



**ANTECEDENTS AND OUTCOMES OF YOUNG FATHERHOOD:
LONGITUDINAL EVIDENCE FROM THE 1970 BRITISH BIRTH COHORT
STUDY**

**ANN M. BERRINGTON, M. ISABEL COBOS HERNÁNDEZ, ROGER INGHAM,
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ABSTRACT

This paper uses data from the 1970 British Birth Cohort Study to examine who becomes a young father and the circumstances of teenage and younger fathers when they are age 30. Using a life course perspective the paper examines the extent to which younger fathers are more likely to be non-resident and whether early fatherhood and non-residential fatherhood are part of the same developmental pathway. The work explores the factors associated with differential levels of contact and payment of maintenance. Contact and maintenance are affected by the subsequent family formation experiences of the father and the natural mother of the child.

**Southampton Statistical Sciences Research Institute
Applications & Policy Working Paper A05/09**

Antecedents and Outcomes of Young Fatherhood: Longitudinal evidence from the 1970 British Birth Cohort Study

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This paper uses data from the 1970 British Birth Cohort Study to examine who becomes a young father and the circumstances of teenage and younger fathers when they are age 30. Using a life course perspective the paper examines the extent to which younger fathers are more likely to be non-resident and whether early fatherhood and non-residential fatherhood are part of the same developmental pathway. The work explores the factors associated with differential levels of contact and payment of maintenance. Contact and maintenance are affected by the subsequent family formation experiences of the father and the natural mother of the child.

ACKNOWLEDGEMENTS

Data from the 1970 British Cohort Study were made available by the Centre for Longitudinal Studies, Institute of Education, University of London via the UK Data Archive. This work was supported by funding from the Department of Health. The views expressed in the publication are those of the authors and not necessarily those of the Department of Health. The authors thank Riccardo Borgoni for his help in data preparation and imputation.

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SECTION ONE - INTRODUCTION

1.1 Why study young fatherhood?

In contrast to the attention paid to the antecedents and outcomes of teenage motherhood, young fatherhood has tended to be considered far less in both academic and policy debates. During the 1980s policy interest in fatherhood increased rapidly in the UK, driven largely by the growth in the numbers of lone parent families and increased public expenditure on social support for single-parent families (Clarke and O'Brien, 2004). Policy discussions about fatherhood were therefore dominated by monetary aspects of fathering, with research focussing on the willingness of non-resident fathers to provide financially for their children. Teenage fathers and those who make the transition to parenthood in their early twenties are of particular policy interest from this perspective since they are more likely to have become a father outside of marriage and more likely to be living apart from their children. The aim of the research reported below is to provide new, up to date, information about the demographic context within which young men enter parenthood, the likelihood that they are co-resident with the mother at the time of the birth, the risk of subsequent separation from the mother and child and factor that affect the likelihood of maintenance payments.

More recently policy interest has focused on the broader role of father involvement in influencing children's development and later outcomes. It has generally been assumed by policy makers that father involvement has positive benefits for children's adjustment and development. Evidence from the 1958 birth cohort study supports such a view (Buchanan and Flouri, 2001) with more positive longer term outcomes for the child –for example, educational qualifications, mental health and satisfactory marital partnerships in adulthood-observed when the father was involved in the child's upbringing. Recent evidence, however, would suggest that the frequency of contact between non-resident fathers and their children may not in itself be related to child outcomes in general. Of greater importance appears to be the style of parenting (authoritative parenting having more benefit), and feelings of closeness between children and their non-resident father (Amato and Gilbreth, 1999; Dunn et al., 2004). Non-resident fathers can be involved in authoritative parenting, and merely taking children out to the park, to go shopping, to the cinema, according to Amato and Gilbreth (1999), “probably contribute little to their children's adjustment and development”.

Researchers have begun to identify circumstances within which father involvement may not have beneficial impacts. Poor parenting, for example due to a lack of commitment to the role of parent, or lack of parenting skills (Amato and Gilbreth, 1999), or psychopathology of the father in terms of anti-social behavioural tendencies (Jaffee *et al.*, 2003), may mean that father involvement is not necessarily of benefit. The selection of more vulnerable men from poorer socio-economic backgrounds into young fatherhood has led researchers to question the ability of young fathers to provide supportive parenting (Jaffee *et al.*, 2001). Some authors go so far as to view young fatherhood as part of the same developmental pathway for other high risk outcomes such as delinquency (Stouthamer-Loeber and Wei, 1998). Set against this view is recent research suggesting that young fatherhood can act as motivator to abstain from risk behaviour and may increase inter-generational ties (Eggebeen and Knoester, 2001). Quinton *et al.* (2002) suggest that early fatherhood can promote social inclusion among high risk men, with a successful intimate relationship acting as a key turning point in the man's life. In the following analyses, we examine the family background and individual attributes which select British men into young fatherhood, and examine their socio-economic circumstances at age 30. In this way, we aim to provide some tentative evidence as to their ability to provide material support and a positive parenting role to the mother and their children.

A further strand of research, only recently being considered by policy makers, focuses on the outcomes of fatherhood *for the men themselves*, including the construction of paternal identities, father's rights and responsibilities, especially among unmarried fathers or those who have separated from the child's mother. Recent pieces of qualitative research in the UK which have taken a father-perspective include Pickford (1999), Lewis *et al.* (2002), Quinton *et al.* (2002).

It is generally assumed that the consequences of teenage fertility are more significant for women than for men, but clearly the impact of young fatherhood on the man will depend upon his willingness and ability to take on responsibility for raising his child. Contrary to popular stereotypes of “dead-beat dads”, research which has taken a father perspective has identified the frustrations of some non-resident fathers who are not able to see their children as much as they would like, and a sense of loss (Bradshaw *et al.*, 1999; Lewis *et al.* 2002). Of particular relevance here is the complex nature of family commitments that young fathers are likely to have built up subsequently, in terms of relationships with new partners and new responsibilities for biological children and step/adopted children resulting from re-partnering. In this paper, we provide new evidence as to the subsequent family circumstances of men who become young parents and how these responsibilities affect the level of contact between, and financial support arrangements involving non-resident fathers and their children.

Finally, in the UK there is a growing awareness among policy makers of the need to involve fathers with professional services, and an emergent literature on encouraging care professionals to become more male and father sensitive (Lloyd *et al.*, 2003). In terms of supporting teenage parents, the involvement of fathers in the Government’s Sure Start Plus pilot projects has tended to be limited. According to the Interim Findings of the Sure Start Plus National Evaluation (Lloyd *et al.*, 2003) advisors are “doing only a very limited amount of work with young men and this contact is predominantly being made through young women clients”. The report’s authors recommend that “a national level decision should be made about the priority to be given to work with young fathers in the remaining two years of the Programme” (p. 2). Evidence from quantitative studies such as that presented here can provide some preliminary evidence as to the particular needs of young fathers and the constraints facing them, for example, in terms of being more likely to have come from vulnerable childhood experiences, experiencing higher rates of unemployment and poorer education and having complex family responsibilities.

1.2 Aims of the research

This paper reports data concerning young fatherhood among a nationally representative cohort of men born in Britain in 1970. The first aim is to identify, using a life course perspective, the antecedents of young fatherhood. In section 4, we compare men becoming fathers in their teens with those who become a parent in their early twenties (ages 20-22) and mid to late twenties (23-30). The second aim (dealt with in Section 5) is to examine the outcomes of young fatherhood at age 30 and to investigate whether teenage and young fathers have lower earnings and higher levels of unemployment after controlling for the parental background and childhood characteristics of men who became younger fathers. The third aim (section 6) of the research is to quantify whether younger fathers are more likely to be non-resident and, if so, the extent to which this is due to a greater chance of never having lived with their child, and/or a higher propensity of young fathers to separate from the mother and child. We examine, for younger and older fathers, the factors associated with non-resident fatherhood and hence comment on the extent to which early fatherhood and non-residential fatherhood are part of the same developmental pathway, as suggested by Jaffee *et al.* (2001).

The final aim (sections 7 and 8) of the research is to quantify levels of contact and financial payments between young fathers and their non-coresident children and to identify the characteristics associated with higher levels of contact and maintenance. Of particular interest here is the role played by the man’s subsequent partnership and childbearing experiences. Furstenberg and Spanier (1984), among others, have argued that upon forming new families fathers tend to disengage with their old families. Whilst there has been much quantitative exploration of such issues in the U.S.A. (see for example, Cooksey and Craig, 1998; Manning and Smock, 1999; Stewart, 1999), less quantitative work has been done in the UK (although see Bradshaw *et al.* 1999). Partly this is a result of the lack of reliable data on fatherhood and, especially, non-resident fatherhood. Lack of vital registration data about fatherhood has led to a reliance on surveys which collect retrospective fertility histories for men. Of

these, the British Household Panel Study (Burghes *et al.*, 1997; Clarke *et al.*, 1997) has a relatively small sample size limiting the number of factors that can be explored simultaneously. Previous work on the antecedents of young fatherhood has been undertaken on the 1958 British Cohort (Dearden *et al.*, 1994; Kiernan, 1997). We build on previous research in the UK by updating analyses for a new cohort of young men.

SECTION TWO – DATA

2.1 *The 1970 British Cohort Study*

The 1970 British birth cohort study (BCS70) is a prospective follow-up study, since birth, of a national cohort of males and females born in the week 5-11 April 1970. The cohort has been contacted in a number of sweeps -at birth and at ages 5, 10, 16, 26 and 30. Poor response rates were experienced in 1986 due to a teachers' strike affecting the dissemination of the survey. The age 26 sweep was a short, postal questionnaire lacking in detail and also suffering from low response rates. Following renewed emphasis on tracing cohort members, response rates at age 30 were much improved. This work uses data from three sweeps: birth (to acquire parental characteristics), age 10 (to obtain childhood characteristics) and age 30 (to obtain retrospective fertility and partnership histories, and current information about the socio-economic status of the young men).

2.2 *Under reporting of fatherhood*

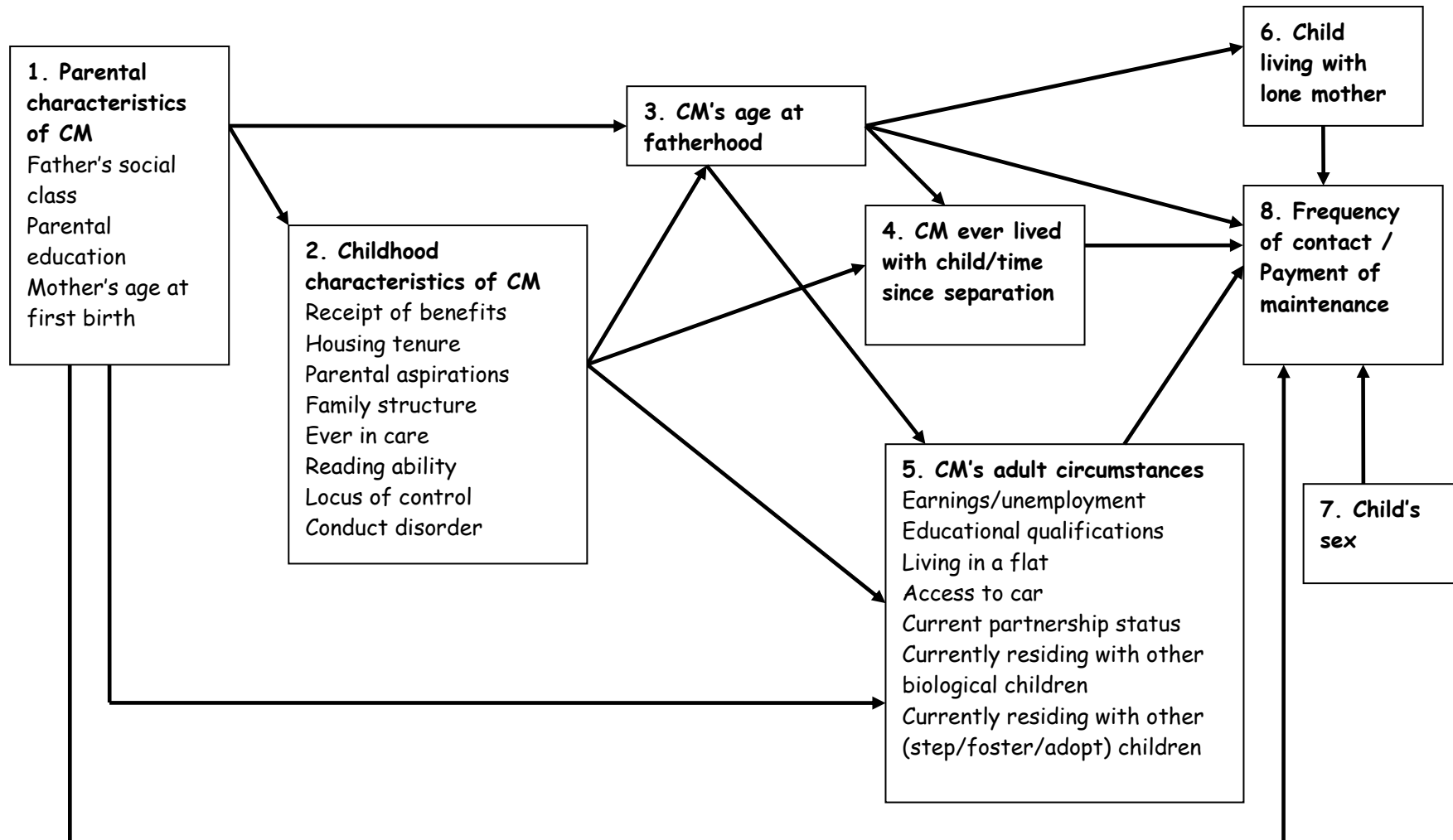
It is well established that males' reporting of their fertility is not as reliable as that of females. In particular, men are likely to under-report births which either took place outside of a co-residential partnership, or which took place within a partnership that is no longer current. Some men will be unaware of their biological paternities. Previous research based on the British Household Panel Study by Rendall *et al.* (1999) suggested under-reporting of around 12 percent of all births, 36 percent of births outside marriage, and 39.5 percent for marital births where the marriage had broken down prior to the survey.

In the BCS70 sample, 3.4 percent of men reported having become fathers before age 20, 7.1 percent at ages 20-22, and 30.1 percent reported their first birth between ages 23 and 30. These figures are broadly comparable to the published estimates of Clarke *et al.* (1999), where 12 percent of men aged 22-24 were reported in the 1992 BHPS to be fathers. Both of these more recent estimates of young fatherhood are lower than those reported for the 1958 cohort where 14 percent of men reported themselves to be fathers under age 22 (Kiernan, 1997).

2.3 *Under representation of young fathers*

As with any major longitudinal study the BCS70 sample has suffered some attrition. The most significant predictors of loss to the sample are: mother born outside of the UK, born to a lone parent, not living with both biological parents at age 10, and poor reading ability at age 10. Some of these variables are also key predictors of young fatherhood and hence it is likely that men who became a young parent will be more likely to be lost to the sample. In order to take account of this selective loss of more disadvantaged men from the sample we have calculated attrition weights based on the probability of loss between birth and age 10, and between age 10 and age 30 (see Appendix 1). We assume that, within these weighting classes, the experience of men who remain in the BCS70 sample is representative of those who were lost to follow up. All analyses and sample sizes presented in the forthcoming sections are thus based on weighted data.

Figure 1: Conceptual Framework



CM= Cohort member

Item non-response, mostly found in the age 10 sweep where we use variables collected in a variety of survey instruments, is dealt with via multivariate imputation (see Borgoni and Berrington (2004) for technical details).

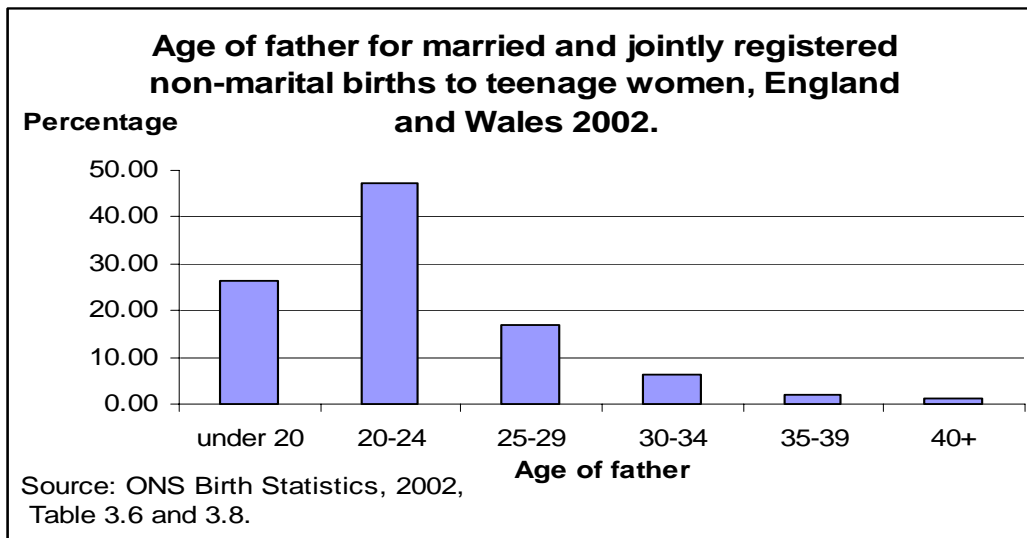
SECTION THREE – CONCEPTUAL FRAMEWORK

Figure 1 contains the conceptual framework where entry into fatherhood, subsequent co-residence, frequency of contact and payment of maintenance are seen as part of an individual's life course trajectory. The 1970 cohort were making their transitions to adulthood during a period of rapid social change both in terms of the collapse of the youth labour market and expansion of youth training (Bynner *et al.*, 1997), and in terms of new patterns of family formation -the postponement and rejection of marriage, increased cohabitation, and rapid increases in the average age at entry into parenthood (Berrington, 2003). The prospective nature of the BCS70 data allow us to investigate how parental background characteristics, childhood circumstances at age 10 and individual attributes interact to affect the timing of the transition to fatherhood. Data from the age 30 questionnaire are used to identify the outcomes associated with becoming a father at an early age. Our hypothesis is that age at entry into parenthood will be an instrumental factor influencing both the likelihood of co-residence with the child at the time of its birth, and also the probability of later separation of the father from the mother and child. Frequency of contact with non-coresident children is hypothesized to be related to both the man's previous life course experiences and current socio-economic circumstances. In particular, frequency of contact is likely to be related to the man's current living arrangements and whether he is now in a new partnership and/or whether he is living with other biological and step-children. We also hypothesise that the frequency of contact will be affected by whether the child's mother is currently in a co-residential partnership or whether the child resides with her in a lone parent family. Finally, we examine whether the frequency of contact is greater for male or female children.

3.1 *Conceptualising young fatherhood*

Who are young fathers? Previous authors have variously defined young fathers as those aged under 19 (Stouthamer-Loeber and Wei, 1998), under 20 (Dearden *et al.*, 1994; Thornberry *et al.* 1997), under 21 (Kiernan, 1999), under 22 (Jaffee *et al.*, 2001), under 23 (Kiernan, 1992), and under 24 (Quinton *et al.*, 2002). Whilst there are relatively few teenage fathers in the UK as compared with teenage mothers, many more fathers in their early twenties are living with young mothers. Figure 2 presents data on age of father from national vital registration records for teenage mothers who had a birth within marriage or who had a jointly registered birth outside marriage. Only one quarter of the teenage mothers were living with a teenage father at the time of the birth. In almost half the cases the father was aged 20-24, and one in six teenage mothers were living with a man aged 25-29 (ONS, 2002). No information about the age of the father is available for births to teenage women who sole register their child (one quarter of teenage births in England and Wales in 2002 (ONS, 2004). In order for the analysis to be kept manageable we select only the first live born child. Hence our conclusions will refer to the fathers' first-born child.

Figure 2



On the basis of this pattern, we define young fathers as those being under 23 years when they become a father. Where possible, we compare those aged under 20 at entry into parenthood (teen fathers), with those aged 20-22 at first birth (young fathers) and those aged 23-30 years (older fathers).

It is clear that fathers are facing fatherhood in a diverse range of demographic contexts, ranging from living with all of their biological children in their first co-residential partnership, to others living alone with none of their biological children to those living with their second or third partner and a mixture of biological and step-children. We follow the approach of Jaffee *et al.* (2001) and focus on the father's relationship with their first biological child. This has the advantage that we direct attention on the child that was associated with the man's transition to fatherhood. However, we must bear in mind that some of the fathers will have more than one child with the same or different mothers, and may be currently living with subsequent biological children and / or step-, adopted or fostered children. Finally, very young mothers are likely to be living with their parents and hence the concepts of resident and non-resident father may have a different meaning in this context.

3.2 Conceptualising contact between non-coresident fathers and their child

The measure of father contact used in section 7 is based on the frequency with which the father reports seeing the child. The question asked was: *Do you see <name of child> at all now? If yes, How often do you see <name of child>? Would you say more than once a week, once a week, once every two weeks, once a month, less often?*

As noted by Bradshaw (1999), "seeing" a child can cover a wide range of possibilities including spotting the child on their way to school, to taking a family holiday with them. Furthermore, there are other sorts of contact, especially with older children, such as telephoning, texting, emailing, and letter writing which are not captured in this question. Moreover, we only have an estimate of contact based on reports at the time of the age 30 questionnaire. Qualitative research in UK has highlighted the changing level of contact over time, for example, loss of contact immediately and then re-established over time, or the reverse (Bradshaw *et al.*, 1999; Lewis *et al.*, 2002).

Recent research suggests that it may not be the *frequency* of contact *per se* which is important for parent-child relationships but the *quality* of the involvement, feelings of closeness between the father and child and the style of parenting behaviour (see Amato and Gilbreth, (1999) for a review). Ideally, information on other aspects of father involvement are therefore required, including the nature of the arrangements, their regularity and consistency and the closeness of the relationship between the child and the various parent-figures. Unfortunately, no information about these issues is available from BCS70.

Finally, we should bear in mind that observed low levels of contact between non-resident fathers and their children may not be voluntary. Lewis *et al.* (2002) describe circumstances in which resident mothers actively discourage their partner's involvement, for example, if they are dissatisfied with the material support received. Furthermore, some fathers may be legally prevented from accessing their child, for example, through a court order. Again, no information about such obstacles is available from BCS70.

3.3 Conceptualising maintenance payments by young non-resident fathers

It is generally assumed that financial support from non-resident father improves child outcomes (McLanahan *et al.*, 1994; Amato and Gilbraith, 1999). Therefore, policy makers are interested in the factors that promote the payment of maintenance by non-resident fathers. Our measure of financial support is based on the “yes/no” question: *Do you contribute any money to <name of child>'s maintenance regularly?* No information about the actual amount paid or the mechanism of payment is available. Payments will thus include regular formal payments (made either voluntarily, via a court order, or through the Child Support Agency), and informal payments, for example, in the form of clothes, school costs, help with household bills, mortgage payments, and so on. In the study of absent fathers by Bradshaw and colleagues (1999), the most frequent informal contributions were presents, shoes and holidays.

In the BCS70 it is up to the respondent to interpret precisely what financial payments would be included. We acknowledge that making a regular maintenance payment, say, through a direct debit to the mother, is materially different to giving the child pocket money every once in a while. Furthermore, when we consider young fathers, one would also like to know about financial support being provided by the parents of the father – that is, the child's paternal grandparents.

There is a large body of evidence that payment of maintenance is associated with increased contact between non-resident fathers and their children in the UK (see for example Maclean and Eekelaar, 1997; Bradshaw *et al.*, 1999; Lewis *et al.*, 2002). As noted by Bradshaw *et al.* (1999) the causal direction of this relationship is likely to be two-way – fathers who have frequent, positive contact with their children are generally more prepared to provide financial support, whilst resident mothers acting as gate keepers are often more willing to allow non-resident fathers access to their children if financial support is provided. This endogeneity between contact and provision of financial support means that direction of causation is not clearly distinguished. Thus, in sections 7 and 8 we do not include level of contact as a predictor of financial maintenance nor *vice versa*.

SECTION FOUR – ANTECEDENTS OF YOUNG FATHERHOOD

4.1 Background variables

A consistent body of research based on data from the UK (for example, Dearden *et al.*, 1994; Kiernan, 1997), the US (for example Thornberry *et al.*, 1997; Stouthamer-Loeber and Wei, 1998), and New Zealand (for example Jaffee *et al.*, 2001) has identified young fatherhood to be associated with vulnerability in multiple domains during childhood and adolescence. Longitudinal data from the 1958 British birth cohort indicated that young fathers were more likely to come from more deprived backgrounds and to have experienced financial hardship during childhood (Dearden *et al.*, 1994; Kiernan, 1997). We include indicators of parental socio-economic background measured at birth; the cohort member (CM)'s father's social class (I and II, III_{nm}, III_m, IV and V, no father figure); and the CM's parents' age at leaving education (no parent left education after age 16, at least one parent left after age 16). At age 10, poor financial status is identified by whether the CM's family received means tested benefits and housing tenure (owner occupier, social rented, private rented and other).

Unlike for teenage mothers, multivariate analyses of the 1958 cohort did not find a persistent inter-generational association in the timing of parenthood for men, although this has been observed in other countries (Thornberry *et al.*, 1997; Jaffee *et al.*, 2001). We investigate whether this is the case for the 1970 cohort by identifying the age at first birth of the CM's mother (under 20, 20-24 and 25+ years). Educational ability in childhood was also found to be a predictor of young fatherhood among the 1958 British birth cohort, although the association between low educational ability and young fatherhood was not found to be as great as for teenage motherhood (Kiernan, 1997). We include reading ability at age 10, contrasting those whose Shortened Edinburgh Reading Test score was in the lowest quartile with the remainder of the sample.

Once other factors were controlled, Kiernan (1997) found no association between behavioural problems in childhood and subsequent young fatherhood among the 1958 cohort. However, Kiernan did not distinguish between different kinds of behavioural problems –for example separating conduct disorder from emotional problems. If she had done so the findings may have been closer to those for other countries. Evidence from New Zealand suggests that having a history of conduct disorder was associated with young fatherhood independent of other factors, whilst data from the U.S.A. clearly show an association between delinquency in early teenage years (chronic drug use, violent behaviour, or truancy) and teenage fatherhood (Thornberry *et al.*, 1997; Stouthamer-Loeber and Wei, 1998). Therefore, in this study we identify maladjustment of the CM using indicators of behavioural problems (conduct disorder), emotional problems and mixed (that is both types) problem, together with an indicator of locus of control.

When the CM was aged 10 the mother was asked to report the extent to which their child displayed behaviours described in a series of statements derived from the Rutter Parent's Scale (see Elander and Rutter (1996) for a review of this measure). Examples of the statements used to identify conduct disorder were: *Destroys own or other's belongings; Is irritable, quick to fly off the handle; Fights with other children; Is disobedient.* The statements used to identify emotional problems were: *Is miserable or tearful; Worries about many things; Is upset by new situations, by things happening for first time; Bites nails.* Total scores for conduct disorder and emotional problems are calculated by adding up the separate scores for the two types of behaviour. Those in the top decile of each sub-scale were categorized as displaying the problem behaviour accordingly. Those in the top decile for both sub-scales are identified as having "mixed" behavioural problems. Locus of control, based on the original concept of Rotter (1966), was measured at age 10 using the CM's response to 13 statements relating to the extent to which they perceived they had control over the events in their lives. For each statement with which they *agree* they receive a score of one. Those who *disagree* or said they *did not know* receive a score of zero for that statement. The summary measure is the sum of the scores for the 13 statements. Males whose total score is in the top 10 percent are coded as having an "external locus of control" and hence tended to believe that they have little control over what happens to them.

Prior research in the UK (Kiernan, 1992), U.S.A. (Stouthamer-Loeber and Wei, 1998) and New Zealand (Jaffee, 2001) has consistently found young fatherhood to be associated with family breakdown or experience of living in a single parent family during childhood. In our analyses, those born into a lone parent family are identified at birth as having no father figure for the social class variable, whilst at age 10 we identify the CM's current family situation, contrasting those living with two biological parents, with those living with two parents (at least one of which was not the biological parent) and those living with one parent.

Other background variables have been included on the basis of their significance in prior studies not based on the 1958 cohort. We identify men who have spent anytime before age 17 in statutory care. Rutter *et al.* (1990) found that the association between experience of care and poor psychosocial functioning in adulthood, including teenage parenthood, was not as strong for males as was for females. Rutter *et al.* (1990, p. 141) argue that "...men are less likely than women to seek escape from unhappy family circumstances through pregnancy or marriage". Finally, the importance of parental aspirations for their child's continuation in school was found to be significant in the U.S.A. (Thornberry *et al.*, 1997). We therefore contrast males whose mothers said when the CM was aged 10 that they would stay on in education after age 16.

4.2 Multivariate analyses of antecedents of young fatherhood

4.2.1 The multinomial logistic regression model

Multinomial logistic regression is well suited for testing relationships between a categorical outcome such as grouped age at entry into fatherhood and a set of explanatory variables. The dependent variable, age at fatherhood, is distributed multinomially with four outcomes. The model estimates the simultaneous effect of a number of explanatory variables on the probability of becoming a father aged below 20 (p_1), the probability of becoming a father aged 20-22 (p_2), the probability of becoming a father aged 23-30 (p_3) and the probability of not becoming a father before age 30 (p_4). We choose p_3 to be the reference group of our dependent variable so as to compare the experience of teen and young fathers (our main research interest) against that of older fathers. Hence we model the probability of experiencing a teenage birth, a birth at age 20-22, or not having a birth at all by age 30, relative to the probability of the baseline outcome of becoming a parent at age 23-30. The odds ratios in Table 1 (for example the first odds ratio of 1.49 in column 2), describe the ratio of the odds of experiencing that outcome (in this case teenage fatherhood) for individuals within a particular category of an explanatory variable (in this case men whose mother was herself a teen mother), relative to the odds associated with the reference group of the explanatory variable (in this case men whose mothers had their first birth at age 25 or above). The null hypothesis of no difference between the categories of the explanatory variable states that all odds ratios equal 1. Ninety five percent confidence intervals containing 1 therefore indicate that, in our sample, there is insufficient evidence to reject the null hypothesis of no difference between the categories of the explanatory variable (In this example the confidence interval contains 1 (0.79 to 2.83) and so we conclude that, once other socio-economic background characteristics are controlled, we find no evidence that men born to a teenage mother are significantly more likely to become a teenage parent themselves).

We build up the analysis following a life course approach, evaluating first the effects of parental background factors (block 1 in Figure 1) considered alone on the timing of entry into fatherhood, and then including the effects of the respondent's childhood characteristics (block 2 in Figure 1). Hence we examine how the impact of parental background on age at entry into fatherhood is mediated through childhood circumstances and attributes. Model selection for all analyses described in this report is undertaken using backward elimination with explanatory variables only being retained in the final model if they are statistically significant at the 5 percent level of significance.

4.2.2 Results (the reference category is older fathers (n = 2396))

Table 1: Multinomial logistic regression model for age at fatherhood – simultaneous effects – best fit model 5% level									
Variable Label	Teen father <20 (n=270)			Young Father 20-22 (n=562)			Non-father (n=4740)		
	OR	95% Conf.Interval		OR	95% Conf.Interval		OR	95% Conf.Interval	
<i>Mother's age first birth</i>									
under 20	1.49	0.79	2.83	1.50	0.94	2.41	0.51	0.42	0.64
20-24	1.29	0.71	2.33	1.70	1.11	2.60	0.67	0.57	0.80
25 and over	1.00			1.00			1.00		
<i>Parental education</i>									
no parent stayed at school after 16	1.24	0.76	2.03	1.36	0.98	1.89	0.84	0.72	0.99
at least one parent stayed at school after 16	1.00			1.00			1.00		
<i>Father's social class</i>									
I and II	1.00			1.00			1.00		
III n	1.66	0.63	4.36	0.99	0.51	1.92	0.73	0.57	0.94
III m and armed forces	1.64	0.69	3.90	1.53	0.89	2.63	0.83	0.67	1.02
IV and V	2.33	0.95	5.76	1.52	0.84	2.77	0.83	0.65	1.08
no father figure	1.78	0.53	6.03	1.52	0.62	3.71	0.98	0.60	1.60
<i>Housing tenure at age 10</i>									
owner occupier	1.00			1.00			1.00		
social rented	1.55	1.00	2.40	1.67	1.24	2.26	0.83	0.70	0.98
private rented and other	1.23	0.57	2.68	1.57	0.94	2.63	0.84	0.63	1.13
<i>Family structure at age 10</i>									
two biological parents	1.00			1.00			1.00		
two parents other	1.38	0.69	2.74	1.00	0.59	1.72	1.13	0.84	1.53
single parent	2.20	1.26	3.85	1.16	0.72	1.85	0.94	0.71	1.24
<i>Reading ability at age 10</i>									
bottom quartile	1.77	1.17	2.69	1.36	1.01	1.83	0.97	0.81	1.16
2 nd 3 rd & 4 th quartile	1.00			1.00			1.00		
<i>Mother's aspiration for age will leave school</i>									
at age 16	0.85	0.56	1.29	1.07	0.80	1.44	0.76	0.65	0.89
after age 16	1.00			1.00			1.00		
<i>Behavioural problems</i>									
none	1.00			1.00			1.00		
conduct disorder	1.38	0.79	2.41	1.30	0.86	1.97	0.64	0.48	0.84
emotional problems	1.46	0.77	2.78	0.82	0.47	1.43	1.30	1.00	1.70
mixed behavioural problems	2.07	0.83	5.16	0.50	0.17	1.49	0.80	0.46	1.37

Father's social class, parental education and mother's age at first birth all have a strong *bivariate* relationship with age at fatherhood, but their effects are reduced once the age 10 variables are controlled. For example, when we just consider mother's age at first birth alone, men whose own mother was a teenage mother are two and half times more likely to become a teen parent themselves, compared to men whose own mother delayed childbearing to their later twenties or beyond. The reduction in the odds ratio from 2.51 (unadjusted, not shown) to 1.49 (column two of Table 1) suggests that much of this relationship is mediated through the poorer socio-economic backgrounds and childhood circumstances of children born to young mothers. The odds ratio of 0.51 in column 6 of Table 1 indicates that men born to teen mothers are significantly less likely (half as likely) to remain childless at age 30 compared to men whose mothers had themselves delayed childbearing past age 25, even when other factors are controlled. Further down, we can see that, even when later childhood circumstances are controlled, coming from a professional or intermediate social class background is associated with a lower probability of childbearing in their teens and early twenties and a higher probability of delaying fatherhood until after age 30.

Becoming a father in their teens or early twenties was significantly more likely for boys who were living in social housing and boys who had low reading ability. Low reading ability in childhood has a linear relationship with age at fatherhood. Those in the lowest quartile for reading score were 1.77 times more likely to become a teen father ($p < 0.05$) and 1.36 times more likely to become a young father ($p < 0.05$).

Family structure at age 10 is significantly related to the risk of teen fatherhood. Men living in a lone parent family during childhood were found to be twice as likely (odds ratio 2.20) to have a birth before age 20 as compared with men living with two biological parents. Maternal aspirations for their child to remain in post age-16 education are significantly related to the postponement of childbearing past age 30. The findings for men who had experienced statutory care before age 17 are suggestive but not statistically significant (due to the relative small number of cohort members who had been in care). The unadjusted odds of becoming a teenage father and a father at age 20-22 are 3.48 and 1.66 times higher respectively among men who have been in care. When the parental background and other childhood circumstances of those who were in care are taken account of in the multivariate model, the effect of experiencing care is reduced (odds ratios 1.97 and 1.37) and is no longer statistically significant at the 5 percent level. Nevertheless an odds ratio of 1.97 for teenage fatherhood among those who have experienced care (which is significant at the 10 percent level) suggests that men who have experienced care remain twice at risk of becoming a teen parent even after controlling for their other characteristics.

Findings for behavioural problems in childhood are rather mixed. Whilst the coefficients for experiencing a teenage birth are above 1.00 for men with a history of conduct disorder, emotional problems and mixed behavioural problems, the effects fail to reach statistical significance once other factors are controlled. We do find a significant effect however, whereby men with emotional problems in childhood are 30 percent more likely to remain childless at age 30. This finding is consistent with earlier work on the 1958 cohort which suggested that men with emotional problems in childhood are more likely to have difficulties in establishing a stable adult partnership (Berrington, 2001), although childlessness is not totally due to lack of stable adult relationships. Age at fatherhood was found to be independent of receiving means-tested benefits and locus of control once all the variables in blocks 1 and 2 were entered in the model.

In summary, the antecedents of early fatherhood among the 1970 British birth cohort are similar to those found for their counterparts born 12 years earlier (Kiernan, 1997). Multiple risk factors experienced from birth through childhood; poor socio-economic circumstances, living in a lone parent family, low educational ability and low maternal aspirations combine to increase the risk of early fatherhood. The inter-generational transmission of teenage parenthood among men is largely explained by the poorer circumstances of men born to young mothers. (The situation for female cohort members is somewhat different - having a mother who herself was a teenage mum remained a highly significant predictor of the cohort member becoming a teen mum themselves even after controlling for other

socio-economic factors (Berrington *et al.*, 2004)). Unlike for female cohort members, individual attributes such as conduct disorder and external locus of control do not seem to be important predictors of early fatherhood and hence policies which focus on individuals with these characteristics may not be so effective as would be the case for girls. Educational ability, however, is a very strong predictor of early fatherhood among both male and female cohort members. Teenage pregnancy prevention policies could therefore be targeted at these groups, both in terms of helping raising aspirations and opportunities among today’s low achievers and in improving the educational abilities of future cohorts of young men and women. We find too a link between being brought up in a lone parent family and a higher risk of teenage fatherhood. Hence, it might be worth considering policies which support the quality of care provided by lone parents so as to counteract their child’s increased likelihood of transition into fatherhood at early ages.

SECTION FIVE – SOCIOECONOMIC OUTCOMES FOR YOUNG FATHERS

5.1 Current circumstances of teenage, young, and older fathers

This section looks at socio-economic outcomes at age 30 for men who became fathers before age 20 (teen fathers), at ages 20-22 (young fathers), and ages 23-30 (older fathers). For completeness we also include data for men who had not become a parent by age 30 (non-fathers).

5.1.1 Housing Tenure

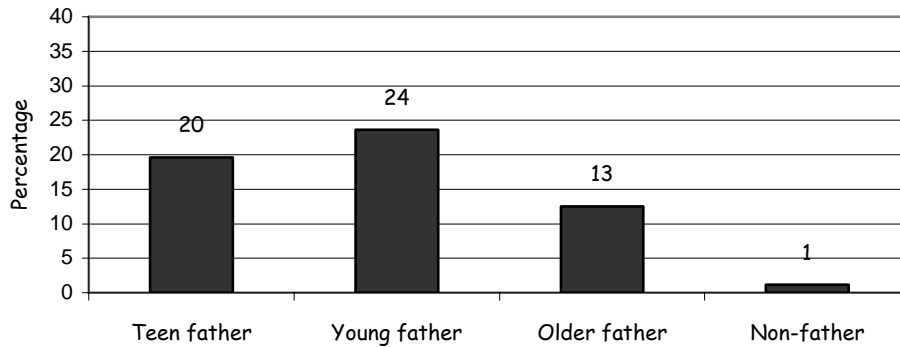
Around one third of teen and young fathers are living in social housing at age 30, i.e. they are renting from the local authority, housing association or charitable trust (see Table 2). Only 15 percent of older fathers and 8 percent of non-fathers are living in social housing.

Table 2: Percentage living in social housing at age 30 according to age at fatherhood					
	teen father <20	young father 20-22	older father 23-30	non-father	<i>All men</i>
Social housing	30	33	15	8	13
<i>Sample size</i>	270	562	2396	4740	7968

5.1.2 Overcrowding

We define overcrowding as more than one person per living room, that is, excluding kitchen and bathrooms. One in five teen fathers and one in four young fathers are living in over-crowded conditions compared to just one in eight older fathers. By contrast, virtually none of the sample of men yet to become a father is living in overcrowded conditions (see Figure 3).

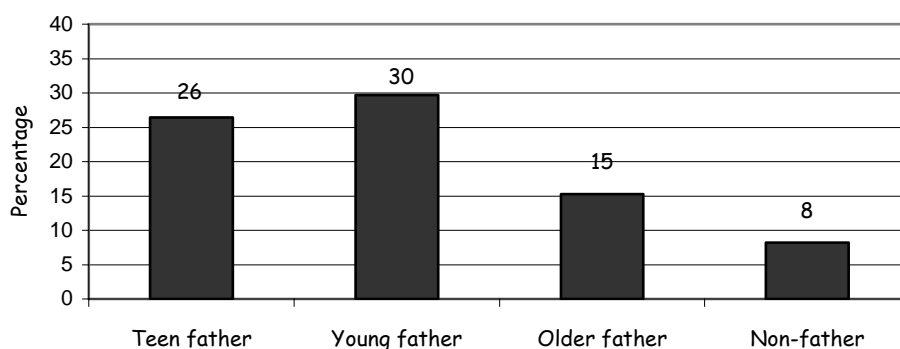
Figure 3: Percentage Living in Overcrowded Accommodation at Age 30 according to Age at Fatherhood



5.1.3 Receipt of means-tested benefit

Teen and young fathers are significantly more likely to receive benefits (25 percent and 30 percent respectively) than older fathers (15 percent). Only 8 percent of men who have not fathered a child receive means-tested assistance (see Figure 4). Receipt of benefits is highly related to living in social housing – 46 percent of those who receive means-tested benefits live in social housing, whilst only 8 percent of those who do not receive benefits do so. Due to this association between these two variables (colinearity) we did not include both variables in the multivariate analyses, that is, receiving benefits does not appear in block 5 of our conceptual framework.

Figure 4: Percentage who receive Means-Tested Benefit at Age 30 according to Age at Fatherhood

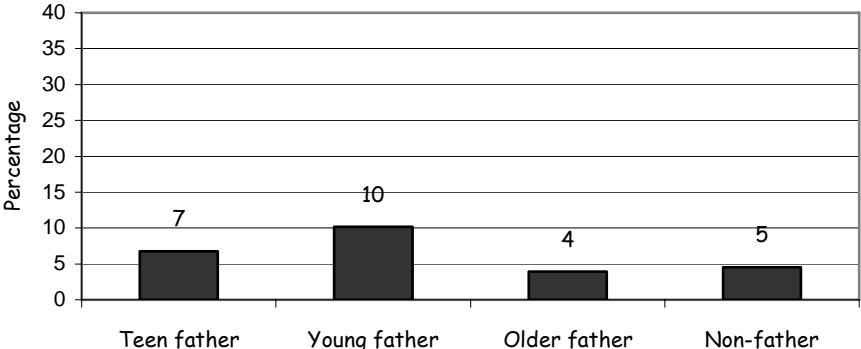


5.1.4 Unemployment

The vast majority of 30 year-old males are working full-time. The percentage unemployed at age 30 is, however, double among young fathers (10 percent) as compared to older fathers (4 percent) and non-fathers (5 percent). The level of unemployment is not, however, particularly high among the sample of

teen fathers (7 percent) and the difference between teen fathers and older fathers is not statistically significant (see Figure 5).

Figure 5: Percentage Unemployed at Age 30 according to Age at Fatherhood



5.1.5 Social Class

We use Socio-Economic Group to describe the current occupational social class distribution at age 30 of men who became teen parents, young parents, older parents and men who have not yet fathered a child. Only those who are currently in employment are included. Teen and young fathers are over-represented among manual workers and under-represented among the top two socio-economic groups -professional and managerial, and employers and managers. Over half of the teen fathers were in a skilled manual occupation at age 30, compared to 40 percent of older fathers and only 28 percent of non-fathers (see Table 3).

Table 3: Socio-Economic group at age 30 according to age at fatherhood (in percentages)					
	teen fathers <20	young fathers 20-22	older fathers 24-30	non-fathers	all men
Professional	4	2	6	9	7
Managers and Employers	12	18	26	24	24
Intermediate non-manual	3	5	9	17	14
Junior non-manual	5	6	7	10	9
Skilled manual	59	50	40	28	34
Personal service, semi-skilled manual and unskilled manual	17	19	12	11	12
Sample size	222	432	2202	4286	7141

(sample is employed men)

5.1.6 Annual Net Earnings

Perhaps the most direct way to observe socio-economic status is to compare the mean earnings of the different fatherhood groups. BSC70 asked respondents how much take-home pay they received last time they were paid, and what period it covered. From the responses to these questions we derive

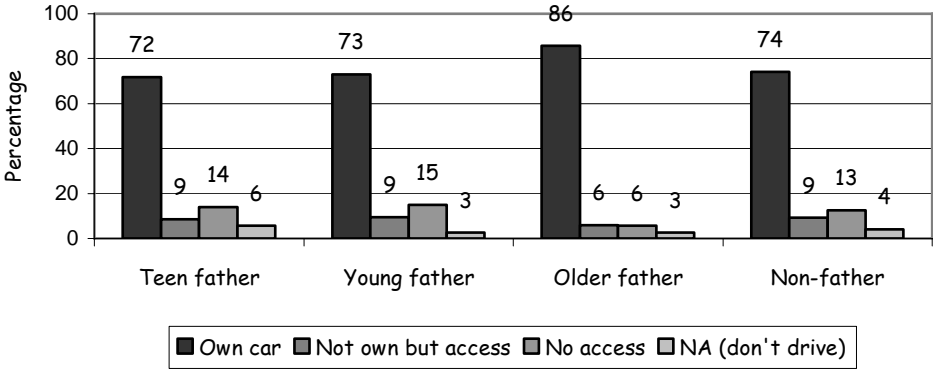
annual net earnings¹ for the population who were employed. On average, teenage and young fathers earn considerably less than older fathers ($p < 0.05$) or non-fathers ($p < 0.05$). The difference in mean income between men who had their first child after age 23 and those who had not yet had a child was not statistically significant (see Table 4).

Table 4: Annual net earnings by age at fatherhood	
	Mean £
teen father (<20)	14,123
young father (20-23)	14,160
older father (24-30)	16,140
non-father	16,611

5.1.7 Car Ownership

We might expect earning power to be reflected in the ability to purchase wealth related assets. In fact, the majority of men own a car regardless of fatherhood status. There is some evidence that older fathers are more likely to own their car (86 percent) compared to other men. We might speculate that these men have both the need of a car to transport their children and the economic means to afford one. Teen fathers are the most likely to report that they cannot drive (6 percent) (see Figure 6). No doubt we would see more marked differentials if we looked at the type, price, brand, size, etc. of the cars that each group of men own.

Figure 6: Percentage Distribution of Car Ownership at Age 30 according to Age at Fatherhood



5.1.8 Highest Educational Qualification

Educational differentials in the timing of entry into parenthood are well established (Berrington, 2003). Educational enrolment is known to delay entry into parenthood, whilst early entry into fatherhood may curtail an individual’s educational career. Not surprisingly, then, we see significant

¹ 683 did not provide information on their earnings. For these men, we imputed net pay using linear regression with socio-economic group, highest educational qualification, car ownership, accommodation type and social housing as possible covariates. The parsimonious model used in the imputation included only socio-economic group and highest qualification as predictors.

differences in the highest qualification obtained according to age at fatherhood. Vocational qualifications are included at their equivalent level. We identify men who have no qualifications, CSE and equivalent, O level and equivalent, A level and equivalent, above A level but below degree level and equivalent, and degree level qualifications.

Table 5: Highest qualification at age 30 according to age at fatherhood (percentages)

	teen father <20	young father 20-22	older father 23-30	non-father	<i>all men</i>
No qualifications	27	25	15	11	14
CSE and equivalent	9	11	9	8	8
O level and equivalent	39	40	36	28	31
A level and equivalent	14	17	19	16	17
Above A level, below degree	5	4	10	12	11
Degree	5	1	11	25	19
<i>Sample size</i>	270	562	2396	4740	7968

Teenage fathers and young fathers are similarly disadvantaged in terms of qualifications with around one quarter having no qualifications and only one quarter having above O level standard qualifications (see Table 5). Older fathers are more likely to have stayed on in education with 40 percent achieving above O level standard qualifications. In the BCS70 sample slightly more teen fathers ended up with a degree (5 percent) than did young fathers (1 percent). Whilst the difference is statistically significant ($p < 0.05$), replication of this observation on another, larger sample would be useful before additional inferences are made. Further, in this sample, it was not the case that these teenage fathers with degrees had never lived with their child (half were still co-resident with their child at age 30 and half had lived with their child at some point).

Men who have not yet had a child by age 30 are the most likely to have a degree level qualification (one quarter did so). At the same time, however, one in ten of these non-fathers had no qualification and a further 36 percent had a qualification of O level and below standard. These patterns serve to remind us that not being a father by age 30 is common among those most advantaged, but also includes a group of disadvantaged men (Berrington, 2003).

Highest educational qualification and occupational socio-economic group are clearly related. Among the BCS70, 66 percent of men in the professional occupations hold a degree, compared to 18 percent of men in junior non-manual occupations and just 3 percent of men in personal service, semi-skilled and unskilled occupations. Due to this colinearity, we only use highest qualification as an explanatory variable in subsequent multivariate analyses.

5.2 Early fatherhood and poorer socio-economic outcomes in adulthood

In this section, we explore the extent to which the poorer socio-economic outcomes in adulthood observed for teenage and young fathers is due to the selection of more disadvantaged men into early fatherhood. We focus on two outcomes - whether or not the man was unemployed at age 30 and, for the sample who were in employment, annual net earnings.

5.2.1 Early fatherhood and unemployment in adulthood

Binary logistic regression is used to model the probability of being unemployed at age 30. Odds ratios greater than 1 in Table 6 indicate that the odds of being unemployed (versus not unemployed) among that particular category of the explanatory variable are greater than the odds for the reference category of the same explanatory variable. 95 percent confidence intervals indicate whether we can reject the null hypothesis that the odds ratio is 1. Once again the methodological approach follows the conceptual framework in Figure 1. First we estimate the relationship between unemployment at age 30 and the variables in the first three blocks (parental background characteristics, age 10 circumstances, and age at fatherhood). In this way we model the relationship between young fatherhood and unemployment controlling for the selection into early parenthood of men from poorer socio-economic backgrounds. Subsequently, we add more recent information such as whether the respondent had a partnership dissolution and their highest educational qualification. Hence we test two potential pathways through which early fatherhood may be associated with later unemployment. Finally we find the best fit parsimonious model which includes only those variables which remain significant at the 5 percent level after all the variables have been added.

Table 6: Odds ratios from logistic regression models of unemployment at age 30

Variable Label	1 - Parental background, childhood characteristics and age at fatherhood			2 - Parental background, childhood characteristics, age at fatherhood and adult circumstances			3 - Best fit model		
	OR	95% Conf.Interval		OR	95% Conf.Interval		OR	95% Conf.Interval	
<i>Mother's age at first birth</i>									
under 20	1.06	0.67	1.69	1.01	0.64	1.61			
20-24	0.96	0.63	1.45	0.89	0.59	1.36			
25 and over	1.00			1.00					
<i>Parental Education</i>									
no parent stayed at school after 16	0.95	0.66	1.35	0.89	0.62	1.26			
at least one parent stayed at school after 16	1.00			1.00					
<i>Father's social class</i>									
I & II	1.00			1.00					
III non-manual	0.48	0.21	1.10	0.44	0.19	1.02			
III manual & armed forces	1.21	0.72	2.02	1.14	0.68	1.90			
IV & V	1.45	0.83	2.52	1.34	0.77	2.32			
no father	1.54	0.68	3.44	1.45	0.65	3.24			
<i>Receipt of benefits</i>									
no	1.00			1.00			1.00		
yes	1.32	0.87	2.02	1.27	0.83	1.96	1.49	1.03	2.16
<i>Housing tenure</i>									
owner occupier	1.00			1.00			1.00		
social rented	2.29	1.60	3.28	2.15	1.50	3.07	2.31	1.66	3.21
private rented	1.41	0.73	2.72	1.30	0.67	2.53	1.39	0.72	2.67
<i>Ever in care before age 17</i>									
no	1.00			1.00					
yes	1.53	0.74	3.17	1.44	0.70	2.95			
<i>Family Structure</i>									
two biological parents	1.00			1.00					
two parents other	0.75	0.41	1.36	0.72	0.40	1.30			
single parent	1.12	0.64	1.94	1.12	0.64	1.95			
<i>Reading Ability</i>									
bottom quartile	1.65	1.17	2.31	1.55	1.10	2.18	1.58	1.13	2.20

2nd, 3rd & 4th quartile	1.00			1.00			1.00		
<i>Mother's aspiration for Age will leave school</i>									
at 16	1.09	0.78	1.51	1.02	0.73	1.42			
after 16	1.00			1.00					
<i>Locus of Control</i>									
internal	1.00			1.00					
external	1.18	0.73	1.91	1.15	0.71	1.85			
<i>Behaviour problems</i>									
None	1.00			1.00			1.00		
Conduct disorder	1.89	1.23	2.89	1.74	1.14	2.66	1.91	1.25	2.90
Emotional problems	0.88	0.49	1.58	0.88	0.49	1.59	0.87	0.49	1.55
Mixed behavioural problems	1.61	0.69	3.76	1.47	0.62	3.46	1.63	0.70	3.82
<i>Age at fatherhood</i>									
teen father	1.10	0.51	2.36	1.02	0.47	2.23	1.13	0.53	2.41
young father	2.03	1.22	3.36	1.86	1.12	3.12	1.99	1.21	3.28
older father	1.00			1.00			1.00		
non-father	1.48	1.03	2.12	1.54	1.07	2.22	1.56	1.09	2.23
<i>Partnership dissolution</i>									
no				1.00					
yes				1.35	0.98	1.85			
<i>Highest qualification</i>									
none				2.85	1.49	5.46	2.91	1.55	5.47
CSE and equivalent				2.07	1.00	4.27	2.17	1.06	4.46
O level and equivalent				2.44	1.35	4.42	2.55	1.42	4.58
A level and equivalent				1.40	0.71	2.78	1.45	0.74	2.85
above A level, below degree				2.02	0.98	4.13	2.06	1.02	4.15
degree				1.00			1.00		
<i>Sample is all men, n=7968</i>									

When looked at individually, all of the parental background characteristics were significant predictors of unemployment in adulthood. For example, the unadjusted odds (not shown) of unemployment were 1.8 times higher for men whose parent(s) had left school at age 16. When the age 10 attributes of the CM were included in the multivariate analysis (Model 1) father's social class, parental education and mother's age at first birth become insignificant, indicating that childhood circumstances (especially social housing), and individual characteristics (particularly reading ability and antisocial behaviour) mediate the intergenerational transmission of poorer socio-economic status. Controlling for the parental background and childhood attributes of teenage fathers results in the attenuation of any association between teen fatherhood and unemployment. However, men who became fathers in their early twenties continue to be at twice the risk of unemployment in adulthood, compared to older fathers (odds ratio 2.03), even when their parental background and childhood circumstances are accounted for. Once the background characteristics of non-fathers has been accounted for, not being a father by age 30 is also associated with an increased risk of unemployment compared to men who had their first birth in their mid to late twenties.

Model 2 includes two additional variables -ever experienced partnership dissolution, and highest qualification, through which we might speculate that young fatherhood is associated with a higher risk of adult unemployment. We find only weak evidence ($p < 0.10$) that unemployment is higher among men who have experienced partnership dissolution. Comparison of the results from model 1 and 2 indicates that the greater risk of unemployment seen among young fathers is partly explained by their lower educational qualifications. On average, men with no qualifications are seen to have almost three times the risk of unemployment compared to those with a degree. However, even after controlling for highest qualification, young fathers remain at a higher risk of unemployment compared to older fathers (odds ratio reduces from 2.02 to 1.86). Non-fathers are also found to have an increased risk of unemployment once the characteristics of those who remain childless are controlled.

Model 3, the best fit model, includes only those variables which remain significant at the 5 percent level when they are all included simultaneously. Whilst educational differences in the risk of unemployment are not surprising, of particular note is the persistent relationship between childhood attributes and later unemployment in adulthood. In particular, cohort members living in poorer socio-economic circumstances at age 10 (as measured by social housing and receipt of means-tested benefits) are significantly more likely to be unemployed in adulthood, net of their reading ability and highest educational qualification. Younger fathers and non-fathers remain at a greater risk of unemployment even taking account of their socio-economic circumstances suggesting that, for these groups, there may be other factors involved; for example, psycho-social pathways not captured by the statistical model which mediate the association. The importance of individual attributes in affecting the risk of being unemployed is suggested by the fact that, taking account of educational ability and attainment and socio-economic background, men with a history of conduct disorder at age 10 were twice as likely to be unemployed in adulthood.

5.2.2 *Early fatherhood and earnings in adulthood*

We treat earnings as a continuous response and hence use a general linear model which predicts the change in earnings associated with a particular category of a covariate, relative to the baseline category. The sample is based on employed men only. As for unemployment we first determine the simultaneous impact of characteristics observed at birth, age 10, and age at entry into fatherhood. Then we add experience of partnership dissolution and highest qualification as potential mediators. Finally we find the 'best fit' model (Table 7).

At the univariate level we found that men who became fathers in their teens and early twenties were earning on average two thousand pounds less at age 30 than men who entered fatherhood in their mid to late twenties (Section 5.1.6, Table 4). By building up the sequence of models shown in Table 7 we conclude that at least one half of this difference is due to the selection into early fatherhood of men who come from poorer socio-economic backgrounds, who tend to have lower reading ability and lower maternal aspirations for their education. For example, after including these measures, the earnings gap between teen and older fathers is reduced from £2017 to £952.

In contrast to the models for unemployment, father's social class at birth and parental education remain significant predictors of adult earnings even when later childhood characteristics are controlled. It is only when highest qualification is included in the model that these parental characteristics become insignificant, suggesting that parental social class affects the next generation's earnings through its impact on educational attainment. Among the BCS70 sample average earnings are independent of receiving means-tested benefits during childhood, social housing, experience of statutory care, family structure, locus of control, once all variables are entered in the model. Unlike for unemployment, we do not find a persistent effect of conduct disorder on net annual earnings at age 30, suggesting that once in employment this behavioural attribute does not affect the amount earned. Partnership dissolution is not found to be significant suggesting that this is not a mediating pathway between early fatherhood and overall earnings in adulthood.

The coefficients relating to highest qualification are by far the largest of all variables, with a strong linear relationship indicated; male cohort members with a degree earn on average £7863 more than those with no qualification, and £6386 more than those with O level and equivalent qualifications. Indeed, comparison of models 1 and 2 suggests that part of the earnings disadvantage of teen and younger fathers which remains once their background characteristics are controlled, is mediated through highest educational qualification. In other words, men who became fathers in their teens and early twenties tend to achieve lower educational qualifications which would be suggested by their socio-economic backgrounds alone. To what extent this is a causal relationship, with young men having to leave education in order to take on fatherhood responsibilities -for example to seek work in order to provide financial support- we are not able to say. What is clear is that in our 'best-fit' model, age at fatherhood no longer appears as a significant variable. Only educational ability in terms of the age 10 reading score, maternal aspirations for the CM's age at leaving school, and educational attainment remain as significant predictors.

Policy efforts could be put into two directions. Firstly, by helping young fathers to get into employment. Secondly, as we have shown that educational qualifications are a mediator between young fatherhood and low earnings, it would be an important policy goal to increase young fathers' earnings. Thus, educational grants for young fathers could be considered as a possible option to achieve this goal.

Table 7: Coefficients from linear regression models of annual net earnings at age 30

Variable Label	1 - Parental background, childhood characteristics and age at fatherhood			2 - Parental background, childhood characteristics, age at fatherhood and adult circumstances			3 - Best fit model	
	Coeff.	95% Conf. Interval		Coeff.	95% Conf. Interval		Coeff.	95% Conf. Interval
<i>Mother's age first birth</i>								
under 20	-741	-1,992	510	-213	-1,409	983		
Mother's age first birth (20-24)	-871	-2,032	290	-365	-1,484	753		
<i>Parental Education</i>								
no parent stayed at school after 16	-1,181	-2,036	-327	-517	-1,353	319		
<i>Father's social class</i>								
III non-manual	-1,769	-3,222	-316	-1,024	-2,438	389		
III manual & armed forces	-1,459	-2,759	-158	-704	-1,969	562		
IV and V	-1,250	-3,176	676	-311	-2,240	1,619		
no father	-1,821	-3,775	132	-1,131	-3,013	750		
<i>Receipt of benefits</i>								
Yes	-551	-1,448	346	-491	-1,361	380		
<i>Housing</i>								
social rented	-933	-1,739	-127	-447	-1,247	353		
private rented	-737	-2,508	1,033	-101	-1,825	1,623		
<i>Ever in care before age 17</i>								
Yes	-984	-2,356	389	-642	-2,003	720		
<i>Family Structure</i>								
two parents mixed	-116	-1,554	1,323	-119	-1,522	1,285		
single parent	756	-619	2,132	720	-585	2,024		

<i>Reading Ability</i> bottom quartile	-1,840	-2,519	-1,161	-1,111	-1,768	-453	-1,265	-1,980	-550
<i>Age will leave school</i> at 16	-2,220	-3,044	-1,396	-1,430	-2,218	-642	-1,687	-2,396	-978
<i>Locus of Control</i> external	-631	-1,940	678	-216	-1,513	1,081			
<i>Behaviour Problems</i> Conduct disorder	-809	-2,019	401	-388	-1,560	784			
Emotional problems	-206	-1,504	1,092	-474	-1,730	782			
Mixed behavioural problems	-1,358	-2,794	78	-854	-2,315	608			
<i>Age at fatherhood</i> teen father	-952	-2,195	291	-791	-1,998	415			
young father	-1,107	-2,421	206	-582	-1,857	693			
non-father	-393	-1,231	445	-1,021	-1,818	-224			
<i>Partnership dissolution</i> Yes				-171	-952	610			
<i>Highest qualification</i> none				-7,863	-9,430	-6,297	-8,182	-9,693	-6,671
CSE and equivalent				-7,374	-8,898	-5,850	-7,669	-9,162	-6,177
O level and equivalent				-6,386	-7,887	-4,885	-6,585	-8,096	-5,073
A level and equivalent				-5,359	-6,937	-3,780	-5,568	-7,143	-3,992
above A level, below degree				-3,431	-5,383	-1,479	-3,651	-5,615	-1,686
Constant	20,830	19,189	22,472	23,975	21,924	26,027	22,251	20,812	23,689
<i>Sample is employed men, n=7141</i>									

SECTION SIX – NON-RESIDENT FATHERHOOD

An important outcome of young parenthood for fathers and their children is the higher risk of lack of father involvement in the child’s upbringing. Numerous research studies have suggested that, on average, children brought up within a single parent family have poorer cognitive and developmental outcomes than do children raised in two-parent families. As noted by Lamb (1997) a number of explanations for such an association are possible, including the poorer socio-economic circumstances and psychological well being of single mothers, and the greater levels of parental conflict both pre and post separation among single parent families. The *quality* of the father-child interactions is considered of greatest importance in affecting children’s development and adjustment (Amato and Gilbraith, 1999). Recent evidence from the UK suggests that positive, authoritative parenting by fathers is significantly related to fewer adjustment problems (Dunn *et al.*, 2004) and more positive longer term outcomes (Buchanan and Flouri, 2001).

In section 6.1 we identify whether young fathers are less likely to be living with their children at age 30. By examining the antecedents of non-residential fatherhood in section 6.2 we investigate whether young fatherhood and non-residential fatherhood have a similar aetiology and hence what factors predict whether teenage and early fathers are co-resident with their child. We distinguish between non-resident fathers who have never lived with their child and those who started off as a co-resident father, but later split up from the mother (and the child).

Subsequently, in sections 7 and 8 we explore, for non-residential fathers, factors that promote regular contact and financial support between non-resident fathers and their children and test whether these are different for younger and older fathers.

6.1 Are young fathers less likely to be co-resident with their children?

We identify a father as being non-resident if he is not living with his first-born child at age 30, provided that the child is alive. Men whose children were neither living with him nor with their mother (27 cases) are also identified as non-resident. Among the BCS70 sample, one half of those who had had their first birth in their teens were not living with their first child at age 30, compared to 40 percent of those who became a father in their early twenties, and 15 percent of older fathers (Table 8). Teen and young fathers are more likely to be non-resident fathers both because they are more likely to have never lived with their first child (that is, the child was born outside a co-residential partnership) and because they are more likely to have separated from the mother of the child by the age 30 survey (older fathers have less time to have separated, of course). More than one fifth of teenage fathers reported that they had never been co-resident with their first child compared to just 6 percent of older fathers. Differences in the percentage that had lived with their child but had subsequently separated were similarly large (29 percent of teenage fathers and 9 percent of older fathers). (To some extent the latter difference is due to the greater time interval since the child was born among younger fathers – see section 6.2.2 where the analysis takes this into account.)

Table 8: Residency with first-born child at age 30 according to age at fatherhood (in percentages)				
	teen father <20	young father 20-22	older father 23-30	<i>all fathers</i>
Resident father	49	60	85	78
Non-resident father				
- never lived with child	22	15	6	9
- separated from child	29	26	9	13
<i>Sample size</i>	270	562	2396	3228

6.2 *Antecedents of Non-Resident Fatherhood*

Section 6.2.1 describes previous findings relating to the antecedents of non-resident fatherhood. Section 6.2.2 investigates factors associated with whether or not the father co-resided with their first child at the time when it was born (regardless as to whether he later separated from the child's mother). In section 6.2.3 we model, for those who were co-resident at the time the child was born, the probability that the man subsequently became non-resident.

6.2.1 *Background variables*

Much of the evidence about the characteristics of non-resident fathers in the UK has come from cross-sectional survey data. A consistent picture has tended to emerge whereby non-resident fathers are more likely than resident fathers to be young, unemployed, in a semi or unskilled occupation, and are less likely to have lived with both natural parents throughout childhood. Whilst such studies help build up a useful picture of the current circumstances of non-resident fathers, longitudinal data are required in order to distinguish the temporal ordering of effects and hence identify antecedents of non-residential fatherhood.

Studies which have used prospective data from a longitudinal approach have tended to view non-resident parenthood as part of the same developmental pathway as young parenthood. For example, Jaffee *et al.* (2001) found that a common set of family of origin characteristics (such as family conflict and frequent parenting changes) and individual characteristics (particularly having a history of conduct disorder) predicted both young fatherhood and the amount of time fathers had spent living with their first child. We test whether this is also the case for the BCS70 cohort by including the same set of parental background and childhood factors (blocks 1 and 2 in Figure 1) as for the model predicting age at entry into fatherhood.

Recent in-depth research with vulnerable young fathers in the UK suggests that the quality of the relationship between the man and their partner during pregnancy may be more important than earlier family or social difficulties in predicting young fatherhood and post-natal father involvement (Quinton *et al.*, 2002). Unfortunately, like most quantitative surveys, the BCS70 does not collect information on the quality of the mother–father relationship.

6.2.2 *Multivariate analyses of non-residential fatherhood from birth*

Binary logistic regression is used to model the probability of never having lived with their first child. We build up the model following the conceptual framework in Figure 1, viewing non resident fatherhood as the outcome of the CM's socio-economic background (measured by parental characteristics and socio-economic status in childhood), the CM's own individual attributes (reading ability, behavioural scores, and locus of control) and the demographic circumstances of the child's birth (age at fatherhood). Odds ratios (Table 9) greater than 1 indicate that the odds of never living with the child among that specific category of a covariate are greater than the odds for the reference category of the covariate. First, we include the variables from the first two blocks (parental and childhood characteristics). Comparison of this model with the results in Table 1 will provide some insight as to whether the antecedents of young fatherhood are similar to those for non-resident fatherhood. Next we add age at fatherhood and hence estimate the independent role played by the father's age. In the final model we add earnings and highest educational qualification. Hence we test two potential pathways through which early fatherhood may be associated with non co-residence from birth. We note that earnings and unemployment are both measured at age 30 and hence caution should be taken when interpreting the results. If the assumption is made that those with low earnings or unemployed at age 30 were more likely to have low earnings or to be unemployed in their teens and

early twenties, then higher non co-residence among teen and young fathers may be associated with the lack of an ability to fulfil the “male bread-winner” role.

Finally, we present the best fit model which includes only those variables which remain significant at the 5 percent level after all the variables have been added.

Table 9: Odds ratios from logistic regression model of non-residential fatherhood from birth

Table 9: Odds ratios from logistic regression model of non-residential fatherhood from birth												
	1 - Parental background and childhood characteristics			2 - Parental background, childhood characteristics and age at fatherhood			3 - Parental background, childhood characteristics, age at fatherhood and adult circumstances			4 - BEST FIT		
Variable Label	OR	95% Conf.Interval		OR	95% Conf.Interval		OR	95% Conf.Interval		OR	95% Conf.Interval	
<i>Mother's age at first birth</i>												
under 20	1.32	0.71	2.45	1.22	0.65	2.27	1.28	0.66	2.46			
20-24	1.45	0.82	2.56	1.35	0.76	2.39	1.37	0.76	2.48			
25 and over	1.00			1.00			1.00					
<i>Parental Education</i>												
no parent stayed at school after 16	0.97	0.61	1.54	0.92	0.58	1.46	0.90	0.57	1.42			
at least one parent stayed at school after 16	1.00			1.00			1.00					
<i>Father's social class</i>												
I & II	1.00			1.00			1.00					
III non-manual	1.66	0.71	3.91	1.71	0.71	4.13	1.48	0.61	3.60			
III manual & armed forces	1.32	0.62	2.81	1.28	0.60	2.76	1.11	0.52	2.39			
IV & V	1.55	0.69	3.48	1.46	0.64	3.35	1.28	0.56	2.90			
no father	1.30	0.41	4.16	1.12	0.34	3.72	1.03	0.32	3.29			
<i>Receipt of benefits</i>												
No	1.00			1.00			1.00					
Yes	1.49	0.93	2.38	1.36	0.83	2.23	1.36	0.82	2.24			
<i>Housing tenure</i>												
owner occupier	1.00			1.00			1.00			1.00		
social rented	1.88	1.20	2.94	1.74	1.10	2.73	1.63	1.03	2.58	1.62	1.09	2.39
private rented	2.33	1.18	4.62	2.15	1.07	4.35	2.07	1.01	4.24	1.97	0.99	3.92
<i>Ever in care before age 17</i>												
No	1.00			1.00			1.00					
Yes	0.93	0.36	2.38	0.78	0.29	2.10	0.85	0.31	2.37			
<i>Family Structure</i>												
two biological parents	1.00			1.00			1.00					
two parents other	0.71	0.35	1.46	0.71	0.34	1.49	0.69	0.33	1.45			
single parent	0.58	0.29	1.15	0.55	0.28	1.09	0.53	0.26	1.07			

<i>Reading Ability</i>												
bottom quartile	1.32	0.90	1.95	1.22	0.82	1.82	1.14	0.77	1.67			
2nd, 3rd & 4th quartile	1.00			1.00			1.00					
<i>Mother's aspiration for Age will leave school</i>												
at 16	1.00	0.67	1.49	1.03	0.69	1.53	0.99	0.66	1.48			
after 16	1.00			1.00			1.00					
<i>Locus of Control</i>												
Internal	1.00			1.00			1.00					
External	1.65	0.99	2.77	1.71	1.01	2.92	1.65	0.97	2.81			
<i>Behaviour problems</i>												
None	1.00			1.00			1.00			1.00		
Conduct disorder	2.76	1.77	4.31	2.68	1.70	4.25	2.66	1.66	4.25	2.54	1.59	4.05
Emotional problems	0.99	0.48	2.05	0.93	0.44	1.97	0.98	0.46	2.07	0.96	0.46	2.00
Mixed behavioural problems	1.62	0.52	5.11	1.55	0.50	4.77	1.39	0.44	4.39	1.31	0.42	4.11
<i>Age at fatherhood</i>												
teen father				3.99	2.40	6.62	3.99	2.41	6.63	3.86	2.36	6.31
young father				2.34	1.53	3.60	2.20	1.39	3.49	2.20	1.41	3.43
older father				1.00			1.00			1.00		
<i>Earnings</i>												
bottom quartile							2.85	1.43	5.68	3.03	1.58	5.81
second quartile							1.93	0.95	3.90	1.89	0.96	3.72
third quartile							1.94	0.93	4.07	1.92	0.94	3.91
top quartile							1.00			1.00		
unemployed							2.79	1.28	6.09	2.83	1.33	6.03
<i>Highest qualification</i>												
None							0.97	0.36	2.64			
CSE and equivalent							1.64	0.59	4.56			
O level and equivalent							1.02	0.39	2.66			
A level and equivalent							1.32	0.50	3.49			
above A level, below degree							1.29	0.42	3.93			
Degree							1.00					
<i>Sample is all fathers, n=3228</i>												

When the respondent's parental background and age 10 attributes were included in the multivariate analysis only housing tenure and conduct disorder were found to be significant predictors of non co-residence from birth. Compared to men who lived in owner occupied housing, those living in social housing and rented accommodation were 1.7 and 2.1 times more likely, respectively, not to co-reside with their first child. Boys with conduct disorder at age 10 were over two and a half times more likely to be non co-resident with their first child. External locus of control is borderline significant and suggests that boys who at age 10 felt they had low control over events in their lives were 1.7 times more likely to become a non co-resident father. The effects of these childhood characteristics on the risk of becoming a non-resident father are largely unaffected by the inclusion of age at fatherhood in the analysis, suggesting that they play an independent role.

Comparison of the first column of odds ratios with the earlier results for the predictors of becoming a young father (Table 1) suggests that in Britain, unlike for New Zealand (Jaffee *et al.*, 2001), young fatherhood and non-coresidential fatherhood do not necessarily share the same aetiology. Among the BCS70 cohort, age at fatherhood is more strongly predicted by socio-economic background factors (particularly father's social class and CM's reading ability), whilst non co-residence is more strongly predicted by individual personal characteristics, particularly conduct disorder and having an external locus of control. Perhaps somewhat surprisingly, non co-residence from birth is not seen to be related to the respondent's own experience of family structure – the chances of fathering a child outside of a co-residential union are not significantly higher among those who themselves were born to a lone mother, or for those who were living in a lone parent family at age 10, once other factors are controlled. Again, this finding appears to be in contrast to the significant role of parenting changes found for the New Zealand cohort studied by Jaffee and colleagues (2001).

Even after controlling for parental and childhood characteristics, teenage fathers were four times more likely to be non co-resident from birth, compared to men who had their first birth in their mid to late twenties. Moreover, men who became fathers in their early twenties were more than twice as likely to have never lived with their first child. These differences persist when we include the adult socio-economic circumstances of younger and older fathers ². Whilst non co-residence from birth is around three times more common among those with low earnings and those unemployed, the inclusion of this variable does little to reduce the impact of the age at fatherhood effect. In other words, there appears to be a robust age effect. This age effect is likely to be related to the type of partnership within which the child was conceived; teen and young fathers are more likely to be in a casual relationship, or to be in a steady (but non-cohabiting) relationship, whilst older fathers are more likely to become a parent within a co-residential union.

The final model includes only those variables which remain significant at the 5 percent level when they are all included simultaneously. Of particular interest is the fact that each of the significant predictors appears to play an independent role (their effect size does not change when other factors are controlled). There is a clear age effect but, in addition to this, men with lower earning potential are more likely to raise a child outside of a co-residential union, as are those with a history of conduct disorder. The importance of individual personality in affecting the risk of being non-residential father is suggested by the fact that, taking account of educational ability and attainment, socio-economic background, age at fatherhood and earnings in adulthood, men with a history of conduct disorder at age 10 were 2.5 times as likely to have never lived with their first child. Finally, interaction effects of significant variables with age at fatherhood were tested to see whether there were factors which were particularly pertinent for young fathers. None was significant suggesting that factors which prevent fathers from living with their first child from birth are similar for teen, young and older fathers.

² We were concerned that the non-significance of educational qualifications was due to colinearity between educational qualifications and earnings. When we re-estimated Model 3 excluding earnings, the odds ratios for educational qualifications did increase, but none reached statistical significance. Furthermore, when Model 3 was re-estimated excluding qualifications, the odds ratios for earnings remained unaltered, leading us to believe that the results are robust.

6.2.3 Antecedents of later non-residential fatherhood among men co-resident at the time of birth

Next we examine, for those fathers who were co-resident when their first child was born, the risk of later separation according to age at entry into fatherhood. Since the BCS70 respondents have been observed up to age 30 only, younger fathers have had more time to separate from their child (and its mother) than older fathers. Life table analyses are therefore required to take account of this longer exposure to the risk of separation. We focus on the risk of separation during the child's first five years of life since the experience of older fathers will tend to be censored by the survey interview. Table 10 presents the results from a multiple decrement life table which estimates, for different ages at entry into fatherhood, the percentage who separate from their first child. Once we control for the additional exposure of younger fathers to the risk of separation, differences between teen, young and older fathers are much smaller than those presented in Table 8. Around one in seven men who became a resident father under age 20 or at age 20-22 separated from the child within five years compared to one in 10 older fathers. We conclude that teenage fatherhood is more strongly associated with non-coresidence from birth than with the risk of later separation among those men who do become a father within a co-residential partnership.

Table 10: Life tables for separation (weighted)			
	Cumulative separation rate at start of interval		
month	teen fathers, n=209	young fathers, n=478	older fathers, n=2255
0-11	0.00	0.00	0.00
12-23	2.17	6.19	2.69
24-35	7.01	9.07	5.87
36-47	13.05	10.53	8.40
48-59	14.08	14.65	10.12

When the parental background and childhood characteristics of younger and older fathers are controlled within a multivariate discrete-time hazards model (results not presented) we find that roughly half of the difference shown in Table 10 is due to selection into early fatherhood of more socio-economically disadvantaged men (as indicated for example by receipt of means-tested benefits at age 10), men who were themselves born to a lone parent, and men with a history of behavioural problems (particularly mixed behavioural problems). We also find that men with lower earnings and those unemployed were twice as likely to separate from their first child, whilst below degree-level qualifications were associated with three times the risk of separation. Thus, it is not purely age at entry into fatherhood that is the factor determining separation from first child but inherent characteristics of teen and young fathers.

Comparing these findings with the factors predicting non-co-residence from birth (section 6.1.1.) we observe that age at fatherhood is a much stronger predictor of whether or not the respondent lived with his child when it is born than whether (among those who start off as a resident father) the respondent later separated from their first child.

6.3 Current circumstances of resident and non-resident fathers

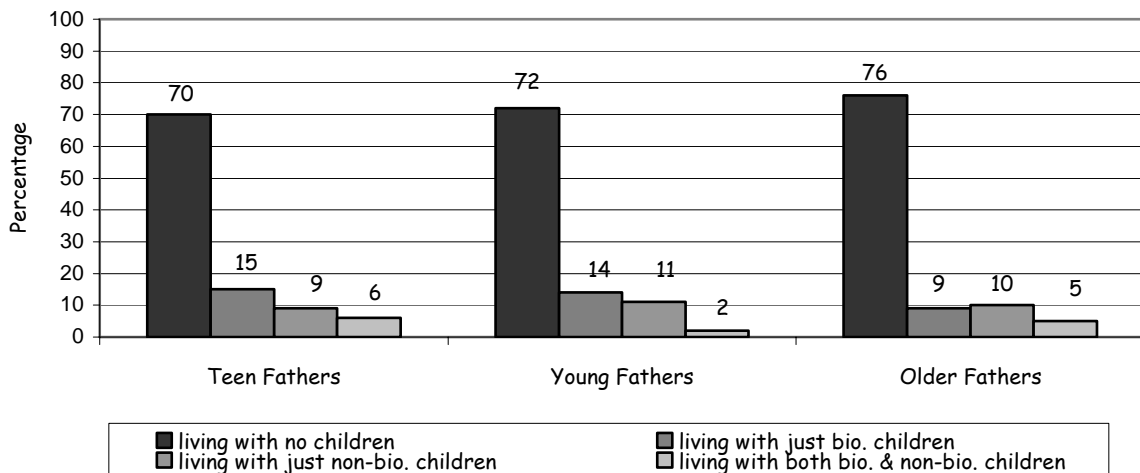
This section describes the living arrangements and socio-economic circumstances of non-resident fathers at age 30, comparing them with resident fathers who gave birth at a similar age. We aim to determine whether differences between non-resident and resident fathers are smaller or larger for younger parents (Table 11).

Table 11: Characteristics at age 30 of resident and non-resident fathers, according to age at entry into fatherhood						
	teen fathers <20		young fathers 20-22		older fathers 23-30	
	resident (n=132)	non- resident (n=138)	resident (n=335)	non- resident (n=226)	resident (n=2045)	non- resident (n=351)
Partnership status						
% living with a new partner	94	64	95	45	99	40
Current living arrangements						
% with no children						
% with bio. children only	0	70	0	72	0	76
% with non-bio. children only	93	15	92	14	89	9
% with bio and non-bio children	0	9	0	11	0	10
	7	6	8	2	10	5
Highest qualification						
% no qualification	29	25	22	29	14	23
% CSE, O level & equiv	50	48	50	54	44	50
% A level & equiv	16	21	26	15	29	24
% degree & equiv	6	5	2	1	12	4
Employment						
% unemployed	7	8	8	18	3	10
Net annual earnings						
Mean (in £) ¹	14,249	14,005	14,432	13,683	16,578	13,287
Housing tenure						
% social housing	32	28	37	28	13	23
Housing type						
% flat/ bedsit/room	8	24	13	20	8	23
Overcrowding						
% >1 person per room	32	8	33	9	13	7
Car access						
% own a car	72	71	81	61	89	68

¹ Mean earnings calculated on sample of employed men

The vast majority of resident fathers have a partner, that is, very few are living as lone father families (6 percent for teen, 5 percent for young and 1 percent for older fathers). Many of the non-residential fathers also live in a co-residential partnership - almost two thirds of teenage non-residential fathers are living with a new partner, as compared with 45 percent of men who became fathers in their early twenties (young fathers), and 40 percent of men who became fathers in their mid to late twenties (older fathers). This pattern reflects the additional time that teenage fathers are likely to have had following the birth of their child to find a new partner. Entering a new co-residential partnership may be related to co-residence with a new partner's existing children or to the procreation of subsequent "joint" biological children (i.e. where the man and his new partner are the biological parents). Figure 7 shows the percentage of non-resident fathers who are living with children, broken down according to whether they were living with just biological children, just step/adopted children, or a mixture of the two.

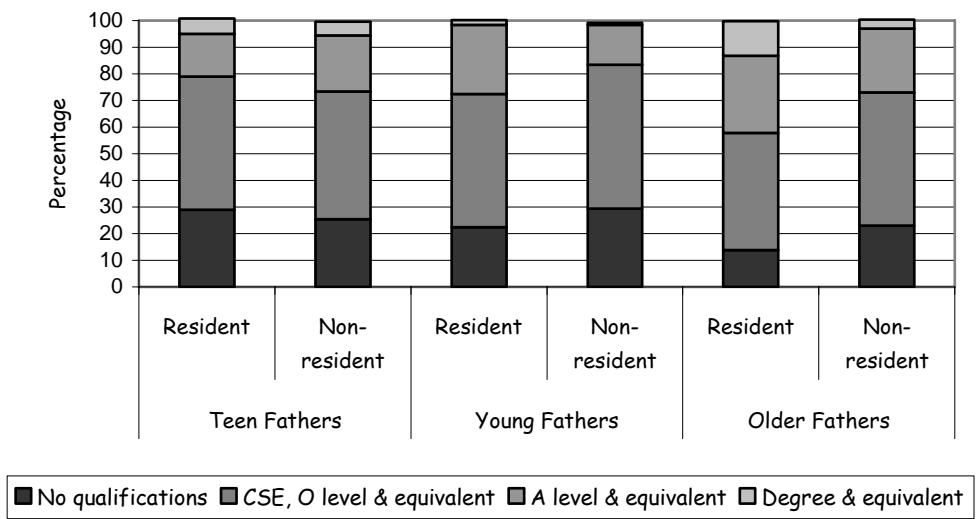
Figure 7: Family status at age 30 of non-resident fathers, according to age at entry into fatherhood



The majority (7 out of 10 teenage and young non-resident fathers) are not living with any children, with the remainder having taken on new responsibilities for children. Among the teenage non-resident fathers, for example, one in six is living with subsequent biological children. In 6 percent of the cases, step/adopted children are also present in the new family unit. A further 9 percent of the teenage non-resident fathers had moved in with a partner who had prior children of her own but who had had no new biological children. If responsibilities for a new partner and new children affect the propensity of teenage and young fathers to maintain contact and financial support for their non-resident children, then these complex living arrangements need to be taken into account by policy makers.

Figure 8 compares the educational qualifications of resident and non-resident fathers for the three age at fatherhood groups. Among teenage fathers, little difference in educational qualifications is seen according to whether the father is living with his first child. However, greater difference is observed for the young fathers and particularly the older fathers. For example, 23 percent of older non-resident fathers have no qualifications, compared to only 14 percent of older resident fathers. The same trend is observed for the proportion who hold a degree; only for older fathers can we detect a difference between resident and non-resident fathers (the former being three times more likely to have a degree).

Figure 8: Highest qualification at age 30 of resident and non-resident fathers, according to age at entry into fatherhood



A similar pattern emerges when we compare levels of unemployment and net earnings. Among teen fathers there is little difference according to residency status, whereas among the men who became fathers in their twenties, those who are not resident with their first child at age 30 are significantly more likely to be unemployed and to earn significantly less. In fact, older non-resident fathers appear to do less well on these measures than teenage non-resident fathers.

The percentage of men living in social housing is likely to be affected by the rules governing priority for social housing and the extent to which the non-resident father is living in a new family with children. Among teenage fathers, little difference in the percentage currently living in social housing is observed between resident and non-resident fathers. Among young fathers, social tenure is more common among resident fathers, whereas among the older fathers it is those who are non-resident who are more likely to rely on social housing.

Housing type and overcrowding are arguably more important factors affecting the degree of contact that a non-resident father may have with his child; it is more difficult to host visits and over-night stays in a small, overcrowded dwelling, or in a flat or bedsit. Non resident fathers are actually less likely to be living in overcrowded accommodation, presumably because there are fewer children present to contribute to the numerator of the overcrowding index. However, when we look at the type of accommodation, non-resident fathers are significantly more likely to be living in a flat or bedsit rather than a house. Finally, a significant minority of non-resident fathers – between 30 percent (for teenage non-resident fathers) and 40 percent (for young non-resident fathers) do not own a car. Lack of a car may be another barrier to visiting non-residential children, or to participating in activities (for example school or leisure) with their children.

6.3.1 Characteristics of the relationship between non-resident fathers and their children

This section describes the attributes of the relationship between the 30-year old non-resident fathers and their first child. We aim to determine whether there are differences in patterns according to age at entry into fatherhood (Table 12).

Table 12: Characteristics at age 30 of all Non-Resident Fathers, according to Age at Entry into Fatherhood			
Characteristic at age 30	Non-resident teen fathers (n=138)	Non-resident young fathers (n=226)	Non-resident older fathers (n=351)
Child's gender			
% male	55	57	50
% female	45	43	50
Ever lived with child			
% never lived with child	44	37	40
Time since separation			
% <2 year	11	15	34
% 2-3 years	8	12	28
% 4-5 years	10	16	27
% 6+ years	70	57	11
With whom child now living			
% mother (alone)	68	67	85
% mother (repartnered)	23	25	11
% other	8	7	4
Frequency of contact			
% weekly or more	46	40	56
% monthly or more	21	21	12
% less than monthly	16	8	7
% never	17	31	24
Provision of maintenance			
% provide maintenance	68	62	71

There are approximately equal proportions of boys and girls amongst the non-resident fathers' children. Sizeable fractions of both younger and older non-resident fathers (around 40 percent) have never lived with their first child. The figures for time since separation include men who have separated from their child and those who were non co-resident from birth. For those who have never lived with their child, time since separation is equal to the child's age. 70 percent of the teen fathers and 57 percent of younger fathers have lived apart from their first child for more than 6 years, compared to 11 percent of older fathers. This difference is largely explained by the fact that younger fathers had their children earlier and hence have had more time to be separated from them. The experience of older fathers is censored by the age 30 survey.

The majority of the children are living with their mothers - between 4 percent and 8 percent are living elsewhere (e.g. boarding school, relatives, adoptive parents). Around 7 out of 10 teen and young fathers' children, and 85 percent of older fathers' children, were living with their mother in a lone mother family. Around one quarter of the teen and young fathers' children, and 11 percent of the children of older fathers, were now living in a reconstituted family where their mother has re-partnered. This difference according to age at fatherhood reflects the fact that the ex-partners of non-resident older fathers have had less time to find a new partner. Comparison of these results with those from the previous section (Table 11) suggests that entering a new partnership by age 30 is much more common for non-resident fathers than for their ex-partners.

At age 30, non-resident fathers were asked how often they saw their first child. A lower percentage of teen (46 percent) and young fathers (40 percent) report seeing their non-resident child *at least weekly* as compared to older fathers (56 percent). Regardless of age at fatherhood, the majority of non-resident fathers see their child *at least once a month* (67 percent for teen fathers, 61 percent for young fathers and 68 percent for older fathers). In total around one quarter of the fathers reported *no contact*. Somewhat surprisingly, a smaller proportion of teen fathers reported no contact. Caution should be taken interpreting this pattern, however, since it is likely that non-resident fathers who had a child in

their teens will be more likely to report this child at the age 30 interview if they have continued to have some sort of contact with the child.

The estimate from BCS70 of the proportion of non-resident fathers who have weekly contact is similar to the 47 percent found by Bradshaw *et al.* (1999), but slightly higher than the one third reported by mothers in the small-scale study by Dunn *et al.* (2004). Our estimate of the proportion never seeing their child (around 25 percent for all age at fatherhood groups) is higher than the study by Dunn and colleagues (18 percent) and considerably higher than the figure found by Bradshaw and colleagues (3 percent). Some of these differences are due to a) in the case of the Dunn *et al.* study the question being asked of the mother rather than the father (mothers may be less willing to report frequent contact than non-resident fathers), b) differences in question wording – in particular the Bradshaw study included men who saw their child on a less than yearly basis as having some contact (if these men are included in the non-contact group then the Bradshaw estimate of no contact increases to around 21 percent - similar to the estimate from BCS70), c) differences in sample design - the BCS70 sample is restricted to men who became a non-resident father prior to age 30 whereas other studies include older men (who may be more likely to maintain contact). Also, we are restricting our attention to contact with the first child, whereas Dunn *et al.* (2004) include children of any birth order and only consider families where there are at least two children (these authors use a sub-sample from the Avon Longitudinal Study of Parents and Children, ALSPAC)

At age 30, around two thirds of the non-resident fathers reported that they provide some kind of financial contribution towards their first child's maintenance. Differences according to age at fatherhood were not large. The percentage reporting a financial contribution was lowest for men who became a father in their early twenties (62 percent) and slightly higher for both teen (68 percent) and older fathers (71 percent). These estimates are slightly higher than those reported by men in the Bradshaw *et al.* (1999) study – 57 percent currently paying. As discussed above in relation to estimates of contact, there is likely to be a bias present in the BCS70 data whereby fathers who maintain contact and make financial contributions will be more likely to admit being a father than those who have lost contact with, or do not provide financially for, a non-co-resident child. This is especially likely in the case of children born to teenage fathers.

SECTION SEVEN – FACTORS AFFECTING NON-RESIDENT FATHERS’ FREQUENCY OF CONTACT WITH THEIR FIRST CHILD

7.1 *Background variables*

A considerable body of research identifying predictors of frequency of contact has developed. However, most of this research is based on U.S.A. data (Furstenberg and Spanier 1984; Seltzer and Bianchi, 1988; Cooksey and Craig, 1998; Manning and Smock, 1999; Stewart, 1999), with Bradshaw *et al.* (1999) being one of the few quantitative UK studies. Recent qualitative evidence concerning barriers to contact following the breakdown of cohabiting partnerships in the UK comes from Lewis (2002), and issues relating to the involvement of young fathers specifically from Quinton *et al.* (2002). Contact patterns have been shown to be related to a wide range of issues, including the demographic context within which the child was born and the time since separation, the child’s own characteristics, the individual characteristics of the men who become non-resident parents and the structural and emotional constraints and opportunities faced by the non-resident parent. We consider each of these within the life course approach shown in Figure 1.

It has generally been found in both U.S.A. and UK studies that contact between non-resident fathers and their children is greater if, at the time of the birth, the father was living with the mother (Seltzer and Bianchi, 1988; MacLean and Eeklaar, 1997; Cooksey and Craig, 1998; Manning and Smock, 1999), although not all studies find this to be an important factor once other variables are controlled (Bradshaw *et al.*, 1999). As we have already seen, young fathers are significantly less likely to be co-resident at the time of the child’s birth. Quinton *et al.* (2002) found that young fathers were less likely to be involved in a paternal role if the mother lived with her parents during pregnancy. In the following analyses we include, as an explanatory variable, whether or not the non-resident father lived with the child at the time of birth.

Whilst it has been generally assumed that the likelihood of contact decreases with increased time since separation, not all studies find that time since separation is significantly related to contact once other factors –for example, time to travel to child- are controlled (Bradshaw *et al.*, 1999). Burghes *et al.* (1997) suggest that fathers can become more involved in response to the separation transition itself. Recent qualitative data from the UK has emphasized the fluctuating nature of father-child contact (Lewis *et al.*, 2003). In the following analyses we include time since separation (less than 2 years, 2-3 years, 4-5 years and 6 years or more) as an explanatory variable. For men who never lived with their child, time since separation is taken as the time since the child’s birth. Among the BCS70 sample teenage and young fathers will, on average, have separated from their children a longer time ago than older fathers. We hypothesize, therefore, that the differences in level of contact seen in Table 12 will be attenuated when time since separation is included in the analysis.

In terms of the father’s own characteristics, research in both the UK and U.S.A. has found contact to be greater among more socio-economically advantaged men -those who are employed, with higher earnings, and higher levels of education (Cooksey and Craig, 1998; Bradshaw *et al.*, 1999; Manning and Smock, 1999). In part, this relationship is likely to be mediated through the ability of more well-off non resident fathers to pay for the maintenance of their children. In the following analyses, we include a three-level categorical variable summarizing whether the father is employed and (for those who are employed) whether they are in the lowest net earnings quartile, or whether their earnings are above the lowest quartile. We include a binary variable for highest educational qualification, contrasting those with O level or above qualifications with those with below O level qualifications.

In the United States, a growing body of research has attempted to test the notion that, upon forming new families, non-resident fathers disengage with their old families and invest in their new family (Furstenberg and Spanier, 1984). Empirically, contact with non-resident children is seen to decrease upon remarriage of the father (Seltzer and Bianchi, 1988) and especially when the father is living with new children (especially new biological children) (Cooksey and Craig, 1998; Manning and Smock,

1999). New children place demands on the man's time and resources. Furthermore the new partner may discourage involvement with the original family (Furstenberg and Spanier, 1984). Bradshaw *et al.* (1999) found that, in the UK, non-resident fathers who were living alone or just with a partner were more likely to have monthly contact than those currently living with children. However, Bradshaw *et al.* did not distinguish between non-resident fathers who were living with subsequent biological children, and those who were living with step-children (that is, children born previously to the partner). Following Manning and Smock (1999) we argue that, since the step-father role is not as clearly defined as biological fatherhood in terms of rights and obligations, step-fatherhood will not create the same conflicting loyalties and obligations to non-resident children. To test this hypothesis we include two binary variables indicating whether the father was currently living with new biological children and whether he was living with new step-children. We hypothesise that having new biological children will have a greater impact on reducing levels of contact. Since the younger fathers in the BCS70 have had more time to form new unions and have subsequent biological children we hypothesise that the inclusion of the man's current parenting obligations into the model will tend to attenuate differences in levels of contact for the younger and older fathers.

Next we consider the demographic characteristics of the child. Empirical evidence from the U.S.A. suggests that contact between non-resident fathers and their children is greater in situations where the child is living in a lone-mother family (Selzter and Bianchi, 1988; Manning and Smock, 1999). We hypothesize that the presence of a new father-figure may act as a barrier to the non-resident father's involvement. We test this by including a binary variable indicating whether the child was living with only the mother or with a new father-figure. In the BCS70 sample twice as many of the children born to young fathers than the children born to older fathers were currently living with a new father-figure (Table 12). This may, therefore, act as another mediating pathway through which younger fathers have lower levels of weekly contact.

Previous research has found inconclusive results as to whether contact is affected by the gender of the child. By including a dummy variable for child's gender we test the hypothesis put forward by Cooksey and Craig (1998, p. 188) that fathers will be more likely to maintain contact with sons with "whom they can engage in typically male activities such as viewing or playing sport".

Situational factors which are likely to act as barriers to father-child contact include lack of access to private transport and the fact that the father may be currently living in a new area unfamiliar to the child and/or in housing not suitable for the care and accommodation of children (Lewis *et al.*, 2002). In the following analyses we identify the type of accommodation of the father (flat or bedsit versus a house) and whether he owns a car. We hypothesise that contact will be more frequent for men who live in a house and for those who own their own car.

Other situational factors for which no information is available in BCS70 but which are likely to have an impact include the time to travel to the child, the reason for separation from the child, the level of conflict between the parents pre- and post-separation, and whether there are any legal constraints –for example, court orders which prevent contact between the father and the child.

7.2 *Multivariate analyses of frequency of frequency of contact*

7.2.1 *Model selection*

Binary logistic regression is used to model the probability of having at least weekly contact with a non co-resident child. We build up the analysis block by block following the conceptual framework in Figure 1, viewing contact with non-resident children (block 8) as the outcome of the father's socio-economic background and childhood attributes (blocks 1 and 2³), his age at becoming a father (block

³ Experience of statutory care was not included in the analysis since too few non-resident fathers (unweighted n=54) had ever been taken into care. Due to the small sample size we contrast those with a conduct disorder at

3), whether he ever lived with the child and the time since separation or the time since the birth if he never lived with child (block 4), the father's current socio-economic circumstances and living arrangements (block 5), whether the child was living in a lone mother family or whether the mother had re-partnered (block 6) and the child's sex (block 7). Since our total sample of non-resident fathers is quite small, $n=373$, we group together the teen and young fathers (referring to those who had their first child aged under 23 as "younger fathers", and compare their experience with those who had their first child aged 23-30 ("older fathers").

The first column of odds ratios and confidence intervals in Table 13 show the unadjusted relationship of each variable with the outcome. The second set of odds ratios represents the best fit model from the simultaneous inclusion of variables from the first four blocks (plus age at fatherhood since this is our main variable of interest). This model tests whether frequency of contact differs according to age at fatherhood once we control for the selection of more disadvantaged men into young fatherhood, the greater propensity of young fathers to have never lived with their child, and the greater length of time since separation.

The final column of odds ratios and confidence intervals presents the best fit model when the remaining variables from blocks 5, 6, and 7 are added (age at fatherhood is also retained as our main variable of interest). For ease of interpretation only significant main effects are presented in Table 13. However, as will be discussed later, we tested to see whether the factors in blocks 5, 6, and 7 affected the frequency of contact differently for younger and older fathers.

7.2.2 Results

The key factor affecting frequency of contact is the time since the father last lived with the child (or the time since the child's birth for those who never lived with their child). Compared to those who separated from their child within the first two years, the chance of weekly contact is only one third as high for those who separated 2-4 years previously, one quarter as high for those who separated 4 to 6 years previously, and only one fifth as high for those who separated more than 6 years previously. Whether or not the father ever lived with the child was not a significant predictor of contact once the time since the child's birth was controlled for.

In general, frequency of contact does not appear to be strongly or consistently related to the socio-economic background of the father, or his individual attributes in childhood -for example, reading ability, conduct disorder, locus of control. There does appear to be a significant effect whereby the odds of weekly contact are only 50 percent as high for those who at age 10 were living in a lone parent family. There also appears to be a significant relationship with parental education. When other factors are controlled, men whose parents left school at 16 are found to have twice the odds of weekly contact. This effect might be related to proximity between non-resident fathers and their children. One could hypothesise that men from such a parental background are more likely to remain in a locality near the mother while men whose parents achieved higher education qualifications are more likely to have higher aspirations themselves leading to greater geographical mobility.

The first column of odds ratios displays the unadjusted relationship between age at fatherhood and frequency of contact seen previously in Table 12. Once time since separation is controlled for in a simultaneous model (second column of odds ratios), differences according to age at fatherhood become non-significant. When we add the current circumstances of the father and child to the model, the effect of time since separation remains unchanged and highly significant. Consistent with findings from the U.S.A., the current living arrangement of both the father and child are also key variables in predicting frequency of contact. At least weekly contact is twice as likely if the child is living with a lone parent and hence no other father-figure is present. Non-resident fathers who are living with

age 10, with other men. Hence men with emotional difficulties are included in the reference category of no conduct disorder.

subsequent biological children are only one third as likely to have weekly contact. Living just with a partner, or with a partner and non-biological children, does not have a significant impact on frequency of contact once the presence of biological children is taken account of.

Also consistent with U.S.A. research is the finding that contact is positively related to the non-resident father's level of education. Men with below O level qualifications are only 60 percent as likely to see their child at least weekly. However, unlike previous research in the UK and the U.S.A. we do not find frequency of contact to be associated with unemployment. Contrary to our hypotheses, contact did not seem to be related to the father's accommodation type or his car ownership.

Table 13. Odds Ratios from Logistic Regression models of Weekly Contact among Non-residential Fathers at Age 30 (weighted)

	1 - UNADJUSTED EFFECTS			2 - Best fit from parental background, childhood characteristics, ever lived with child and time since separation + age at fatherhood			3 - Main effects of final model: best fit of all factors + age at fatherhood		
Variable Label	OR	95% Conf.Interval		OR	95% Conf.Interval		OR	95% Conf.Interval	
<i>Mother's age at first birth</i>									
under 20	0.93	0.47	1.84						
20-24	0.95	0.49	1.83						
25 and over	1.00								
<i>Parental Education</i>									
no parent stayed at school after 16	1.54	0.99	2.38	2.02	1.25	3.27	2.28	1.38	3.78
at least one parent stayed at school after 16	1.00			1.00			1.00		
<i>Father's social class</i>									
I, II, III non-manual	1.00								
III manual, armed forces, IV, V and no father	0.80	0.46	1.40						
<i>Receipt of benefits</i>									
no	1.00								
yes	0.68	0.42	1.12						
<i>Housing tenure</i>									
owner occupier	1.00								
social rented	1.06	0.69	1.62						
private rented	0.41	0.16	1.06						
<i>Family Structure</i>									
two biological parents	1.00			1.00			1.00		
other	0.59	0.35	0.98	0.56	0.32	0.96	0.52	0.30	0.90
<i>Reading Ability</i>									
bottom quartile	0.99	0.64	1.53						
2nd, 3rd & 4th quartile	1.00								
<i>Mother's aspiration for Age will leave school</i>									
at 16	1.21	0.79	1.83						
after 16	1.00								

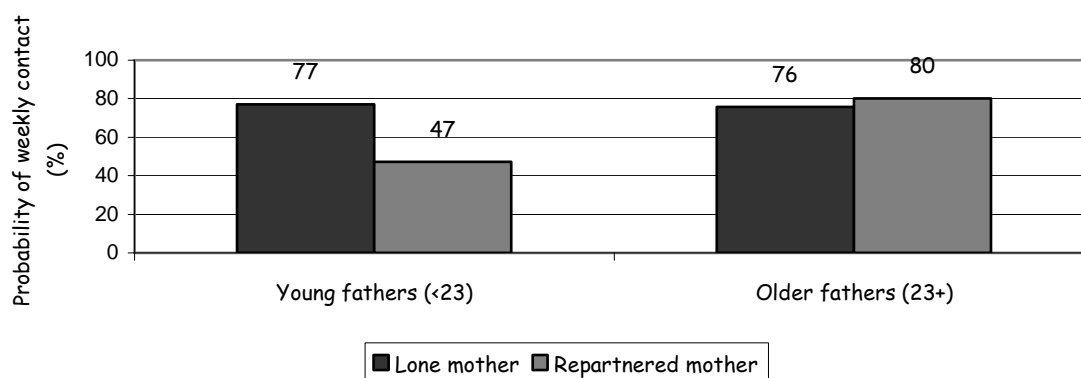
<i>Locus of Control</i>									
internal	1.00								
external	0.86	0.44	1.66						
<i>Conduct disorder</i>									
Yes	0.80	0.47	1.35						
No	1.00								
<i>Age at fatherhood</i>									
Under 23	0.57	0.37	0.86	0.77	0.46	1.28	0.84	0.50	1.43
23+	1.00			1.00			1.00		
<i>Time since separation</i>									
Less than 2 years	1.00			1.00			1.00		
2 to 4 years	0.32	0.16	0.62	0.30	0.15	0.60	0.31	0.15	0.64
4 to 6 years	0.23	0.12	0.45	0.21	0.10	0.41	0.24	0.12	0.50
More than 6 years	0.21	0.12	0.39	0.20	0.10	0.39	0.22	0.11	0.44
<i>Ever lived with child</i>									
Yes	1.46	0.95	2.24						
No	1.00								
<i>Child sex</i>									
Male	1.00								
Female	0.78	0.51	1.18						
<i>With whom child living</i>									
Lone mother	2.51	1.43	4.41				2.10	1.12	3.93
Repartnered mother	1.00						1.00		
<i>Living with a partner</i>									
Yes	0.41	0.27	0.62						
No	1.00								
<i>Living with biological children</i>									
Yes	0.27	0.14	0.52				0.31	0.16	0.61
No	1.00						1.00		
<i>Living with non-biological children</i>									
Yes	0.57	0.32	1.02						
No	1.00								

<i>Earnings</i>					
unemployed	0.93	0.54	1.62		
bottom quartile	0.89	0.56	1.43		
2nd, 3rd & 4th quartile	1.00				
<i>Highest qualification</i>					
below O level	0.71	0.46	1.09	0.60	0.37
above O level	1.00			1.00	0.96
<i>Accommodation type</i>					
House	1.00				
Flat, bedsit, other	1.46	0.88	2.42		
<i>Car ownership</i>					
Owner	1.00				
Other	0.83	0.53	1.30		
<i>Sample is all non-resident fathers, n=373</i>					

7.2.3 Are there factors which act as particular barriers to contact for younger fathers?

In order to find out whether the factors affecting frequency of contact differ among younger and older fathers we test all two way interactions between each of the significant main effects and age at fatherhood. Only one variable -whether the child was living with a lone mother-appeared to differ significantly ($p < 0.05$) in its impact on the frequency of contact. We do not present the full model (available on request) but calculated the predicted probabilities of weekly contact among younger and older fathers according to whether the child was living in a lone-mother family (see Figure 9⁴).

Figure 9: Predicted probabilities of weekly contact with interaction between age at fatherhood and with whom child living



The presence of a new father-figure in the child's household seems to act as a barrier to frequent contact only for younger fathers; the probability of weekly contact decreases from 77 percent for children living in a lone mother family to just 47 percent for those living with a new father-figure. Among older men, whether or not the ex-partner has repartnered does not make a difference to the frequency of visitation.

We found some weak evidence that, for young fathers but not older fathers, conduct disorder and external locus of control in childhood were associated with lower levels of contact. However, due to the small sample size, these interactions were not statistically significant. Further research is required to examine, for young fathers in particular, the mechanisms through which psycho-social and behavioural attributes can affect contact. A number of studies in the USA and UK, including that undertaken recently Dunn *et al.* (2004), report that frequency of contact is highly related to the quality of the relationship between the mother and non-resident father. We might speculate that young fathers with a history of conduct disorder or external locus of control experience higher levels of conflict with the child's mother.

7.2.4 Summary

Demographic factors proved to be most powerful in predicting contact between non-resident fathers and their children. As found previously in some (but not all) UK studies, contact declined with time since separation, especially after two years of separation. Whether or not the non-resident father ever lived with the child is not relevant once the time since the child's birth is controlled. Among the BCS70 sample young fathers are, in general, no less likely to maintain contact once this factor is

⁴ The predicted probabilities assume that the other variables are kept at their baseline. Probabilities thus refer to men who have been separated from their children for less than two years, have at least one parent who stayed on in education past age 16, who lived with two biological parents at age 10, have at least O level qualifications and are not currently living with any biological children

controlled. This said, our one significant interaction suggests that young fathers are particularly likely to decrease contact when the child is living with a new father figure.

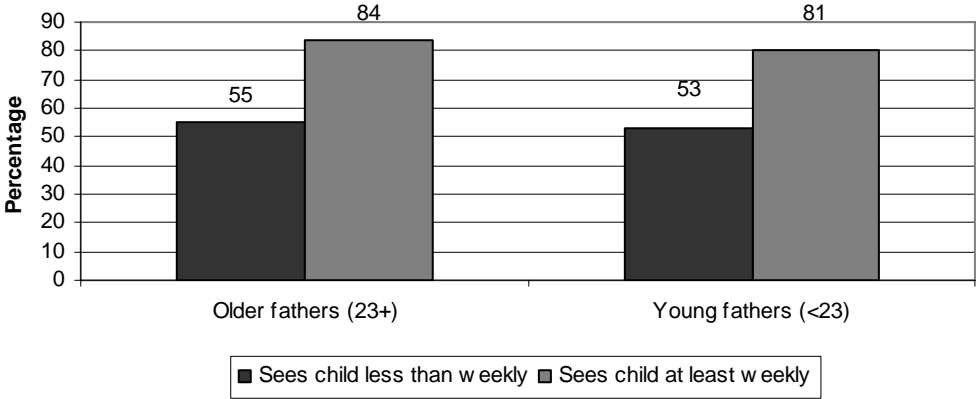
We find strong evidence for both young and older fathers that responsibilities for new biological children are associated with lower levels of contact with non-co-resident children.

SECTION EIGHT – FINANCIAL CONTRIBUTION TOWARDS MAINTENANCE OF FIRST CHILD AMONG NON-RESIDENT FATHERS

8.1 Factors affecting financial contribution

In the BSC70 sample, patterns of contact and maintenance are highly correlated. There is a strong relationship between seeing the child at least weekly and paying some kind of maintenance. Furthermore, we observe similar patterns between non-resident young and older fathers in the distribution of those who contribute financially towards their first child according to frequency of contact (Figure 10). More than 8 in 10 non-resident fathers who have at least weekly contact with their child pay some kind of financial support, whereas maintenance is far less common among those who see their child less than weekly; only half of the latter group provide financial support.

Figure 10. Non-resident fathers at age 30 providing financial support to first child, according to Age at Entry into Fatherhood



Fathers are expected to contribute resources to children if there are strong emotional ties with their non-resident children and if they are engaged in their children’s lives. Of course, the direction of causation is not clear; one might speculate that, because non-resident fathers are contributing towards the child, then they feel they have the right to become more involved. Given this strong correlation between frequency of contact and provision of maintenance, these outcomes are expected, to a certain extent, to be associated with the same factors or to share the same causes.

Previous research has suggested that socioeconomic status plays a more relevant role in determining provision of maintenance than it does in determining levels of contact. Particularly, Manning *et al.* (2003) found that the earnings of the non-resident father’s new partner are significantly associated with payment of maintenance, offsetting the negative effect of new biological children. The meta-analysis conducted by Amato and Gilbreth (1999) shows that fathers’ payments of child support are

positively linked with children's wellbeing in general. Moreover, they conclude that evidence for contact is weaker than evidence for maintenance, and that the estimated effects of non-resident fathers' support payments on children's educational attainment have remained unchanged over time. Amato and Gilbreth's (*op. cit.*) review supports the hypothesis that fathers can contribute more than money to their non-resident children. Manning and Smock (1999) have information on various waves in their data. In our case, information about financial contribution is only available for one point in time – at age 30. Later, Manning *et al.* (2003) conclude that the degree of complexity in the parenting responsibilities of non-resident fathers plays an extremely important role in relation to payment of child support. The number of sets of non-resident children (from different mothers) has a significant effect on the odds of paying child support.

Bradshaw *et al.* (1999) approach the maintenance issue with a more specific question, asking whether the non-resident father pays now or has ever paid towards child's maintenance. Their data describe the "payer" non-resident father as better educated, economically active and with savings, among other indicators of high socioeconomic status. Demographically, they describe the payer non-resident father as having a tendency to be older, having only one past relationship which involves offspring and being more likely to have been married to the former partner for more than five years. Similar profiles have been established in the USA; payer non-resident fathers are generally older with high educational levels and greater earnings. Additionally, children with more siblings are more likely to receive child support.

A barrier to provision of financial support was identified in the UK by Bradshaw and colleagues (1999); non-resident fathers are less likely to pay maintenance if the relationship with the child's mother is hostile or non-amicable. In the U.S.A., this relationship was found to be in the opposite direction, arguing that, possibly, fathers who pay financial support have more opportunities to develop conflicts with the child's mother. There are other factors which have been found to hinder paying child support, such as long distances between the non-resident father and the child (Manning *et al.*, 2003).

8.2 *Multivariate analyses of financial contribution*

8.2.1 *Model selection*

Binary logistic regression is used to model the probability of providing financial support towards a non co-resident child. We build up the analysis block by block following the conceptual framework in Figure 1, viewing financial contribution to non-resident children (block 8) as the outcome of the father's socio-economic background and childhood attributes (blocks 1 and 2), his age at becoming a father (block 3), whether he ever lived with the child and the time since separation or the time since the birth if he never lived with the child (block 4), the father's current socio-economic circumstances and living arrangements (block 5), whether the child was living in a lone mother family or whether the mother had re-partnered (block 6) and the child's sex (block 7). As in section 7, we group together the teen and young fathers (referring to those who had their first child aged under 23 as "younger fathers", and compare their experience with those who had their first child aged 23-30 ("older fathers").

The first column of odds ratios and confidence intervals in Table 14 show the unadjusted relationship of each variable with the outcome. The second set of odds ratios represents the best fit model from the simultaneous inclusion of variables from the first four blocks (plus age at fatherhood since this is our main variable of interest). This model tests whether levels of maintenance differ according to age at fatherhood once we control for the selection of more disadvantaged men into young fatherhood, the greater propensity of young fathers to have never lived with their child, and the longer time since separation.

The final column of odds ratios and confidence intervals presents the best fit model when the remaining variables from blocks 5, 6, and 7 are added. For ease of interpretation only significant main effects are presented in Table 14. However, as will be discussed later, we tested to see whether the

factors in blocks 5, 6, and 7 affected the levels of financial support differently for younger and older fathers.

8.2.2 Results

As with frequency of contact, time since the father last lived with the child (or the time since the child's birth for those who never lived with their child) is a key factor affecting provision of financial support. Compared to those who separated from their child within the first two years, the chance of financial contribution is less than one fifth as high for those who separated more than six years previously (OR=0.17). Early fatherhood starts off showing a negative impact on the likelihood of payments. However, as soon as time since separation is controlled, a positive effect is observed suggesting that, in fact, young fathers are more likely to make payments. Whether or not the father ever lived with the child was not a significant predictor of maintenance once the time since the child's birth was controlled for.

In general, financial contribution does not appear to be directly related to the parental background of the father, or his individual attributes in childhood. Conversely, the effects of parental background and childhood characteristics observed initially are acting through timing of age at entry into fatherhood which is subsequently acting through time since the father last co-resided with the child. This life course effect is the reason why time since separation is the only significant variable in the second column of Table 14. Age at fatherhood is kept as it is the main variable of interest in this study.

The first column of odds ratios displays the bivariate relationship between age at fatherhood and levels of maintenance seen previously in Table 12. However, once time since separation is controlled for in a simultaneous model (second column of odds ratios) differences according to age at fatherhood appear to work in the opposite direction, favouring young fathers. When we add the current circumstances of the father and child to the model the effect of time since separation remains unchanged and highly significant for longer periods of time (more than six years). Provision of maintenance was found to be independent of the child's sex. Unlike our finding for contact, whether the child is living with a lone mother is not significantly associated with financial contribution. However, the current living arrangements of the father are structural variables in predicting provision of financial support. Consistent with findings from Bradshaw *et al.* (1999) we find that financial support toward non-resident children is strongly affected by competing family responsibilities. Making a financial contribution is only 40 percent as likely if the father is living with new biological children and half as high if he is living with step-children. Living just with a partner does not have a significant impact on maintenance once the presence of children is taken account of. In other words, there is strong evidence for both young and older fathers that responsibilities for new children, particularly biological, are associated with lower levels of maintenance.

Levels of maintenance amongst non-resident fathers are mainly driven by educational qualifications and net earnings, which is consistent with U.S.A. research. Men with below O level qualifications are only 56 percent as likely to make payment towards their child. Like previous research in the UK and the USA we find financial contribution to be strongly (and negatively) associated with unemployment (although this could be an endogenous relationship). Unemployed non-resident fathers have only a tenth of the likelihood of paying maintenance compared to those in the 2nd, 3rd or 4th earnings quartile. Those in the bottom quartile have half the odds of making payments. Bradshaw *et al.* (1999) reported similarly large effects of unemployment, concluding that those paying are better educated and economically active. Maintenance was not associated with other socioeconomic indicators, such as the father's accommodation type or whether he owns a car. We have shown that young fathers in the BCS70 sample are more likely to be unemployed, to have lower earnings and lower educational qualifications. Once these characteristics are controlled in the model of financial support, young fathers actually are more than twice as likely to pay.

Table 14: Odds ratios from logistic regression models of financial contribution among non-residential fathers at age 30 (weighted)							
	1 - UNADJUSTED EFFECTS			2 - Best fit from parental background, childhood characteristics, ever lived with child and time since separation + age at fatherhood		3 - Main effects of final model: best fit of all factors + age at fatherhood	
Variable Label	OR	95% Conf.Interval		OR	95% Conf.Interval	OR	95% Conf.Interval
<i>Mother's age at first birth</i>							
under 20	0.45	0.20	1.02				
20-24	0.52	0.23	1.15				
25 and over	1.00						
<i>Parental Education</i>							
no parent stayed at school after 16	0.65	0.40	1.05				
at least one parent stayed at school after 16	1.00						
<i>Father's social class</i>							
I, II, III non-manual	1.00						
III manual, armed forces, IV, V and no father	0.48	0.24	0.98				
<i>Receipt of benefits</i>							
no	1.00						
yes	0.67	0.40	1.12				
<i>Housing tenure</i>							
owner occupier	1.00						
social rented	0.60	0.38	0.97				
private rented	0.75	0.30	1.92				
<i>Family Structure</i>							
two biological parents	1.00						
other	0.90	0.52	1.54				
<i>Reading Ability</i>							
bottom quartile	0.73	0.46	1.16				
2nd, 3rd & 4th quartile	1.00						

<i>Mother's aspiration for Age will leave school</i>									
at 16	0.60	0.38	0.94						
after 16	1.00								
<i>Locus of Control</i>									
internal	1.00								
external	1.03	0.52	2.06						
<i>Conduct disorder</i>									
Yes	0.52	0.31	0.89						
No	1.00								
<i>Age at fatherhood</i>									
Under 23	0.74	0.47	1.15	1.57	0.88	2.80	2.30	1.25	4.23
23+	1.00			1.00			1.00		
<i>Time since separation</i>									
Less than 2 years	1.00			1.00			1.00		
2 to 4 years	1.86	0.80	4.32	1.87	0.80	4.37	1.67	0.68	4.14
4 to 6 years	0.69	0.34	1.41	0.67	0.33	1.38	0.66	0.31	1.41
More than 6 years	0.35	0.19	0.64	0.27	0.13	0.55	0.17	0.08	0.37
<i>Ever lived with child</i>									
Yes	2.21	1.40	3.48						
No	1.00								
<i>Child sex</i>									
Male	1.00								
Female	1.08	0.69	1.68						
<i>With whom child living</i>									
Lone mother	1.07	0.60	1.90						
Repartnered mother	1.00								
<i>Living with a partner</i>									
Yes	0.68	0.43	1.06						
No	1.00								
<i>Living with biological children</i>									
Yes	0.39	0.22	0.70				0.39	0.20	0.76
No	1.00						1.00		

<i>Living with non-biological children</i>						
Yes	0.53	0.29	0.94		0.50	0.25 0.98
No	1.00				1.00	
<i>Earnings</i>						
unemployed	0.14	0.08	0.26		0.10	0.05 0.20
bottom quartile	0.58	0.33	1.00		0.56	0.31 1.03
2nd, 3rd & 4th quartile	1.00				1.00	
<i>Highest qualification</i>						
below O level	0.40	0.25	0.63		0.56	0.32 0.97
above O level	1.00				1.00	
<i>Accommodation type</i>						
House	1.00					
Flat, bedsit, other	1.29	0.75	2.24			
<i>Car ownership</i>						
Owner	1.00					
Other	0.67	0.42	1.07			
<i>Sample is all non-resident fathers, n=373</i>						

8.2.3 *Are there factors which act as particular barriers to maintenance from younger fathers?*

In order to find out whether the factors affecting payment of maintenance differ between younger and older fathers we tested all two way interactions of each significant main effect and age at fatherhood. Moreover, we tested interactions between the child's living arrangements and age at fatherhood, as its effect upon contact was found to be different between young and older fathers (section 7.2.3). No variable was found to be a particular barrier or promoter of payments. Hence, factors promoting payment of maintenance do not differ for older and young fathers in the BCS70 sample.

8.2.4 *Summary*

Current socioeconomic factors proved to be most powerful in predicting provision of maintenance from non-resident fathers towards their children. Financial contribution declined with time since separation, especially after six years of separation. Whether or not the non-resident father ever lived with the child is not relevant once the time since the child's birth is controlled. Initially, young fathers seemed to be less likely to pay; nonetheless, among the BCS70 sample young fathers are, in general, more likely to contribute financially once the time factor is controlled. We have shown three pathways through which the initial association arises. First, young fathers are more likely to be separated from their child for a longer period of time. Second, in adulthood, young fathers are more likely to be unemployed, to have lower earnings and lower education, factors which are related directly to a weaker ability to pay. Third, young fathers are more likely to repartner and possibly acquire new children responsibilities which have proved to hinder payments within the BCS70 sample.

Young fathers experience rapid and complex life course transitions. Policy needs to take account of their economically disadvantaged position at the same time as responsibilities for new families are taken on, which demand additional resources and time. In other words, young fathers have fewer resources which need to be divided between more people.

SECTION NINE - CONCLUSIONS

9.1 *Summary*

Irrespective of age at fatherhood, the majority of non-resident fathers see their child at least once per month and, at age 30, two-thirds report that they make some kind of financial contribution toward their child's maintenance. Both of these outcomes decline with increasing time since the father lived with the child and his or her mother.

Over and above this, factors that decrease the frequency of contact are whether the mother is in a new relationship and whether the father is in a new relationship and has further biological children. Fathers who were themselves living in a one-parent family at age 10 are only half as likely to maintain weekly contact with their own children.

Young fathers are more likely to be unemployed, to have lower earnings and lower educational qualifications. Once these characteristics and time since separation are controlled for in a simultaneous model, young fathers are, in general, no less likely to maintain contact and actually twice as likely to make payments.

The factors that promote payment of maintenance are similar for younger and older fathers, and include the frequency of contact with the child, the presence of new biological and/or step-children, and educational qualifications. However, unlike the finding for contact, the mother's current relationship status does not affect the probability of maintenance payments.

9.2 *Implications for policy*

The analysis has revealed three pathways through which the apparent negative association between young fathers and payment of maintenance arises, each of which may have implications for policy.

First, young fathers are more likely to have been separated from their child for a longer period of time. Second, in adulthood, young fathers are more likely to be unemployed, to have lower earnings and lower education qualifications, factors which are related directly to a weaker ability to pay. Finally, young fathers are more likely to have re-partnered and possibly acquired new children responsibilities which have demonstrated to hinder payments. Basically, young fathers have fewer resources which need to be divided between more people.

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APPENDIX 1: ESTIMATION OF ATTRITION WEIGHTS

In this appendix we describe the estimation of the attrition weights used in the regression models. Since we required substantive information on the parental background and birth characteristics of those born in Britain in 1970 we excluded from the sample all cohort members not present in the original birth survey. Furthermore, we disregard those who were not present at age 10 when the childhood characteristics were measured, even if they rejoined the study sample at age 30. This results in a monotone attrition structure which permits the use of weights in order to re-proportionate the sample to the original size.

Two attrition indicators for missing data were defined for the age ten sweep (M_{10}) and the age 30 sweep (M_{30}). The first missing indicator takes value 1 if a man originally in the sample is also observed at age 10 and 0 if he dropped out. The second attrition indicator takes a value of 1 if an individual was in a sample at age 10 and age 30, and 0 if he dropped out by age 30. This second attrition indicator is not defined for men missing at age 10. The sample consists of 7392 respondents born in Britain who took part in the birth survey. Our analysis aims to estimate the three probabilities on the right end side of the previous formula on the sample data. We assume that the drop out mechanism is missing at random given a set of observed covariates. X_0 is the vector of covariates which predict attrition between birth and age 10. X_{10} is the vector of covariates predicting loss between age 10 and 30. In this way we create a number of weighting classes. Of 8028 respondents born in Britain who took part in the birth survey, 6623 were still in study at age 10, whilst 1405 had dropped out. Among those still in the study at age 10, 4461 were also observed at age 30. The table below summarises the situation.

Table A.1: The sample we are going to use by sweeps (“birth”, “age 5”, “age10” and “age 30”)

Where	Sweeps	Frequency	Percentage	Cumulative Frequency	Cumulative Percentage
1	birth	958	11.93	958	11.93
11	birth & age 5	447	5.7	1405	17.50
101	birth & age 10	372	4.63	1777	22.14
111	birth & age 5 & age 10	1790	22.30	3567	44.43
1101	birth & age 10 & age 30	495	6.17	4062	50.60
1111	birth & age 5 & age 10 & age 30	3966	49.40	8028	100

Table A.2: Summary of Responses of BCS70 Men

Whether took part	Sweep		
	Birth	Age 10	Age 30
Yes	8028	6623	4461
No	0	1405	3567
Total	8028	8028	8028

The probability that a unit is in the sample both at age 30 and at birth is then:
 $\Pr\{M_{30}=1 \ \& \ M_{10}=1\} = \Pr\{M_{30}=1 \mid M_{10}=1\} \times \Pr\{M_{10}=1\}.$

the probability of response and calculate the weight each individual who falls in a given class should have. The weight is then the reciprocal of the two combined probabilities. That is to say:

$$W=1/ \Pr\{M_{30}=1 \ \& \ M_{10}=1\}=1/[\Pr\{M_{30}=1 \mid X_{10}, M_{10}=1\} \times \Pr\{M_{10}=1 \mid X_0\}].$$

Two logistic regressions were performed to predict the missing indicators M10 and M30. The covariates for the first model are: birth order, region of birth of the cohort member (CM), parental education, father's social class at birth, country at birth of the CM's mother, and age at first birth of the CM's mother. All the predictors are measured at birth.⁵

A second logistic regression is run on the sample who were present at age 10 (around 6623-some item non-response). Covariates included in the model are: birth order, parental education, father's social class at age 10, country at birth of the CM's mother, age at first birth of the CM's mother, housing tenure at age 10, family structure at age 10⁶, the child's reading score at age 10, locus of control at age 10 and behavioural problems at age 10, ever in care.

⁵ If the information was missing it was imputed manually using information at age 5 in the first place and the information at age 10 for those values still missing.

⁶ The 38 males who were not living with any parent figure at age 10 were included in the modal group for the purposes of modelling the weights.