disability might increase the perceived costs to subsequent childbearing. Caring for a child with a disability can be enormously challenging. Of course, parenting children with

disabilities has both positive and negative consequences for the well-being of the family. Many parents find significant benefits in raising children with disabilities (Green, 2007). Yet raising a child with a disability can also be stressful and costly (Darling, 1987; Ireys & Silver, 1996; Lukemeyer, Meyers, & Smeeding, 2000; Newacheck & McManus, 1988). The stressful nature of providing care for family members with disabilities has been documented throughout the literature (Kim, Greenberg, Seltzer, & Krauss, 2003; Marks, 1998; Marks, Lambert, & Choi, 2002). Children with disabilities may require nearly constant care and supervision. The stresses associated with this ongoing care-giving demand may give rise to various poor psychological, physical, and relational outcomes. Raising a child with disability has been found to increase the risk of experiencing a variety of detrimental outcomes including limiting care-givers' participation in the workforce (Brandon, 2000; Kuhlthau & Perrin, 2001; Porterfield, 2002; Rogers & Hogan, 2003), increased risk of illness among caregivers (Marks, 1996), and greater risk of marital dissolution among mothers of children with disability (Corman & Kaestner, 1992; Joesch & Smith, 1997; Mauldon, 1992). Given these parenting challenges and the increased caregiving need demonstrated by children with disabilities, parents may decide to slow or curtail additional childbearing. That is, if individuals feel that it is important to be "good parents" and thus to invest in their children's well-being, parents whose firstborn child has considerable needs because of disability may perceive considerable costs to having a second child. Parents may consider the resources that are required to care for the child that they currently have when they make decisions about future childbearing. By stopping or delaying additional childbearing, parents are able to better invest their existing family resources in meeting the needs of their current child. This leads to the first hypothesis: *Mothers whose firstborn children have disabilities will be less likely (at a lower hazard) of having a second birth than are mothers whose firstborn children are not disabled, all else equal.*

It is also possible, however, that raising a child with a disability will increase the perceived benefits to subsequent childbearing. As noted, adults who chose to enter into parenthood do so with some expectation of what the experience will be like and do so with a desire to watch the child grow and to participate in particular events and tasks with that child (Pollard & Morgan, 2002). Yet parents of a child with a disability often cannot have the same expectations for that child as they would have for a healthy child. The potentially limited ability of children with severe health difficulties to participate in standard interactions may increase the anticipated gain from having another child. Thus, we might expect the desire for a typical childrearing experience to increase the desire for an additional child among families with a firstborn child who has health difficulties, thus increasing the hazard of a subsequent childbirth.

Other motivations beyond the desire to have a typical childrearing experience might also spur additional childbearing, in particular the desire to provide a disabled child with a sibling. Although the desire to provide a child with a sibling is salient for parents of nondisabled children, it may be seen as particularly important if the child has a disability. Parents may view siblings as beneficial for their child with a disability because a sibling helps to ensure that the child with a disability will have a playmate in the short run and perhaps serves as insurance that there will be a familial caregiver for the child with a disability when parents pass away. This leads to a second and competing hypothesis: *Mothers whose first-born children have disabilities will be more likely (at a higher hazard) of having a second birth than are mothers who firstborn children are not disabled, all else equal.*

Of course, the disability status of one's first-born child is far from the only factor influencing subsequent childbearing decisions. Previous research has shown that the likelihood of child-bearing is affected by a variety of social and demographic factors, such

as women's age, race, social class, educational attainment, marital status, and labor force participation (see, e.g., Morgan, 1996). Moreover, many of these factors are known to influence not only the likelihood of childbearing but are also associated with child disability (Freedman, Martin, & Schoeni, 2004; Newacheck et al., 1998). As such, it is crucial to consider these relevant covariates in order to ascertain the impact of child disability on subsequent childbearing.

## Method

To explore the ways in which mothers' fertility outcomes are affected by the disability status of their children, this study employs both quantitative and qualitative methodologies. This mixed-method approach is crucial to elucidating both the relationship and underlying mechanisms that link disability in children with the subsequent childbearing of their mothers. These methodologies should be seen as complementary. Quantitative analyses allow for the generation of population estimates, the systematic exploration of relationships, and the testing of hypotheses as specified above. Qualitative interviews allow insight into the mechanisms at work; specifically, they allow us to determine exactly which motivating factors seem to drive the relationship established in the quantitative analyses.

### Quantitative Data and Methods

In the quantitative portion of this study, I utilize data from nationally representative sources: the matched 1993 NHIS and 1995 NSFG data. The NHIS-NSFG matched data set is a unique resource for the study of child disability. The matched data source provides sound indicators of disability in children and outstanding information on childbearing and reproductive behavior, marital status, and labor force participation throughout the respondent's life prior to the 1995 survey through a retrospective history.

The 1993 NHIS is part of a continuing nationwide survey administered by the National Center for Health Statistics (NCHS) that collects information about the health and disability status of each member of the household. The 1995 NSFG is also a national survey administered by the NCHS. The NSFG collects extensive information from women aged 15 – 44 regarding their fertility, marital, and employment histories. In 1995, the NSFG employed the same sampling frame as the 1993 NHIS, and thus records of the women living in households that were interviewed in the 1993 NHIS can be linked to their records in the 1995 NSFG. The resultant merged data set contains information on all women about whom data were gathered in both surveys and their biological children who were living at home in 1993.

### Analytic Approach

In this study, I make use of event history analysis (EHA). I have chosen to use EHA rather than a logistic regression for several reasons. First, EHA models are ideal for modeling censored data. Several of the mothers in the data set were interviewed shortly after the birth of their first child, before they had had sufficient time to have had another child should they have so chosen. To include them in a logistic model would require that I treat them as a nonevent, a presumption that is inappropriate. Meanwhile, to exclude such cases from the analysis would result in throwing away information unnecessarily. Another advantage of EHA for modeling childbearing is that it allows easy incorporation of time-varying covariates, that is, variables whose scores change over time. This is particularly important; for example, marital status plays a considerable role in child-bearing behavior, and the literature suggests that children with disabilities are more likely to have parents who divorce. Because the NSFG contains a full retrospective marital history, I am able to construct an indicator that assesses marital status as it changes over time. This allows me to

better control for the impact of this variable on subsequent childbearing than would an indicator reflecting the marital status of mothers at a single point in time. Finally, EHA allows us to assess the effect of time, a crucial consideration given women's finite reproductive periods.

The analytic sample is limited to mothers who were in the NSFG sample of women, whose first or only child was under the age of 18 in 1995, and for whom disability indicators were taken from the NHIS. In this paper, I focus on first births because of statistical concerns, primarily to avoid potential problems stemming from the nonindependence of observations. Because the NSFG is a survey of women, including information on all children born to these women violates the assumption that all observations are independent. As each mother can only have one first birth, limiting my sample in this way helps to navigate around this problem. Additional analyses (results not shown) assessing the impact of the disability status on parity progression including all children and controlling for birth order yield similar results to those reported here.

The resultant data set contains information on 4,468 mothers, of whom 306 have firstborn children with disabling conditions. I use piecewise constant models to model parity progression from the birth of first child to the birth of a second child. This type of model is a modification of the exponential hazard model, but it provides considerable flexibility because it assumes that the hazard remains the same within intervals, but may change from interval to interval. In piecewise constant models, time is divided into intervals; here, years since the child's birth. Given  $J$  intervals, divided by break points  $a_0, a_1, a_2 \dots a_j$ , where  $a_0 = 0$  and  $a_j = \infty$ , we can express the model for the hazard for individual  $i$  as:  $\log h_i(t) = \alpha_j + \beta x_j$ . Time is measured from the date of the child's birth until the birth of a second child or a censoring event. A record is censored at the time of the interview, the child's 12th birthday, or when the mother undergoes a sterilization operation thus removing her from the risk set. Observations were censored after the 12th birthday for each firstborn child because descriptive analyses indicate that very few second births take place after that point in time.

## Measures

The outcome for the analysis is the risk of a second birth, with time measured in intervals from the date of the child's birth until the birth of another child or a censoring event. Disability status is measured using indicators from the NHIS stemming from the following series of questions: (a) Is (child) able to take part AT ALL in the usual kinds of activities done by most children (his/her) age? Is (child) limited in the kind OR amount of play activities (he/she) can do because of any impairment or health problem? (b) Does any impairment or health problem NOW keep (child) from attending school? Does (child) attend a special school or special classes because of any impairment or health problem? Does (child) need to attend a special school or classes because of any impairment or health problem? Is (child) limited in school attendance because of (his/her) health? (emphasis in original; Benson & Marano, 1994). The disability measure is coded to reflect whether a "yes" response was given for any of the indicators. This measure assesses whether each child was experiencing a limitation in their ability to perform age-appropriate tasks in 1993.

Although this is a strong measure of child disability, a drawback of this indicator must be mentioned. The data do not include the date of disability onset. As a result, the following analyses assume, for analytical purposes, that all children with disabilities were disabled from birth, though this is not always the case. In fact, many children may have experienced the onset of disability later in childhood. In these instances, subsequent childbearing decisions may have already been made without the child's parents knowing that they would later experience disability. Using data from the 1997 NHIS, I estimate the age at which children are typically diagnosed with disabling conditions. Among disabled children in the

1997 NHIS, 45% experienced the onset of their disability at birth, and 54% experienced onset before the age of 3. Thus, although the majority of parents have knowledge of disability early on in the child's life, some do not. This suggests the NHIS-derived measure of disability in children may overestimate parents' knowledge of disability prior to a subsequent birth. As a result, this analysis is a conservative estimate or underestimate of the true impact of children's known disability status on the childbearing decisions of their mothers.

The models also include controls for covariates known to affect both the likelihood of a subsequent birth and the likelihood of disability among children (see, e.g., Morgan, 1996; Newacheck et al., 1998). I control for the mother's race, her age at the time of the child's birth, her completed education, and the gender of the child. I also include two lagged time-varying covariates. Mother's labor force participation indicates whether the woman was employed at any point during the prior year. Mother's marital status indicates if she was married at any point during the prior year. Finally, I control for the poverty status of the mother at the time of the child's birth by looking at whether Medicaid covered prenatal and birth-related medical costs. Although this final measure is not an ideal indicator of poverty at the time of the child's birth, it is the best indicator available in the data.

## Results

### Quantitative Findings

**Descriptive statistics: NHIS-NSFG matched data**—Among the firstborn children in this matched data file, 6.8% have a disability. As other data sources estimate child disability to afflict somewhere near 12% of children, it seems that the criterion for disability determination is relatively conservative in this data source (Hogan, Msall, Rogers, & Avery, 1997). The NHIS-NSFG data, however, exhibit similar patterns of relationships between sociodemographic variables and child disability as are found in other data sets. Disability is more common among male children than female children. It is slightly more common among the children of Black mothers than those of other racial and ethnic groups, though these racial and ethnic differences are not significant at the .05 level. In these data, there are significant associations between social disadvantage and disability in children. Mothers whose firstborn children have disabilities are considerably more likely to be poor and currently unmarried. Likewise, considerably fewer mothers whose firstborn children have disabilities are employed than are mothers of children who are not disabled. We should use caution when interpreting these descriptive statistics, especially with regard to social class. The bivariate relationships do not allow any inference about causal direction. For example, class and disability likely influence one another—mothers in poverty are more likely to give birth to children with disabilities, but raising a child with a disability likely causes families to be poor or at least helps to keep them poor. Full descriptive statistics of the sample are presented in Table 1.

**Hazard of a second birth**—The piecewise constant model predicts the hazard that a mother will give birth again, considering the disability status of her first child while controlling for relevant covariates. I discuss the findings in terms of hazard ratios (HR), which are interpreted in a manner similar to odds ratios commonly used in logistic regression. Hazard ratios with a value higher than 1 indicate that the independent variable increases the hazard of a subsequent birth; those with values below 1 decrease the hazard; see Table 2 for the full model. Net of other characteristics, mothers of disabled firstborn children have a lower hazard of giving birth to a second child. That is, a mother whose first child has a disability is at a nearly 20% lower risk of giving birth to a second child than an otherwise similar mother whose first child does not have a disability. Moreover, this

relationship is influenced neither by the disability status of mothers nor by their self-reported health status—subsequent analysis indicates that both are nonsignificant and do not influence the magnitude or significance of other relationships (results not shown). Analysis at the bivariate level indicates that relatively similar proportions of disabled and nondisabled cases experienced censoring, suggesting that over the course of 12 years, similar numbers of disabled and nondisabled children experience the birth of a younger sibling. This would suggest that the majority of this suppressive effect involves delaying subsequent childbearing rather than ceasing.

Let us turn briefly to the effects of the control variables, which operate largely as we would expect from the literature. The majority of second births occur in the first several years of the child's life. Non-White mothers have approximately the same risk of having a second birth as White mothers. Subsequent analyses that “unpack” the non-White category into specific racial/ethnic categories did not result in significant differences (results not shown). Despite prior findings of higher fertility among non-Whites, this result is not surprising. The influence of race on fertility is predominantly with regard to age at first birth and to the likelihood of higher parity births, and thus would not necessarily influence the hazard of a second birth (Morgan, 1996). There is a small but significant effect for child's gender—mothers whose firstborn children are female have a slightly lower hazard of a second birth. Teachman and Schollaert (1989) also find that women whose first children are female progress more slowly to a second birth. They argue that this phenomenon is accounted for by the relationship between child gender and marital stability, where women with male children are more likely to be married. Although this model controls for marital status, the measure is not perfect, as it only assesses whether the mother was married at any point in the interval prior—perhaps this weakness explains the residual effect of gender on the hazard of a second birth. Socioeconomic indicators also have an impact. Compared to mothers with a college education, mothers with less than a high school degree experience a greater hazard of a second birth. The labor force participation of mothers in the prior year is associated with a lower risk. The poverty proxy suggests that poor mothers have a higher hazard of a second birth. Mother's age is negatively associated with subsequent fertility.

Apart from its role in explaining the effect of child gender, being married likely serves as a mediating variable between child disability and subsequent childbearing. Previous literature (Corman & Kaestner, 1992; Joesch & Smith, 1997; Mauldon, 1992) has demonstrated that children with disabilities destabilize marriages and lead to higher rates of divorce. At the same time, marital status is an important predictor of childbearing, as married women are more likely to bear children than their unmarried counterparts (Morgan, 1996). In this analysis, being married significantly increases the risk of childbearing. Further, when the control for marital status is removed from the model, the negative impact of child disability on subsequent fertility becomes more pronounced. This suggests that raising a child with a disability decreases subsequent fertility both by directly decreasing the likelihood of subsequent childbearing and indirectly by increasing the likelihood of marital disruption.

In summary, the quantitative analysis suggests that mothers whose firstborn children are disabled are at a lower hazard of having a second child. This finding supports the first hypothesis, which argues that, given normative expectations about appropriate investment in children (Sayer et al., 2004), the amplified needs of children with disabilities increase the costs to subsequent childbearing. In order to better assess whether these considerations are, in fact, driving this observed outcome, I turn to data gathered through interviews with such parental caregivers.

## Qualitative Data and Methods

As part of a larger project exploring the impact of child disability on family well-being, a colleague and I conducted interviews with parents of children with various disabilities in order to explore the nuances of their lives as caregivers. With mind to the research question of this study, I included questions regarding childbearing in the topic guide. Although the quantitative analyses provide information on patterns at the population level, analysis of qualitative data from these interviews allows insight into the mechanisms through which raising a child with a disability impacts parents' decisions about childbearing.

I draw upon 24 interviews conducted over a 4-month period with parents of children with disabilities who receive outpatient physical or occupational therapy at an urban hospital in New England. All parents whose child received physical or occupational therapy for a chronic condition and whose child was between the ages of 2 and 18 were eligible for inclusion in the sample. These interviews are meant to be illustrative. As such, the characteristics of this sample were not chosen to parallel the sample in the NHIS-NSFG data, but rather to capture a range of experiences with regard to severity and cause. Physical therapy staff approached the parents of their clients to tell them of the study and to ask if they would be interested in participating. We approached interested individuals to tell them more about the study and to schedule an interview. Approximately 29 parents indicated an initial interest—3 later declined to participate, 2 began interviews but were later excluded from the sample (1 did not sufficiently meet inclusion criteria, the other terminated her interview shortly after it began when her child's therapy session was unexpectedly cut short), and 24 interviews were completed and serve as the basis of this discussion.

The interviews were semistructured, lasted approximately an hour each, and took place in a private room within the hospital while the child was receiving therapy. We began by conducting a demographic profile for each respondent. After acquiring background information, we led them through a discussion about the impact of their child's disability on their lives, making use of an interview topic guide. Respondents were asked to speak about any and all dimensions of personal and family life that have been affected by their child's disability status: its impact on work strategies, how raising a child with a disability has influenced family relationships, their experiences navigating the health and therapy systems, as well as securing appropriate services and educational provisions. Interviews were digitally recorded and transcribed into text for analysis. Data were analyzed using QSR NVivo, a computer package that facilitates the analysis of qualitative data. Transcripts were coded into NVivo using both codes that stemmed from the interview guide as well as those that emerged from the data.

## Qualitative Findings

**Descriptive statistics: in-depth interviews**—Of the 24 interviews that serve as the basis of this analysis, 22 were conducted with mothers, 1 was conducted with a father, and 1 with both members of the couple. The majority of respondents were married: 3 of the 24 respondents were unmarried at the time of the interview. For the majority of the respondents, the child with a disability was male. Nearly all self-identified as White. Respondents ranged in age from 22 to 47 and had children with disabilities between the ages of 3 and 15. The most common disabling condition among these children was cerebral palsy. Other conditions included muscular dystrophy, general developmental delay, and spina bifida. Several of the respondents' children had rare, possibly genetic, diseases; one respondent's child was an amputee because of cancer; and another experienced delay because of a motor-vehicle accident. Ten of the 24 respondents were not in the labor force. The others were in the labor force, though many worked at less traditional jobs that allowed them the necessary flexibility to care for their child with a disability, such as working from



home, part-time, or on flexible schedules. The parents interviewed were somewhat unusual with regard to their economic well-being, as most of our respondents indicated that they were financially secure. Although this is not to suggest that none of the respondents experienced financial pressure because of the medical costs associated with caring for a child with a disability, the majority indicated that they did not experience financial insecurity. As the characteristics of the sample demonstrate, the sample is not representative of the population of families raising children with disabilities, limitations of which are addressed in the discussion.

**Mechanisms and motivations**—The models suggest that mothers of children with disability have a lower hazard of having a second child; that is, raising a child with a disability slows or hinders further childbearing. This finding is also supported among the respondents in our interviews. For half of the mothers we interviewed, their child with a disability was their last child. Two others suggested that they spaced their children more widely than they might have otherwise because of their child's disability. Yet not all responded in such a way: Two mothers suggested that their child's condition led them to have another child.

Several themes emerge from the interviews. First, raising a child with a disability is difficult work: It is usually time-consuming and often emotionally draining. Second, parents want what is best for their children. They want to help their child to achieve his or her fullest possible potential. Third, they are concerned about their capacity to meet the needs of their children, that is, their ability to invest adequately in their children.

Many of our respondents reported that they chose not to have another child, or spaced their children widely, in order to better meet their disabled child's needs. Debra's son, Ricky (all names are pseudonyms; interviewer's words are in italics), was born with a brain abnormality; he is her only child. When I asked whether she intended to have only one child or if Ricky's condition factored into their decision making, she replied,

We wanted two. *And then?* And a neurologist told us that we had an extremely slight chance ... that this could happen again because we already have a child with a disability... So we were like "No, forget it." *Really?* No. *So it was fear of it happening again that was the major ... ?* Yeah. Because I would have had three more.... But, I mean, you go back and forth. Okay, it's extremely slight so chances are it's probably not going to happen again. But what if it did? How are you going to meet both their needs? So then ... I mean, you know, if it didn't happen again would it be fair to a baby to always be bringing a baby to therapy? You know. Because he's going to be in therapy I'm sure for a very long time. So no, full attention, full focus is on Ricky.

In this exchange, Debra emphasized the need to place "full attention, full focus" on her son with a disability. Very similar themes emerged in Karen's interview. Karen's son, Brandon, was born with multiple disabilities.

[W]e wanted more than one child. But after I got pregnant, and I was bedridden for seven months, and I almost lost him ... finally made it to 36 weeks and had him.... I laid on the table in that distress, could barely talk, and said, "Tie them. Now." And he looked at me, and said, "Are you sure?" "Yes, I get pregnant, I come after you, 'cause I don't want to have another one." I couldn't do it again.... I see a lot of moms here who have more than one, and ... they are really stressed out, because they have children that are so-called, what they call "normal," and then their special needs children. And the other children feel left out because the special needs takes up all their time.

Debra and Karen both spoke about the difficulties of raising a child with disabilities—the increased caregiving demand brought about by increased need. They also mentioned another theme that appeared in many of our interviews—the idea of fairness, of caring fully and fairly for one’s children. This notion of fairness taps into the importance of parental investment in children. Good parents invest in their children; they invest time, emotional energy, and economic resources. Both Debra and Karen explained that their decisions not to have a second child were made, in part, because it would not be “fair” to either their child with a disability or to a hypothetical second child. They believed that being a good parent involved investing in their child or children. Given the amplified needs of their firstborn sons, they felt that having a second child would reduce their ability to invest as necessary in their disabled child. These fears seem to exist regardless of a presumption about the disability status of a second child. For example, Debra feared that a second child would suffer, even if the child did not have a disability, because the child would have to be brought to therapy frequently while Ricky received his treatments. Worse still, if the child were to have a disability, she feared she would not be able to meet both children’s needs.

Similar themes emerge among mothers who did have another child after the birth of their child with a disability, but chose to space their birth intervals widely. Two of our mothers reported that raising a child with a disability caused them to wait longer to have another child than they might have otherwise. Tara is a mother of three. Her eldest child is not disabled, though her two younger children have disabilities. When we asked Tara whether her second child’s disability had any influence on her decision about whether and when to have another child, she told us,

Yeah, we would have probably spaced our children closer together.... You know, it took a long time, not, I mean, I wasn’t afraid of having another kid with a disability.... Like that wasn’t the fear as much as um ... just like literally not having time to think that I could do it. Until she was older and in school.... So like once we were kind of like, “okay we could deal with whatever came down the pike,” then we were like ... *Did you always want three?* I wanted four. *Are you thinking about having another one?* No. [laughs] It just took too much out of me ... you know, the added appointments.

In this excerpt from Tara’s interview, we see yet again that raising a child with a disability is time-consuming. Tara spoke about the added appointments and how meeting the needs of two children with disabling conditions “took too much out of” her. Though she intended to have another child, she elected to wait until she was sure she would be able to meet the needs of both her existing children and the needs of another child, taking into account the potential that this subsequent child may also have amplified needs because of disability. Gloria also indicated that her child’s disability led her to space her birth intervals widely. Gloria’s child, Emily, was born with spina bifida. Gloria did not have another child until Emily was 8, “I waited a certain amount of time where I felt I would have the capability and the time to spend with other children.”

This idea of waiting ties closely into the concept that having another child might be detrimental to the well-being of a child with disability and that subsequent childbearing should only take place when parents are sure they will be able to meet both the needs of their child with disability and the needs of another child. This idea was also mentioned by a respondent who did not go on to have a second child. Marilyn’s daughter, Erin, has cerebral palsy. Erin is not severely disabled; she can walk with minimal assistance. Marilyn told us that although she and her husband had wanted a large family, they ultimately decided to have only one child:

Our plan was always to have four or five kids.... I just said, I could not, did not want to [have another child].... [I] didn't want to take another chance. I also didn't want to give any minute of myself to another baby that would take time away from Erin. And then I thought a long time about, I didn't know where her challenges would take her.... And I didn't know at the time when I was still in safe childbearing age, I didn't realize how well she would be right now.

Here, Marilyn indicated that, given the unknown course of Erin's condition—that they did not know how severe her disability would be—they presumed the worst. They elected not to have another child presuming that they would need to continue investing considerable resources in caring for Erin. Marilyn implied that had she known how self-sufficient Erin would become, how relatively slight her disability would be, that they likely would have had another child. This way of thinking was also apparent in Nina's interview. Nina is the mother of twins, one of whom has cerebral palsy. When I asked if she thought she might have any more children, she replied, "I would like some. That's out of the question for my husband. [laughs] No, we're ... nothing's out of the question, but I think, um ... once we get a feel for what the future holds for Vanessa, I think that will make the determination."

Parents want to be good parents: to do what is best for their children. For many parents of children with disabilities, that means either forgoing subsequent childbearing or spacing birth intervals widely. In some cases, though, that may mean having another child. Lisa is a mother whose firstborn son Andrew has autism. Lisa indicated that she and her husband essentially had their second child for Andrew. She said that they knew he would have trouble relating to people and would have difficulty with social relationships. They chose to have another child in order to give Andrew a friend and someone who would help take care of him and provide for him.

Another respondent, Patrice, also indicated that her child's disability status led her to have another child. Patrice was born and raised in Ghana and came to the United States in her 20s. She met her Ghanaian-born husband in the United States, where they have settled and had three children. Here, Patrice's response highlights the significance of culture and belief systems on the meaning of health, illness, and disability and in turn, what effect it will have on personal and familial well-being. Patrice's second child was born with a rare medical disorder, and when asked if this influenced her decision to have her third child she replied,

You know, something funny happened to me when I had Nick. Well, we used to go to a church, but I stopped because ... some people believe like in witches and all that ... some of the people that we knew in the church, when I had Nick, I was trying to explain to them medically what is wrong with him ... and they were all like, "Oh!", afraid, like, "Oh, maybe you did something and now God is punishing you!" "or maybe you did something to somebody in Ghana and they make voodoo on you!" ... I really want[ed] to have two. And I think what happen was, because everybody was saying that, uh, "Oh, I did something and God punish me," for some reason I decided to have the third one, to prove that ... *That it wasn't a punishment from God.* Yeah. [laughs] So, that was really my intentions, yeah, because we were only planning on having two, because taking care of somebody with a disability is a lot of work.

Patrice spoke about how raising a child with a disability is hard, "a lot of work," but that their particular social context led them to have another child.

These exchanges emphasize the range of factors that go into the decision regarding whether and when to have another child. As both the quantitative and qualitative evidence suggest, for many parents delaying or forgoing subsequent childbearing seems to be the best decision given the parenting demands associated with raising a child with a disability. In some cases,

however, other factors, such as a desire to provide a disabled child with a playmate, may motivate subsequent childbearing. Thus, although both the qualitative and quantitative analyses suggest support for the hypothesis that mothers of children with a disability are generally less likely to have a second child, the qualitative data also suggest that the decision is complex and dependent upon a range of factors.

## Discussion

Both the quantitative and qualitative components of this study present a picture of the ways in which raising a child with a disability influences parenting and subsequent childbearing. This study indicates that having a child with a disability does, in fact, decrease the rate of subsequent childbearing. The observed effect is only moderate, although this is likely a conservative estimate of its impact. Raising a child with a disability, on average, reduces the hazard of a subsequent birth. But the complexities of individuals' lives influence their perceptions and calculus in ways that may differ from the "average" experience documented in the quantitative analyses. For some parents, other desires, needs, or family dynamics may prompt parents whose child has a disability to have another child.

This study contributes to a growing literature documenting the impact of child disability on families. Families of children who have disabilities differ in several noticeable ways from families who are not raising children with disabilities. These families experience daily stresses and strains that give rise to an increased divorce rate, a decrease in caregiver physical well-being, and a decline in labor force participation among care-givers (Brandon, 2000; Corman & Kaestner, 1992; Ireys & Silver, 1996; Joesch & Smith, 1997; Kuhlthau & Perrin, 2001; Mauldon, 1992; Porterfield, 2002; Rogers & Hogan, 2003). But prior to this study, there have been no systematic attempts to examine the impact of child disability on the subsequent childbearing of mothers. While a 2003 study by Park, Hogan, and Goldscheider found a slight increase in the risk of sterilization among mothers whose children are disabled, this study extends this research and suggests that the experience of raising a child with a disability also has an impact on the timing of subsequent childbearing and offers a nuanced picture of how this relationship works.

Beyond this contribution to our understanding of the family experience of child disability, this study has implications for a more general understanding of parenthood. Although parenthood may be desired in part based on anticipation of typical parent-child interactions (Pollard & Morgan, 2002), the desire to have the kind of child with whom you can engage in such activities does not seem to spur additional childbearing. Rather, parents seem focused on their ability to invest adequately in their children (Sayer et al., 2004). Parenthood, then, seems less about having the "right" kind of child and more about being the "right" kind of parent. For many parents of disabled children in this study, the increased needs of their children coupled with their acknowledgement that they have finite time, energy, and monetary resources, lead them to hold off from having a second child. They refrain from childbearing until they believe that they will be able to invest adequately in both their child with a disability and a subsequent child.

This study also offers insight into the process of childbearing decisions. First, this study offers additional support for the notion that childbearing decisions are made in a sequential manner (Udry, 1983). As became clear in the interviews, parents began childbearing with an idea of how many children they would like to have. Yet the experience of raising a child with a disability led many of these parents to have fewer children than they had originally desired. Second, this work suggests that not all children are equal when it comes to the subsequent fertility of mothers. Typical models of fertility focus upon various maternal, familial, and social characteristics, such as the age of the woman, her marital status,

educational attainment, race, and the like. But the characteristics of existing children clearly matter for subsequent childbearing decisions. Several scholars have found both birth order and gender to be useful predictors of subsequent childbearing, though the importance of gender may be declining in the United States (see, e.g., Morgan, 1996; Pollard & Morgan, 2002). This analysis highlights another characteristic of children—specifically, their disability status—that has a noteworthy impact on childbearing. This further emphasizes the importance of considering the characteristics of existing children in models of childbearing.

Finally, this study also illustrates the potential and limitations of using rational choice theory to understand childbearing behavior. Rational choice theory suggests that individuals weigh the costs and benefits to childbearing and proceed to have a child if the benefits outweigh the costs. Yet a weakness of this approach stems from its strength—individuals act in accordance to their own calculations of cost and benefit, stemming at least in part from personal values (Hechter & Kanazawa, 1997). Thus two families faced with the same experience may make different choices given divergent and unique personal values. In the EHA model the impact of child disability on subsequent childbearing was only moderate. Although the impact of child disability is likely underestimated in this model as a result of the inability to identify the onset of disability, the moderate impact of disability is also likely due to the fact that the complexity of choices about parenting leads to an offsetting effect. That is, although many respond by ceasing or slowing childbearing (as did Karen, Debra, Tara, and others), other parents may respond with increased childbearing (as did Lisa and Patrice). As such, these effects may offset to some degree. As the interviews show, the experience of raising a child with a disability increases both the perceived costs and benefits to subsequent childbearing. This highlights a major strength of the mixed-method approach. Without the insight gained from the interview data, we would be left with an incomplete picture of how child disability influences subsequent childbearing.

There are some limitations of this study, however, that suggest avenues for further study. The NHIS disability indicator did not permit analyses of disability severity, type, and cause, factors that may influence childbearing decisions. We are unable to use the NHIS-NSFG matched data to perform such analysis, but such questions might be addressed using other data. The qualitative component of this study also suffers from limitations that might be explored in subsequent research. This study draws upon a limited number of interviews, all of which were conducted among the clientele of a single physical and occupational therapy clinic. As such, these interviews do not capture as much variability as would be ideal. For instance, the majority of the respondents were White, and few reported financial difficulties. All were located in an urban area of the Northeast. Thus, in several ways our interview data come from advantaged parents. Were we to deliberately sample parents from lower economic strata, from minority backgrounds, or from more remote rural areas, we would likely find that these parents face a host of different challenges not reported by the parents in this sample.

A final limitation to this study stems from a difficulty often faced in qualitative research: the potential for social desirability bias. Although the observed impact of disability on subsequent childbearing is unaffected by social desirability, the explanations for its impact are susceptible to such a bias. There is a strong social expectation that parents will love and value their children unconditionally. It is unlikely that a mother would have admitted devaluing her child with a disability even if she felt that way. In our interviews, parents admitted to the frustrations and disappointments they experienced in raising their children. Many admitted fear that a subsequent child would also be disabled, and that this fear contributed to their decisions against having an additional birth. Yet the narratives revealed that despite these problems, these parents deeply loved their children, disability and all. They argued that their concern about the disability status of a potential subsequent child

stemmed from their fears that they would not be able to adequately meet the amplified needs of two children with disabilities and that both children would thus suffer. This point was further emphasized by mothers who commented that even if they were able to know that a subsequent child would not have a disability, they would not choose to have another child. Moreover, despite the potential that these responses are tainted by a desire to respond in a socially acceptable way, I believe that the conclusions drawn from these interviews are defensible. Parents did admit to other socially undesirable experiences and sentiments, such as domestic violence in the home and disappointment that their child would never go to college. Recent work by Sara Green (2007) explored the challenges of mothering children with disabilities and reached similar conclusions about the impact of child disability on the experience of parenthood.

Mothers see both challenges and rewards intrinsic in their experience raising children, whether or not these children have disabilities. Parents want to be good parents, to invest adequately in their children, and to provide for them as best they can. In this study, mothers said they were electing to slow childbearing as a strategy for providing all they possibly could for their child with a disability. Mothers acknowledge the considerable difficulties that come with raising such a child, but also speak of the benefits. Elizabeth spoke about the difficulties and challenges she faced every day caring for her son, Marcus: “But Marcus has been our blessing. He’s been truly ... the biggest blessing that ever could have happened in our lives. You know, and I’m just honored to be ... that God chose us to be his parents. We hope that we can, you know, do a good job with him.” Elizabeth expresses the sentiments held by many such parents: The experience of having a child with a disability may be difficult and demanding. It requires unique parenting strategies to enable caregivers to meet the needs of such children. Yet it does not necessarily diminish the experience of parenthood or the love and devotion of parents to their children.

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Table 1

Characteristics of Mothers and Firstborn Children in the NHIS-NSFG: Descriptive Statistics

	Among Nondisabled Firstborn Children	Among Firstborn Children With Disabilities	Total: All Mothers
Child with disability			
Child has a disability	—	—	0.07
Child's gender ***			
Male	0.51	0.63	0.52
Female	0.49	0.37	0.48
Mother's age at child's birth **			
Less than 20	0.22	0.28	0.23
20 – 29	0.65	0.66	0.65
30 and older	0.13	0.06	0.12
Mother's race			
White	0.71	0.73	0.71
Black	0.13	0.13	0.13
Hispanic	0.12	0.10	0.12
Other race	0.04	0.04	0.04
Mother's education			
More than a HS degree	0.45	0.41	0.45
HS degree	0.42	0.42	0.42
Less than a HS degree	0.13	0.17	0.13
Mother's employment (1995) *			
Does not work	0.36	0.44	0.37
Works	0.64	0.56	0.63
Mother's marital status (1995) *			
Not married	0.28	0.34	0.28
Married	0.72	0.66	0.72
Poverty (1995) ***			
Above the poverty line	0.84	0.76	0.84
Below the poverty line	0.16	0.24	0.16

Note: Data are weighted and adjust for sample design;  $N = 4468$  (unweighted); 22,174,139 (weighted). Significance from  $\chi^2$  test of difference across strata by presence of a child with a disability.

\*  $p < .05$ .

\*\*  $p < .01$ .

\*\*\*  $p < .001$ .

**Table 2**

Piecewise Constant Models Estimating Survival Time to a Second Birth

	<b>Hazard Ratio</b>	<b>SE</b>
Child has a disability	0.80 <sup>*</sup>	0.07
Child's gender = female	0.91 <sup>*</sup>	0.04
Mother's age at child's birth = less than 20 <sup>a</sup>	1.17 <sup>***</sup>	0.07
Mother's age at child's birth = 30 and older	0.66 <sup>***</sup>	0.06
Mother's race = non-White	1.01	0.05
Mother's education = high school degree <sup>b</sup>	0.98	0.05
Mother's education = less than a HS degree	1.23 <sup>***</sup>	0.08
Mother worked (lagged)	0.81 <sup>***</sup>	0.03
Mother was married (lagged)	2.65 <sup>***</sup>	0.15
Birth covered by medicaid	1.32 <sup>***</sup>	0.08
Year 3 <sup>c</sup>	3.15 <sup>***</sup>	0.15
Year 4	3.16 <sup>***</sup>	0.19
Year 5	2.36 <sup>***</sup>	0.17
Year 6	2.13 <sup>***</sup>	0.22
Year 7	1.56 <sup>***</sup>	0.18
Year 8	1.32	0.21
Year 9	1.11	0.19
Year 10	0.95	0.20
Year 11	0.88	0.20
Year 12	0.46 <sup>*</sup>	0.18

Note: Data are weighted and adjusted for survey design.

<sup>a</sup>Reference is age 20 – 29.

<sup>b</sup>Reference is more than high school.

<sup>c</sup>Reference is Years 1 – 2.

\*  $p < .05$ .

\*\*\*  $p < .001$ .