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PARENTING A CHILD WITH A DISABILITY: AN EXAMINATION OF RESIDENT AND NON-RESIDENT FATHERS

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Abstract

Children with disabilities often require more extensive family involvement and greater paternal support than other children. Yet these children are the children least likely to live with their fathers. This paper uses data from the National Longitudinal Survey of Youth 1997 from the United States to examine the association between child disability and resident and non-resident biological fathers' supportiveness, relationship, and monitoring of their children. Regression analyses indicate significant challenges for all fathers of children with disabilities. Children of resident fathers report more positive interactions than children of non-resident fathers. However, earlier co-residence and more frequent contact significantly improve the quality of father–youth relationships among men who do not live with their children.

Keywords

disability; adolescence; family dynamics; fathers; child well-being

Research on child well-being consistently suggests that the relationships of fathers and mothers with their children are a key element of a supportive family environment. More positive parental relationships in childhood are important determinants of later advantageous adolescent outcomes. Youth satisfaction with the parental relationship is associated with higher academic motivation, achievement, and engagement (Hair *et al.* 2005) as well as improved social skills (Zahn-Waxler and Smith 1992; Engels *et al.* 2001), decreased substance use (Cohen *et al.* 1994; Blum and Rinehart 1997) and lower sexual risk (Jackson *et al.* 1998). Greater levels of parental monitoring are associated with lower rates of sexual activity (Hogan and Kitagawa 1985; Metzler *et al.* 1994), reduced drug, alcohol and tobacco use (Chassin *et al.* 1996; Miller 1998) and the increased likelihood of academic success and social well-being (Crouter *et al.* 1990; Eddy *et al.* 2000).

Father involvement is one important aspect of the family environment. While research suggests that growing up with two biological parents is best for many developmental outcomes (McLanahan and Carlson 2002; Amato 2005), children can also benefit from the positive involvement of non-resident fathers (Amato and Gilbreth 1999; White and Gilbreth 2001). Non-resident paternal closeness can facilitate the transfer of social capital through

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monitoring and communication (King *et al.* 2004) as well as the transmission of financial resources (Nord and Zill 1996). Finally, fathers can serve as another source of emotional support for their children as they encounter tough choices in their transition to adult roles.

Non-resident father involvement may be especially crucial for the well-being of children with disabilities, who often require more extensive medical services, more time-consuming daily care, and greater family resources than children without special health care needs (Roberts and Lawton 2001; Newacheck *et al.* 2004). Much of the responsibility for integrating children with disabilities into school and community life is also contingent upon family caregiving and support (Pascall and Hendey 2004). However, research has shown that children with disabilities more often grow up in family environments that are in poverty and lower in socio-economic status (Rogers and Hogan 2003; Wells *et al.* 2003), further increasing their developmental risks.

The association between childhood disability and resident family relationships has been well documented (e.g. Hogan *et al.* 2007; Sen and Yurtsever 2007). However, the effect of child disability on non-resident parental relationships remains underresearched despite evidence that children with disabilities are less likely to live with two parents than children without disabilities (Hogan *et al.* 2000). Several factors may inhibit our understanding of the relationship between children with disabilities and their non-resident fathers. First, most research on the interactions between children with disabilities and their parents focuses on mothers (Quinn 1999). While several studies have examined gender differences in the way parents adapt to their child's disability (Pelchat *et al.* 2003; Pelchat *et al.* 2007), less is known about fathers' contributions to the parent–youth relationship when their child has a disability. Furthermore, there is a paucity of population-based data which include information on both non-resident fathers and child disability. One notable source is the National Longitudinal Study of Adolescent Health (Add Health). However, its school-based design, as opposed to a household-based approach, excludes students who do not attend high school, an important consideration when researching children with disabilities.

This paper contributes to the literature on adolescence and the family environment by using nationally representative data from the National Longitudinal Survey of Youth 1997 to address this underresearched area. Our first goal is to understand the association between youth disability and adolescents' relationship with their fathers by examining if fathers increase their engagement, or disengage, when children have a disability. Our second goal is to understand the extent (if any) to which the father–child relationship for adolescents with disabilities is challenged when biological fathers are absent from the household, by comparing resident and non-resident fathers. Finally, our last goal is to examine if type of contact with the non-resident father mediates any association between child disability and the paternal relationship.

We proceed first with a review of the literature on parenting a child with a disability, including a discussion of gender differences in parenting and the additional barriers to a positive father–child relationship that may occur when a father is non-resident. Next, we summarize existing research on the youth, paternal, and household factors associated with non-resident father relationships. Third, we discuss our choice of data and methods. Finally, we describe our results and the implications of these results for researchers interested in adolescence and the family context.

Background

Reichman *et al.*'s (2008) review of the impact of child disability on the family suggests several ways in which parenting a child with a disability is different from parenting a child without a disability. Children with special health care needs often require additional primary

care as well as more specialized and long-term medical care. Functional limitations may necessitate structural or technical modifications in the physical home environment. A child's disability may require parents to seek educational and recreational accommodations to ensure that the child has opportunities that are more equal to those of children without disabilities. Finally, as the child ages, specialized rehabilitation programs may be necessary to ensure a positive transition to adulthood. While there are numerous programs and organizations to provide parents of children with disabilities with social and financial support, navigating and co-ordinating these benefits programs can be a challenge. Overall, the parents of a child with a disability may encounter a unique set of challenges that are not faced by parents of a child without a disability.

Prior research suggests that these challenges may place additional pressure on resident family relationships. Several studies (Dyson 1997; Cohen 1999) indicate that mothers and fathers of school-aged children with disabilities experience greater and more frequent stress because of their parenting demands than parents of children without disabilities. Others (Seltzer *et al.* 2001) find that parents of children with disabilities report lower rates of social participation than parents of children without disabilities, perhaps due to increased financial strain and more time-consuming childcare demands. Finally, Reichman *et al.*'s (2004) results indicate that having a child with poor health is negatively associated with the probability that biological parental relationships will remain intact.

Furthermore, the type of stress experienced because of a child's disability may not be the same for mothers and fathers. Previous research suggests that mothers express more concern than fathers over the daily tasks related to the care of children with disabilities (Pelchat *et al.* 2003), which may help explain why fathers are more likely to worry about emotional attachment with their children (Krauss 1993; Cohen 1999). Compared to mothers, fathers may also be more likely to report financial stress. Gray's (2003) research on gender differences in the parenting of children with autism found that fathers placed a higher level of importance on their 'work role', and their corresponding ability to provide economically for their child's medical care and future independence. Finally, in coping with these stressors, it has also been suggested that fathers are less likely than mothers to seek social support for parenting a child with a disability (Heaman 1995). This may be because many of their male friends do not offer—or know how—to help (Chesler and Parry 2001).

In addition to gender differences in coping with the stress of parenting a child with a disability, several researchers have also found gender differences in parenting behaviour. Co-resident fathers of a child with a disability are less likely to be primary carers (Green 2003; Foster *et al.* 2004), instead demonstrating greater engagement in social activities such as playing, nurturing, and discipline, as opposed to the instrumental activities of hygiene, teaching, therapy, and feeding (Simmerman and Blacher 2001). Fathers are also less likely to be involved in a child's treatment, and interact less with health care providers (Hauenstein 1990). As Pelchat *et al.*'s (2003) study of parents of children with Down Syndrome suggests, this may be because fathers have difficulty admitting their child has limitations, and feel greater discomfort from the social stigma generated by their child's disability.

Many scholars (Lamb and Billings 1997; Hauser-Cram *et al.* 2001; Pelchat *et al.* 2003) have emphasized that these observed gender differences in the parenting of children with disabilities should be attributed to cultural expectations about gender and the way women and men are socialized to perform motherhood and fatherhood. Mothers and fathers of children with disabilities, like mothers and fathers of children without disabilities, largely follow a gender-based division of child care. However, if a father perceives his household role as economic provider and his parenting role as more discretionary, the greater financial responsibility of raising a child with a disability and the accommodations which may be

necessary to facilitate social activities may challenge fathers' abilities to become fully involved in their children's lives. These factors, coupled with a father's non-resident status, may make it even more difficult for fathers who are not co-resident to maintain positive relationships with their children.

One factor which may complicate a non-resident father's ability to maintain involvement with his child is his relationship with the child's mother. Previous research suggests that more cooperative coparenting between the resident mother and the non-residential father is associated with higher-quality father-child relationships as well as more responsive parenting (Sobolewski and King 2005). It may be easier for mothers to restrict fathers' involvement with their children when the father lives outside the household. As Fagan and Barnett's (2003) path analysis suggests, non-residential status is directly linked to maternal gatekeeping, which is negatively associated with paternal involvement.

This restriction of information from non-resident fathers may be especially consequential when a child has a disability: as Pelchat *et al.*'s (2007: 121) review of the literature suggests, 'adequate information enables parents to adjust positively to the diagnosis of the child's disabilities, whereas lack of information generates additional stress and makes parents withdraw'. Non-resident fathers who do not receive information from the child's medical providers and who have their information about the child's condition filtered by the co-resident mother may find it very difficult to understand their child's condition and maintain positive interactions. These factors, along with previous research which suggests that non-resident fathers are more likely to disengage if children have behavioural and academic problems (Hawkins *et al.* 2007), lead us to hypothesize that child disability will have a negative effect on the quality of non-resident father-youth relationships.

Existing scholarship suggests that several factors may affect a child's relationship with the father. First, children's sociodemographic characteristics are important to consider in the examination of paternal involvement. The child's age is likely to be an important determinant of involvement, as older adolescents are usually granted more autonomy from parents (Hosley and Montemayer 1997) and spend more time with their peers (Furstenberg 2000). Gender may be important, too, as sons are more likely than daughters to report close relationships with their fathers (King 2002), and some studies suggest that non-resident fathers are likely to spend more time with their sons (Manning and Smock 1999). Cooksey and Craig (1998) find no association between gender and visitation; however, they do find that being male increases children's likelihood of verbal or written contact with their non-resident fathers. The paternal involvement of fathers of black and Hispanic children also differs from that of fathers of white children, although in ways that interact with social class and educational attainment (Hofferth 2003; King *et al.* 2004; Flouri 2005).

Paternal characteristics have also been associated with various aspects of the resident and non-resident father-youth relationship. Higher levels of education are associated with more frequent contact (Stephens 1996) and greater child well-being (Amato and Rivera 1999). Paternal employment and the ability to provide financial contributions also increase the likelihood that a father will engage with his child (Johnson 2001; Landale and Oropesa 2001). Finally, teenage fatherhood is also associated with less child well-being and more father delinquency (Thornberry *et al.* 1997). Therefore, older fathers who have greater access to social and financial resources may be more likely to transmit these resources to their own children.

Finally, several factors specific to the non-resident paternal relationship may also affect the likelihood of positive father-youth involvement. For example, King (1994) suggests that the frequency of father-child contact does not ensure youth well-being, but it may play an

indirect role in allowing fathers to establish higher-quality relationships with their children and to develop more responsive parenting practices (Sobolewski and King 2005). Non-resident fathers who have lived with their children at any point are also more likely to remain involved than non-resident fathers who have not (Seltzer and Bianchi 1988), perhaps because they were able to develop closer ties to their children while co-resident. Lastly, the presence of a stepfather in the adolescent's household also decreases non-resident father involvement (Seltzer and Bianchi 1988; Stephens 1996), indicating that parental ties with the non-resident biological father are often complicated when another father figure is co-resident.

We draw from these two literatures—parenting a child with a disability and the dynamics of the non-resident father relationship—to inform our analytic strategy. First, to understand the relationship between youth disability and adolescents' involvement with their fathers, we use multivariate regression models to examine the association between disability status and paternal supportiveness, relationship quality, and monitoring. Second, to understand the extent (if any) to which the father-child relationship for adolescents with disabilities is challenged when biological fathers are absent from the household, we estimate separate equations for non-resident and resident fathers. Finally, to examine if type of contact with the non-resident father mediates any association between child disability and paternal involvement, we estimate a series of additive models which control for prior co-residence, overnight stays, frequency of non-resident-father initiated contact, and the presence of another father figure in the child's residential household.

Data and method

To investigate these questions, we use data from the National Longitudinal Survey of Youth 1997 (NLSY97), a nationally representative household-based sample of the non-institutional population of young persons in the United States (Bureau of Labor Statistics 2005). NLSY97 is a longitudinal study which annually collects data on an age cohort of children who were aged 12 to 16 on 31 December 1996. Ideally, we would like to exploit the longitudinal design of NLSY97 to account for the changing nature of father-child relationships over time. Unfortunately, children were asked about their non-resident father's degree of monitoring, level of support, and relationship quality in 1997 only. This limits our analysis to a cross-sectional design.

The full sample for this analysis includes adolescents aged 12 to 16 years living in families with a resident biological father ($N = 3,733$) and in families with a non-resident biological father ($N = 668$). A subsample of children aged 12 to 14 completed a module of questions that specifically addressed the quality of their interactions with parents. Models examining these outcomes have a reduced sample size ($N = 2,201$) for children with resident biological fathers and ($N = 383$) for children with non-resident fathers.¹

NLSY97's household-based design is highly advantageous for understanding how a child's disability is associated with paternal relationships. Previous research suggests that population surveys are well suited to the measurement of limitations in activities and participation (Hogan *et al.* 1997). A household-based survey such as the NLSY97 is representative of the entire population of non-institutionalized youth, while school-based surveys may only sample youth in traditional schools. NLSY97 thus allows us to identify all young people with functional limitations regardless of whether or not they have been officially diagnosed with a disability or receive formal educational accommodations. The household sample also permits the inclusion of young persons who are no longer enrolled in school; this is especially important for the study of adolescents with disabilities given their higher rates of secondary school dropout. NLSY97 is the only nationally representative,

population-based survey we know of from the United States that includes information both on a child's disability and on his or her relationship with a non-resident father.

However, NLSY97's less extensive information on a child's family dynamics leaves us with some data limitations. For example, we are not able to ascertain whether or not a child's biological father and biological mother were ever married, which precludes us from assessing the effect of divorce—versus repartnering—on non-resident father relationships. Furthermore, reliable information on the mother–non-resident father relationship is also lacking², limiting our ability to assess maternal gatekeeping aside from the information included about father–child contact. As a result, the focus of our analysis is on the association between children's disability and their relationship with their resident and non-resident father, not the mechanisms through which this relationship occurs.

Logistic regression analysis

Our first dependent variable of interest, parental support, is the only measure asked of all youth aged 12–16 in the NLSY97. Children are asked if their non-resident biological father is very supportive, somewhat supportive, or not very supportive. Ordered logistic regression models are used to analyse more positive outcomes in this three-category measure. We run a score test for the proportional odds assumption to assess the appropriateness of this model given our data. In both the resident father (χ^2 (11, $N = 3733$) = 12.284, $p > .10$) and non-resident father (χ^2 (11, $N = 668$) = 9.543, $p > .10$) models, we conclude that ordered logit coefficients are equal across levels of paternal supportiveness and confirm the validity of our one-equation model. Odds ratios from this model can be interpreted as the effect of the independent variable on the odds of being in a higher, rather than a lower, category of supportiveness (Allison 1999).

Ordinal least squares regression analysis

Our second and third dependent variables of interest, parental relationship and parental monitoring, are asked of the younger subsample of children aged 12–14 and derived from scales developed by Child Trends, Inc. for use in examining the family environment of children in the NLSY97 (Child Trends 1999). Paternal relationship is an eight-item scale ranging from 0 to 32 (high scores indicate a more positive relationship), which measures the

¹Among the full sample of children with residential biological fathers, 5,098 report valid information on the supportiveness measure. Of these, missing data on the disability variable—our independent variable of interest—excluded 623 of these cases. Another 742 cases were missing information on father characteristics or household poverty. Among the smaller sample of children with residential biological fathers, 3,136 report valid information on the relationship measure and 3,138 report valid information on the monitoring measure. Of these, 2,741 cases remained after excluding children with missing data on disability and 2,201 cases remained after excluding children with missing data on father characteristics or household poverty. To test the possibility that missing cases affected the association between disability and our dependent variables of interest, we created dichotomous missing indicators for all father and household characteristics and reran all residential father models. Substantively, these models assume that children would have access to information on these characteristics, a reasonable assumption to make among children who live in the same household as their fathers. The relationship between disability and all three dependent variables of interest in these missing-adjusted models were comparable in magnitude and significance (models available from the authors upon request).

Among the full sample of children with non-resident biological fathers, 1,212 report valid information on the supportiveness measure, 722 on the relationship measure, and 725 on the monitoring measure. Of these, 1,023, 610, and 615 cases respectively remain after excluding children with missing data about disability, and 668, 383, and 383 remain after excluding missing data on father characteristics or household poverty. We do not use the same test to examine missing-adjusted models, as we do not feel it is appropriate to assume that children who live in different households from their fathers have full information on these characteristics. We fully acknowledge that these are only children who have contact with, and information about, their non-resident fathers. Inferences are made accordingly.

²Information is only asked of the resident *respondent* parent about her contact with the youth's 'non-household father'. Furthermore, when the resident respondent is the youth's biological mother, the information that is available is not ideally suited for capturing maternal gatekeeping. Among our already limited sample of youth with full information on their non-resident fathers, only 56 per cent of youth have reliable (i.e. disclosed to the interviewer while not in the presence of a step-parent or child) information on a mother's contact with the non-resident father. Only 45 per cent of youth have reliable information on a mother's 'hostility' toward the non-resident father. Therefore, we do not include these variables in our models.

quality of children's self-reported relationship with their resident and non-resident parents. Children are asked to evaluate their parents on a 5-point scale which ranges from 0 ('strongly disagree') to 4 ('strongly agree') on the following three statements: 'I think highly of him', 'He is a person I want to be like', and 'I really enjoy spending time with him'. Children are asked to evaluate their parents on a 5-point scale which ranges from 0 ('Never') to 4 ('Always') on the following five questions: 'How often does he praise you for doing well?', 'How often does he criticize you for your ideas?' (reverse coded), 'How often does he help you to do things that are important to you?', 'How often does he blame you for your problems?' (reverse coded), and 'How often does he make plans with you and cancel for no good reason?' (reverse coded). Responses are then summed. Child Trends calculates a Cronbach's alpha of 0.82 for resident fathers and 0.83 for non-resident fathers, indicating that this scale is above the acceptable level for internal consistency.

Parental monitoring is a four-item scale ranging from 0 to 16 (higher scores indicate more positive monitoring), which measures how much the children believe their paternal figures know about their daily life. They are asked to evaluate their parents on a 5-point scale which ranges from 0 ('knows nothing') to 4 ('knows everything') on the following four questions: 'How much does he know about your close friends, that is, who they are?', 'How much does he know about your close friends' parents, that is, who they are?', 'How much does he know about who you are with when you are not at home?', and 'How much does he know about who your teachers are and what you are doing in school?' Responses are then summed. Child Trends calculates a Cronbach's alpha of 0.81 for residential fathers and 0.85 for non-residential fathers, indicating that this scale is above the acceptable level for internal consistency. This monitoring scale is especially conducive to examining non-resident father involvement, as it does not necessitate physical supervision. Thus it can also be interpreted to follow recent studies of parental monitoring which suggest that children's willingness to disclose information to their parents is a better measure of successful parental monitoring than actual surveillance (Stattin and Kerr 2000; Crouter and Head 2002).

Several model specifications were tested to fit these data. As both the relationship and monitoring measures are ordinal-level variables, we first fit ordered logistic regression models. However, these were rejected in favour of Ordinary Least Squares regression because the proportional odds assumption was not met.³ As these dependent measures are not count measures, OLS is more appropriate than a Poisson or Negative Binomial model. Nonetheless, we also explored these alternate equations. Both the Poisson (with adjustment for overdispersion when appropriate) and Negative Binomial coefficients were highly comparable to the results presented here. OLS regression diagnostics for multicollinearity were well within acceptable range: all variance inflation factors fell under 2.5. The Breusch-Pagan test indicated evidence of heteroskedasticity in some models; however, we corrected for this by respecifying these equations with robust standard errors. Because these results were highly comparable, we choose to present regular OLS coefficients in Tables 3 and 4 because they allow us to report the adjusted R^2 statistic for goodness of fit. Results from all other models are available from the authors upon request.

Disability

Our conceptual model of disability is drawn from the World Health Organization's (2001) International Classification of Functioning, Disability, and Health (ICF) model, which has been adopted internationally by the Member States of the World Health Organization 'as the basis for the scientific standardization of data on health and disability world-wide' (WHO

³As supported by the following score tests: resident father's relationship $\chi^2(288, N = 2201) = 7873.327, p < .001$; non-resident father's relationship $\chi^2(297, N = 383) = 1490.275, p < .001$; resident father's monitoring $\chi^2(135, N = 2201) = 191.406, p < .001$; non-resident father's monitoring $\chi^2(288, N = 383) = 1320.273, p < .001$.

2002: 5). The ICF model describes a child's health and well-being in terms of four components: body structures, body functions, activities, and participation. Body structures are anatomical parts of the body, such as organs and limbs, as well as structures of the nervous, sensory, and musculoskeletal systems. Body functions are the physiological functions of body systems, including motor and sensory abilities and psychological functions, such as attending, remembering, and thinking. Activities are tasks, including learning, communicating, walking, carrying, feeding, dressing, toileting, bathing, reading, preparing meals, shopping, washing clothes. Participation means involvement in family and community life, such as relationships, education, work, and recreational, religious, civic, and social activities. The ICF model also accounts for contextual factors in a child's life, including environmental and personal factors.

The child disability measure used in these analyses is constructed from four domains for which parents reported youth activity limitations in 1997: learning or emotional disabilities, sensory limitations, physical disabilities, or chronic illness. The small number of children with limitations precludes analyses for each aspect of disability. Therefore, we have abstracted across these variables to determine if a child has ever had one or more functional limitations. The validity of the disability measure was examined against other indicators associated with special health care needs, including overall health reports, school attendance records, and histories of remedial learning (tabulations not shown). The constructed measure of youth disability was significantly linked to these related health variables.

We recognize that the association between disability and paternal involvement is likely to vary by the severity and type of a child's disability. Additional research would be well served by disentangling this relationship as data become available. However, we choose to construct a dichotomous measure of disability for inclusion in these analyses for several reasons. First, conceptually, we only have information on the child's disability and non-resident father information at the survey date: a youth report on disability is collected several years later in the survey, when non-resident father information is not. As we are unable to determine the onset of disability, and whether or not a child was more or less limited if and when a father was co-resident, we believe it is more substantively appropriate to include a measure of overall disability. Second, further disaggregation of the already small number of children with a disability (in non-resident models, 247 in the supportiveness sample and 134 in the relationship and monitoring samples) may introduce considerable statistical error (see Wright 1995) into our multivariate model. Roughly 27 per cent of youth with disabilities (292 with resident fathers and 70 with non-resident fathers) have a learning or emotional condition, 4 per cent of youth with disabilities (44 with resident fathers and 12 with non-resident fathers) have a missing or deformed body part, 50 per cent of youth with disabilities (578 with resident fathers and 113 with non-resident fathers) have a sensory limitation, and 35 per cent of youth with disabilities (376 with resident fathers and 93 with non-resident fathers) have a chronic health condition that limits participation in activities.

Child characteristics

Apart from disability status, we include several other child characteristics in our model. To examine the possibility that boys enjoy closer relationships with their fathers, we include the child's sex (as reported by a parent and confirmed by child). Next, to control for the possibility that older adolescents will have less positive relationships with their fathers, we include a measure of children's age as determined by their age on 31 December 1996. Finally, we also consider a child's race-ethnicity as non-Hispanic black or Hispanic as reported by the household informant in the original screening interview. Since the race-ethnicity of children and the race-ethnicity of fathers are highly collinear in all models, only the child's race-ethnicity is included in the analyses.

Child household poverty

To control for differences in socio-economic status, we also include several measures of child household poverty. These variables are based on the NLSY97's constructed measure of the ratio of the child's household income to the United States federal poverty level in the previous year. The dichotomous measures included in the analysis are constructed to compare children with an income-to-poverty ratio of two to less than three and three and over to the reference category of an income-to-poverty ratio of less than two.⁴ Substantively, these measures can be interpreted as measuring whether a child is from a residential household slightly above the federal poverty level ('Household 2x poverty level') or economically secure ('Household 3x poverty level or higher') as compared to the reference category of marginally above or below the federal poverty level.

Father characteristics

We also include several father characteristics in our models. Father's age at child's birth is calculated by subtracting the child age measure from the father's age at the interview date.⁵ Father's employment is a dichotomous measure of labour force involvement at the interview date or, if this information was unavailable, whether or not he earned any income in 1996 or 1997. Father's education is measured by two dichotomous measures which indicate if the father has completed either a high school or a university education. Non-resident father's marital status was also considered as a potentially important paternal characteristic (e.g. Stephens 1996). This measure was dropped from the final analysis because it was not statistically significant in any model, perhaps because information on the non-resident father's marital status is only available in NLSY97 at the 1997 interview date.

Data on the non-resident fathers' individual characteristics is only available for fathers who completed the initial household screener and thus could be identified and contacted. Non-resident fathers are therefore selected into the sample on the basis of their ability to be located and the respondent child's ability to provide information on the quality and frequency of interactions with these fathers. Ideally, a selection model could be estimated to account for the fact that some non-resident fathers have had no contact with their non-resident children. However, this would require full information on the independent socio-demographic measures for these non-resident fathers. Fewer than 30 per cent of the non-resident fathers who have never had contact with their children in the NLSY97 have full information on their own education, age at child's birth, and work status, precluding the use of a selection model. The models presented are therefore limited to non-resident fathers who have ever had contact with their children and for whom full socio-demographic information is available.

Father-child contact

Finally, to control for the fact that some non-resident fathers have more contact with their children than others, we also include measures which account for the frequency and type of contact between a father and the child. These measures are correlated at $< .3$ in this sample,

⁴Missing data on this and several other measures are imputed from subsequent survey years. Missing information on child socio-economic status in 1997 was imputed with the same measure for 1998–2000, with imputed values accounting for roughly 8 per cent of the final resident and non-resident samples. Missing information on paternal work status in 1997 was also imputed from an annual question which asked if the youth's biological father received any income in the year 1998–1999, with imputed values accounting for less than 5 per cent of the non-resident sample and less than 0.1 per cent of the resident sample. Finally, missing information on paternal education was imputed using 1997 information for highest grade completed and retrospective information from later survey waves about the biological father's highest level of education.

⁵Fathers with a calculated age at the child's birth of 12 years or younger are dropped from the final analysis owing to concerns about reliability. These fathers represented less than 1 per cent of the resident sample and less than 2 per cent of the final non-resident sample.

indicating that they describe distinct facets of a child's contact with the non-resident father. Frequency of father-initiated contact is an 8-category ordinal measure, ranging from 0 = never to 7 = every day, of the children's reports of the frequency in which they received a card, letter, or phone call from the biological father. 'Child has ever lived with father' is the children's report of whether or not they have ever lived with their non-resident biological father. 'Child spends the night with father' is the children's report of whether or not they have stayed overnight at their non-resident biological father's house within the last 12 months.⁶ Finally, 'Child lives with another father figure' is also included, based on whether or not a child reported living with any non-biological father figure at the interview date.

Results

Descriptive statistics for the full sample (Table 1) indicate significant differences between the characteristics of resident and non-resident biological fathers. Resident fathers, on average, are older at their child's birth (29 years old versus 27 for non-resident fathers), more likely to be working (90 per cent versus 81 per cent of non-resident fathers), and more educated (27 per cent with college degree versus 11 per cent of non-resident fathers). Resident fathers also score higher on all three measures of parent-child relationship. Children report that their resident fathers are more supportive (with a median value of 2 versus 1 for non-resident fathers), that they have a more positive relationship with their resident fathers (with a mean value of 25 versus 22 for non-resident fathers), and that resident fathers have a higher degree of monitoring (with a mean value of 8.7 versus 4 for non-resident fathers).

Child characteristics also vary between the two samples. Children with any kind of disability are more common among non-resident fathers (37 per cent) than among resident fathers (30 per cent). A smaller percentage of non-resident children are male (45 per cent versus 53 per cent) and a greater percentage are black (30 per cent versus 13 per cent).

The multivariate logistic regression results presented in Table 2 suggest that children with disabilities report different levels of supportiveness from their biological fathers than children without disabilities (Table 2). These findings are negative and significant in both the resident and non-resident father models. Having a disability is associated with a 26 per cent decrease in the likelihood that children of resident fathers will report greater paternal supportiveness and a 32 per cent decrease in the likelihood that children with non-resident fathers will report greater paternal supportiveness. This relationship persists for non-resident fathers even when controls are introduced for child-father contact. For children with non-resident fathers, prior co-residence, overnight stays, and more frequent father-initiated contact are all positively associated with greater paternal supportiveness.

A child's household income-to-poverty ratio does not influence supportiveness among resident fathers, but is positively associated with supportiveness among non-resident fathers before father-child contact is added to the model. Likewise, a fathers' employment status does not influence supportiveness among resident fathers, but having a father who is employed is associated with a 49 per cent increase in the likelihood that children of non-resident fathers will report more positive supportiveness. However, this significant association between employment and supportiveness among non-resident fathers disappears once child-father contact is taken into account. As expected, a child's higher age is

⁶We also experimented with an ordinal measure of face-to-face father-child contact which asked 'How many times have you visited your biological father either at his house, your house, or somewhere else WITHOUT spending the night?' Since this measure of father-child contact was more highly correlated with other father-child contact measures and results were highly comparable, we present the more abbreviated models.

negatively associated with paternal supportiveness and being male is positively associated with paternal supportiveness.

Children with disabilities are also moderately less likely to report positive relationships with their fathers (Table 3). This is true of both resident and non-resident fathers: having a disability is associated with a half-point decrease in a resident father's score on the relationship scale and more than a one-point decrease in a non-resident father's score. For a child, being male is associated with more positive paternal relationships among both samples and being older is related to less positive relationships among children with resident fathers. Father's characteristics have little substantive effect in these models; however, the higher income-to-poverty ratio of children is positively associated with paternal relationships among both resident and non-resident fathers. As in the supportiveness models, however, the association between a child's economic well-being and the relationship with the non-resident father is mediated by child–father contact. Finally, overnight stays and more frequent father-initiated contact are positively associated with better non-resident father–child relationships.

Lastly, the models presented in Table 4 suggest that child disability is also associated with lower paternal monitoring among resident fathers only. Being an older child and being black, versus being non-Hispanic white, are negatively and significantly associated with greater paternal monitoring for resident fathers. Being male is positively and significantly associated with greater co-resident paternal monitoring. Children of better educated fathers are more likely to report greater monitoring in both samples, although this relationship disappears after controlling for non-resident father–child contact. For non-resident fathers, frequency of contact and prior co-residence are both positively associated with the monitoring of their children.

Discussion and conclusion

Research on fatherhood in the United States suggests several ways in which paternal involvement has changed since a generation ago. First, dads are spending more time with their kids. One report from the United States (Sayer *et al.* 2004) estimates a threefold increase in married fathers' average minutes per day (from 17 to 51) spent in primary child care from 1965 to 1998. While fathers still spend less time than mothers in household activities, caring for infants, and academic help, they are spending more equal time in child care today than in the past, especially on the weekends (Yeung *et al.* 2001). In addition to this temporal increase, however, other researchers suggest that the ideologies surrounding men's parenting have also created a new 'culture of fatherhood' (LaRossa 1988). In this more involved parenting, fathers are active participants in their child's daily activities, they engage in expressive and nurturing carework, and they are more likely to consider parenting as important as breadwinning (Rotundo 1985; Coltrane 1996; Pleck 1997). While the concept of involved father-hood may have gained traction in the social science literature, some suggest that the model itself relates to race and class (King *et al.* 2004), and that it is more ideological than behavioural (Wall and Arnold 2007). Ultimately, even fathers who embrace their parenting responsibilities may find it difficult to live up to the involved-parent expectation.

To be an involved father of a child with a disability who has additional, and often more unexpected, parenting needs may be even more difficult. One ethnographic study (Pelchat *et al.* 2003) reports no difference between the expected parenting roles of fathers of children with disabilities and those of fathers of children without disabilities. However, other research (Murray *et al.* 1991) suggests that the difference between a father's idealized parenting experience and his actual one may be substantial when a child has a limitation.

Non-resident fathers—whose parenting circumstances are much more complex (e.g. Manning *et al.* 2003)—may find it even more challenging to determine their place in the life of a child with a disability.

This study uses population-based data to examine the association between an adolescent's disability status and various aspects of the father–child relationship. Multivariate analysis of the National Longitudinal Survey of Youth 1997 suggests that both resident and non-resident fathers face increased challenges to parenting a child with a disability. This population is significantly less likely to report positive paternal support, relationships, and monitoring than children without disabilities, net of the other youth and father characteristics considered in these models. An adolescent's disability is negatively associated with all outcomes examined here except non-resident paternal monitoring, a parenting activity which may be especially difficult when fathers live outside the household and do not serve as their child's primary caretaker.

We also find that adolescents with higher income-to-poverty ratios, as compared to those from less economically secure households, are more likely to report positive support, monitoring, and relationships with their non-resident fathers. This suggests that households with increased financial resources may have a greater ability to facilitate or prioritize connectedness between children and fathers who live outside the household. As further evidence, the positive relationship between income and all non-resident outcomes examined here is entirely mediated by type and frequency of father–child contact.

Many fathers of children in the NLSY97 cannot be identified by their children or contacted for information. However, among the non-resident fathers who can be identified, increased father-initiated contact is positively related to all aspects of the father–child relationship considered here. While father–child contact cannot mediate the adverse effect of child disability on non-resident supportiveness and relationship, these results indicate that fathers' efforts to include children in their own lives are instrumental in determining how children perceive paternal interactions. Non-resident fathers who are able to maintain frequent contact with their children have the ability to positively affect a child's family environment, even from outside the household.

Maternal gatekeeping may also influence a non-resident father's involvement with his child. Mothers who restrict access to children or knowledge about them are likely to inhibit the quality of interactions between children and their fathers. This may be especially true for adolescents with disabilities, as information about medical care and other types of accommodations is likely to complicate parental responsibilities. Detailed data about the mother–non-resident father relationship are not available in the NLSY97; however, the child–father contact measures used here can act as somewhat of an indirect proxy. Additional research is necessary to understand how mother's gatekeeping activities affect the quality of relationships between adolescents with disabilities and their non-resident fathers.

Existing research suggests several ways to support men's parenting of adolescents with disabilities. One study (Hadadian and Merbler 1995) of the concerns of fathers of children with disabilities suggests that information and resources about the child's limitations were most important. While greater information about a child's limitation can help fathers respond more positively to their children (Pelchat *et al.* 2007), fathers are also less likely than mothers to seek out support on their own (Pelchat *et al.* 2003). Programs which can facilitate greater inclusion in the child's medical and educational decisions are clearly an important step toward more involved parenting. This may be more difficult when fathers are not physically present for meetings; however, outreach initiatives may be particularly successful in overcoming these barriers (Davis and May 1991).

Finally, a greater understanding of the ways in which children's disability affects their experience as adolescents may also facilitate more positive paternal involvement. Depending on the type of a child's limitation, fathers of children with disabilities will either have to adjust to the same physical and emotional transitions experienced by adolescents without disabilities, or they will have to accept that their children's developmental progression may be different from that of adolescents without disabilities. In either situation, fathers who are more familiar with a child's changing needs throughout the life course are likely to be more successful in adjusting their parenting behaviour (Quinn 1999); and possibly, developing more positive father–child interactions into adulthood.

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Table 1Descriptive statistics of all variables used in analyses^a

Variable	Resident Fathers		Non-resident Fathers	
	Summary statistic	S.D.	Summary statistic	S.D.
Dependent measures				
Supportiveness	2.000		1.000	
Relationship ^b	25.231	(5.182)	22.016	(6.397)***
Monitoring ^b	8.715	(3.860)	3.963	(3.737)***
Child characteristics				
Age	14.013	(1.401)	14.102	(1.373)
Disability	0.303	(0.459)	0.370	(0.483)***
Male	0.525	(0.499)	0.446	(0.497)***
Black	0.134	(0.341)	0.299	(0.458)***
Hispanic	0.204	(0.403)	0.177	(0.382) [†]
Father characteristics				
Age at birth	29.501	(6.097)	27.371	(6.324)***
Work status	0.897	(0.304)	0.813	(0.390)***
High school diploma	0.530	(0.499)	0.641	(0.480)***
College degree or higher	0.267	(0.443)	0.112	(0.316)***
Child household poverty				
2× Income to Poverty Ratio	0.211	(0.408)	0.199	(0.400)
3× Income to Poverty Ratio or more	0.493	(0.500)	0.265	(0.442)***
Child–father contact				
Child lives with another father figure			0.313	(0.464)
Child has ever lived with father			0.804	(0.397)
Child spends the night with father			0.687	(0.464)
Frequency of father-initiated contact			4.000	

** p < 0.01

* p < 0.05

Source: National Longitudinal Survey of Youth, 1997.

p < 0.001[†]
p < 0.10; two-tailed tests.^a Data presented are unweighted means (for quantitative variables), proportions (for dichotomous variables), or medians (for ordinal variables) with standard deviations in parentheses.^b Resident N = 2,201 and Non-resident N = 383; otherwise Resident N = 3,733 and Non-resident N = 668.

Table 2

Ordered logistic regression of more positive paternal supportiveness^a

Characteristics	Resident Fathers		Non-resident Fathers	
	Exp(B)	SE	Exp(B)	SE
Child characteristics				
Age	0.954 [†]	(0.026)	0.886 [*]	(0.054)
			0.891 [*]	(0.056)
Disability	0.741 ^{***}	(0.079)	0.679 [*]	(0.154)
			0.711 [*]	(0.158)
Male	1.477 ^{***}	(0.073)	1.404 [*]	(0.149)
			1.315 [†]	(0.153)
Black	0.840	(0.109)	1.524 [*]	(0.187)
			2.005 ^{***}	(0.197)
Hispanic	1.025	(0.101)	0.887	(0.224)
			1.044	(0.232)
Father characteristics				
Age at birth	1.004	(0.006)	1.029 [*]	(0.012)
			1.034 ^{**}	(0.013)
Work status	1.123	(0.121)	1.487 [*]	(0.198)
			1.053	(0.208)
High school diploma	1.413 ^{***}	(0.102)	1.546 [*]	(0.186)
			1.393 [†]	(0.191)
College degree or higher	2.004 ^{***}	(0.127)	1.754 [*]	(0.286)
			1.609	(0.292)
Child household poverty				
2× Income to Poverty Ratio	1.006	(0.107)	1.647 [*]	(0.207)
			1.317	(0.214)
3× Income to Poverty Ratio or more	1.115	(0.099)	1.579 [*]	(0.194)
			1.320	(0.206)
Child-father contact				
Child lives with another father figure			0.986	(0.172)
Child has ever lived with father			1.668 ^{**}	(0.196)
Child spends the night with father			1.974 ^{***}	(0.176)
Frequency of father-initiated contact			1.263 ^{***}	(0.037)
Intercept 2	2.330 [†]	(0.444)	0.612	(0.886)
			0.114 [*]	(0.963)
Intercept 1	28.452 ^{***}	(0.452)	3.927	(0.888)
			0.887	(0.958)
-2 log likelihood	5132.396		1352.464	
			1271.481	

Source: National Longitudinal Survey of Youth, 1997.

Shandra et al.

$p < 0.001$

$p < 0.01$
**

$p < 0.05$
*

$p < 0.10$; two-tailed tests.
†

d Resident N = 3,733 and Non-resident N = 668.

Table 3

Ordinary least squares regression of more positive paternal relationship^a

Characteristics	Resident Fathers		Non-resident Fathers	
	B	SE	B	SE
Child characteristics				
Age	−0.643***	(0.134)	0.042	(0.404)
Disability	−0.466*	(0.237)	−1.239 [†]	(0.680)
Male	0.692**	(0.219)	2.021**	(0.638)
Black	−0.477	(0.333)	−0.981	(0.810)
Hispanic	−0.154	(0.307)	−0.743	(0.935)
Father characteristics				
Age at birth	−0.017	(0.018)	0.056	(0.050)
Work status	0.347	(0.383)	0.180	(0.854)
High school diploma	0.365	(0.319)	1.020	(0.821)
College degree or higher	1.037**	(0.378)	1.121	(1.211)
Child household poverty				
2× Income to Poverty Ratio	0.542 [†]	(0.325)	1.803*	(0.897)
3× Income to Poverty Ratio or more	1.019***	(0.299)	2.210**	(0.817)
Child–father contact				
Child lives with another father figure			0.569	(0.637)
Child has ever lived with father			0.411	(0.746)
Child spends the night with father			2.123**	(0.691)
Frequency of father-initiated contact			1.115***	(0.139)
Intercept	32.585***	(1.912)	17.986**	(5.681)
Adjusted R ²	0.033		0.067	

Source: National Longitudinal Survey of Youth, 1997.

p < 0.001**
p < 0.01

* $p < 0.05$

[†] $p < 0.10$; two-tailed tests.

[‡] Resident N = 2,201 and Non-resident N = 383.

Table 4

Ordinary least squares regression of more positive paternal monitoring^a

Characteristics	Resident Fathers		Non-resident Fathers	
	B	SE	B	SE
Child characteristics				
Age	−0.614***	(0.100)	−0.068	(0.238)
Disability	−0.359*	(0.177)	−0.517	(0.399)
Male	0.413*	(0.163)	−0.122	(0.375)
Black	−0.513*	(0.248)	−0.851 [†]	(0.476)
Hispanic	−0.305	(0.229)	−1.251*	(0.549)
Father characteristics				
Age at birth	−0.032*	(0.014)	0.003	(0.030)
Work status	−0.113	(0.285)	−0.044	(0.502)
High school diploma	0.612**	(0.237)	0.561	(0.479)
College degree or higher	1.089***	(0.281)	1.245 [†]	(0.709)
Child household poverty				
2× Income to Poverty Ratio	0.462 [†]	(0.241)	1.160*	(0.528)
3× Income to Poverty Ratio or more	0.272	(0.222)	0.818 [†]	(0.480)
Child–father contact				
Child lives with another father figure			−0.543	(0.375)
Child has ever lived with father			1.425**	(0.442)
Child spends the night with father			0.573	(0.407)
Frequency of father-initiated contact			0.602***	(0.082)
Intercept	16.938***	(1.422)	4.556	(3.334)
Adjusted R ²	0.036		0.048	

Source: National Longitudinal Survey of Youth, 1997.

p < 0.001

^{***} p < 0.01

^{*} p < 0.05

[†] p < 0.10; two-tailed tests.

^d Resident N = 2,201 and Non-resident N = 383.