Fragile Families in the UK: evidence from the Millennium Cohort Study

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DRAFT REPORT

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KEY FINDINGS

Family context

The family setting within which a child is born matters in that relative impoverishment and fragility are hallmarks of these unmarried families

- Amongst the MCS children 60 per cent were born to married parents, 25 per cent to cohabiting parents and 15 per cent to single mothers.

- The great majority of mothers in the MCS were white, 89 per cent, 5.7 per cent were South Asian, 2.6 per cent were Black and 2.6 per cent were mixed race or other.

  The Asian groups were more likely to be married than either the White or the Black groups. Having a child within a cohabiting union was rare amongst Asian women, and was less common amongst Black mothers than amongst White mothers. Single motherhood was most common amongst Black and mixed ethnic race mothers and single motherhood was more or less as common as marital childbearing for these groups

- Cohabiting families with young children tend to be more fragile, vulnerable and impoverished than their married counterparts and single mothers and their children have lower levels of well-being than married families or cohabiting families.

- Non-married mothers are more likely to smoke during pregnancy, to be post-natally depressed and are less likely to breastfeed

- Children born to cohabiting parents were almost three times as likely as those born to married parents to be no longer living with both these parents when they were 5 years old (25 per cent compared with 9 per cent respectively).

- Amongst mothers who were single at birth 26 per cent went on to either marry or cohabit with the child's father and were still in that union when their child was aged 5. But the most common status was that they were still single mothers 5 years later.

- Only 17 percent of single mothers remain single from birth to when their child was aged 5. However, just 6 percent of single mothers experience more than one co-residential relationship; their greater experience of relationship instability stems from dating relationships.

- Cohabiting and single mothers who subsequently marry their child's father have more favourable socioeconomic, health and demographic characteristics at 9 months than those who remain unmarried. Similarly, married and cohabiting mothers who separate have less favourable characteristics than those who remain together.

Parental resources

- Cohabiting parents who stay together, or move into marriage, have over time increasingly similar household incomes to married families. These families also have the highest incomes.

- Those who enter lone motherhood from marriage or cohabitation do not significantly differ in terms of household income from those who have been single mothers from birth.

- Mothers in stable partnerships, whether formed through marriage or cohabitation, consistently have the best mental health and single mothers who move into marriage or cohabitation with the child's father also have relatively good mental health compared to other single mothers.

- The effects of family instability on long-term maternal mental health are largely driven by experiences of poverty rather than the family instability directly.

- The context for child development is set by the interactions between parents' economic resources, mothers' mental health and family instability.

Parenting behaviours

- Later in childhood a gradient in maternal parenting behaviours by family status at birth was to be seen. Parental conflict, warmth and use of negative disciplinary procedures and family organisation showed a gradient to more negative behaviours from married to cohabiting to single at birth. However, the extent of home learning activities was not significantly affected by family status at birth.

- After controlling for other factors, it could be seen that increased family instability primarily had adverse impacts on the conflict in the parent-child relationship, the negative disciplinary practices mothers used and the extent of family organisation. Warmth in the parent-child relationship and the extent of home learning activities were broadly unaffected.

Child Outcomes

- The greatest impact of family status and instability was on children's externalising behavioural problems and most types of residential instability contributed to higher levels of these problems. The impact on internalising behavioural problems was minimal and the impact on early cognitive test scores was inconsistent.

Fragile Families in the UK

Introduction

One of the dramatic recent changes in family life in Western nations has been the rise in non-marital childbearing. Much of this increase is attributable to the growth in cohabitation; but in some countries, notably the UK and the USA, significant proportions of children are also being born to parents who are not living together. The extent of the increase in unmarried families has been quite remarkable. For example, in 2008 45 per cent of British children were born outside of marriage compared with 30 per cent in 1991, 12.5 per cent in 1981 and 8 per cent in 1971 (ONS Population Trends Number 90 and 138). Given this dramatic change in family life it is surprising how little is known about how the lives of unmarried families in the UK unfold.
This report uses the Millennium Cohort Study, a national longitudinal study of children born in 2000/2001 who are being followed up through childhood, to address this issue. In particular it investigates whether parents who were more loosely bonded differed in their experiences, well-being and behaviours in the early years of their children's lives and whether unmarried parenthood has implications for their children's development and well-being.

Aims of the report

Our brief for this project was to provide comparable information for the UK to that found in the US Fragile Families Study on the nature and consequences of fragile families for parents and children.

- *What is the nature of parental relationships at birth? What are parents' capabilities?*
- *What happens to relationships over time?*
- *How do family structure and stability affect parents' economic and psychological resources?*
- *How do family structure and stability affect the level and quality of parental investments in children?*
- *How do family structure and stability affect children's cognitive and socio-emotional development?*

Data: The Millennium Cohort Study

The Millennium Cohort Study (MCS) is a nationally representative, large-scale longitudinal survey of children in the United Kingdom (Dex & Joshi 2005). The first sweep was carried out during 2001-2 and contained information on 18,819 babies in 18,533 families, collected from the parents when the babies were 9-11 months old, with most being aged 9 months. The families have been followed up when the child was aged 3 and 5 years with achieved response rates of 78 and 79 per cent of the target sample respectively. The children have also been followed up at age 7 and these data have just been made available in May 2010. Detailed information on the sampling strategy and response rates for the surveys can be found in (Hansen 2008). Additionally, details on the survey, its origins, objectives, sampling and content of the surveys are contained in the documentation attached to the data deposited with the UK Data Archive at Essex University.

The MCS sample design allowed for over-representation of families living in areas with high rates of child poverty or high proportions of ethnic minorities which increased the power of the study to describe effects for these groups of families. The analyses presented are weighted to take account of the initial sampling design as well as non-response in the recruitment of the original sample and

sample attrition over the follow up period to age 5. The study results are thus broadly representative for the UK (Plewis 2007, Ketende, 2008).

In this study we will use information from the first 3 waves which includes interview data collected from the mother of the cohort children and from co-resident partners as well as cognitive tests administered to the cohort child and a Home Observation inventory made by the interviewer at the 5 year old contact.

Partnership context at birth

Amongst the cohort of children born in 2001-2002 that form the Millennium Cohort Study 60 per cent of the children were born to married parents, 25 per cent to cohabiting parents and 15 per cent to parents who were not living together at the time of the birth. From Figure 1, which focuses in on the unmarried group, we see that two out of three of the children were born to cohabiting parents and the remaining third were almost equally divided between mothers who were in a close relationship with the father and those who were not in a relationship with the father at the time of the birth. This hierarchy may well represent the level of connectedness and commitment amongst these parents.

Ethnic variation

There was a good deal of variation across ethnic groups with regard to the partnership context in which children are born (Figure 2). The great majority of mothers in the MCS were white (89 per cent) 5.7 per cent were South Asian, 2.6 per cent were Black and 2.6 per cent were mixed race or other. The Asian groups were more likely to be married than either the White or the Black groups. Having a child within a cohabiting union was rare amongst Asian women and was less common amongst Black mothers than amongst White mothers. The groups of mothers most likely to be outside a co-residential partnership at the time the baby was born were the Black and mixed ethnic race mothers and amongst these groups non-partnered parenthood was more or less as common as marital childbearing (more details can be found in Kiernan and Smith, 2003). Almost 90 per cent of the mothers in the sample were born in the UK and there was some variation according to migrant status in that more of the unmarried mothers than the married mothers had been born in the UK (Table 1).

Father involvement in unmarried families at birth

Unmarried fathers varied in the degree to which they were involved in their children's lives around the time of the birth. An indication of father involvement was derived from whether he was present at the birth or was recorded on the child's birth certificate (Table 1). The great majority (97 per cent) of fathers who were cohabiting were included on the child's birth certificate compared with just under two-thirds of the rest of the unmarried fathers. This varied with the degree of involvement of the parents with 81 per cent of the closely involved set of fathers being on the child's birth certificate compared with 27 per cent of those who were no longer in a relationship. Similarly, 92 per cent of the cohabiting fathers were at the birth of their child (a similar proportion to married fathers) whereas only 45 per cent of the non-partnered fathers were present, but this rose to over two-thirds amongst the closely involved group of fathers.

A closer look at the non-partnered parents (Kiernan, 2006 JSP) showed that those fathers who were 'closely involved' with the mother of the child around the time the baby was born were more likely

to move in with the mother (but only a minority did so), and even amongst those who did not move in they were more likely than other absent fathers (including erstwhile married fathers) to see their child on a regular basis and to contribute money to the child's maintenance.

Parental Capabilities – at the outset

In Table 2 we compare the mothers according to whether they were married, cohabiting or single at the time of the birth of the cohort child. Single includes all mothers who were not in a co-residential partnership with the father of their child when their baby was born. It is clear married and unmarried mothers differed across many of these dimensions and that the capabilities of unmarried parents tended to be generally poorer than their married counterparts.

Compared with the unmarried mothers, married mothers were more likely to be older and having their second or later child. Married mothers were also more educated than cohabiting mothers who in turn were more educated than non-partnered mothers. There was a similar hierarchy with respect to the socio-economic circumstances of the families in that married couples were financially the most well off and the non-partnered the worst off. Cohabiting couples were substantially better off than the non-partnered but were not as advantaged as the married couples. Single mothers were the least likely to be in employment when their child was 9 months old.

Maternal and health related behaviours in pregnancy and infancy

A similar hierarchy relating to the closeness of the parents was to seen with regard to extent of smoking during pregnancy, breastfeeding and post-natal depression; all of which have important implications for the healthy development of children (Table 3). This is discussed in more detail in Kiernan and Pickett (2006).

Similarly when the baby was 9 months old (Table 3) married mothers were more likely to be healthier, in that they reported less poor general health and depressive symptoms and they were less likely to be heavy drinkers or to smoke. Again, within the unmarried group, cohabiting mothers tended to be healthier than the single mothers. There are also indications that unmarried mothers compared with their married counterparts were more likely to have used recreational drugs.

Views on marriage and lone parenthood

We were also able to explore whether the views of unmarried parents differed from married parents with respect to the role of marriage, father involvement and the raising of children in single mother families. As we see from Table 4, compared with unmarried parents married parents were more likely to have stronger views on the importance of marriage and the involvement of fathers in children's upbringing, and substantially smaller proportions believed that a single parent can raise children as well as a couple.

Relationship quality in infancy

Information on relationship quality was collected from parents who were living together. Domestic violence was somewhat more common amongst the unmarried parents. Fortunately only a minority of mothers reported that their partners had used force in their relationship but twice as many unmarried mothers reported this to be the case than married mothers. Additionally married mothers reported higher levels of satisfaction with their partner than did cohabiting mothers.

Stability and instability in family life

It would appear from the above analyses that the family contexts within which children are born represent a hierarchy of commitment and advantage down from marriage through cohabitation to single motherhood. Now we proceed to examine how the family lives of these children unfold in terms of family stability and changes over their first five years of life and enquire as to whether these family settings at birth and subsequent ones matter for the families and for their children's development and well-being.

We use a number of lenses on stability and instability. First we compare family structures at the birth of the child and five years later; secondly we describe a number of trajectories followed by mothers who were married, cohabiting or single at birth; thirdly we calculate the number of residential and relationship transitions made by the mother in the first five years of the child's life; and fourthly we estimate the extent to which the mothers have had a child with another partner by the time the cohort child is five years old.

Family context at birth and 5 years later

For those children who were followed up, a cross-sectional snapshot of their family situation at age 5 (Table 5) showed that slightly more were now living in married parent families (60 per cent compared with 59 per cent); fewer were living with cohabiting parents, (15 per cent compared with 26 per cent); and more were living in a lone parent family, (20 per cent compared with 16 per cent). The remaining 5 per cent were living in step families formed through remarriage or cohabitation. However, this simple comparison of the situation at the time of the birth and the situation when the children were 5 years old only provides a partial picture of the family dynamics occurring over the first five years of the child's life.

Family trajectories

A more complex story emerged when we analysed the more detailed information collected on family situations and changes (Kiernan and Mensah, 2010). At each of the three surveys, at 9 months, age 3 and age 5, information was collected on whether natural or social parents were resident in the household and the type of relationship between the co-resident parents. For those who were married at the time of the birth four trajectories were created (shown in Table 6): stably married; currently married but had periods of separation; and two types of separated families; those headed by a lone parent, typically the natural mother, and those where a parent has re-partnered and the child has a social parent, usually the natural mother and a social father. For those who were cohabiting at the child's birth we included an additional category of families, namely those who had married by age 5 and continued to live together. Five trajectories were created for those who were single mothers at the time of the birth stable lone motherhood; marrying the natural father and currently living with him; starting to cohabit with the natural father and currently living with him; living with a partner who is not the natural father; and currently a lone mother but has had periods living with a partner. This is the first time that such detailed information on family changes has been available for a nationally representative sample of British children. These trajectories highlight the complexity and instability of families not seen in cross-sectional snapshots including the identification of periods of separation for subsequently reconciled parents.

It is clear from Table 6 that parents who were married at the time of the child's birth were more likely to remain living together than those who were cohabiting at the child's birth. Cohabiting parents were more likely to have separated and to have re-partnered than were married parents. Eighty eight per cent of the married parents were still married and living together when their child

was age 5 whereas, amongst parents who were cohabiting at the child's birth, 67 per cent were still living with each other 5 years later (43 per cent continuing to cohabit and 23 per cent having married).

The greater fragility of cohabiting unions compared with marital ones has been observed across most developed nations (Andersson, 2002; Kiernan, 2004). In the MCS sample, children born to cohabiting parents were almost three times as likely as those born to married parents to be no longer living with both these parents when they were 5 years old (28 per cent compared with 10 per cent respectively).

Amongst the mothers who were single at the time of the child's birth 27 per cent went on to either marry or cohabit with the child's father and were still in that union when their child was aged 5. But the most common status was that they were still single mothers 5 years later including; 40 per cent who, as far as could be ascertained, had had no periods of partnership and a further 20 per cent who had periods of partnership in the intervening 5 years.

Number of transitions: Residential and Dating

Family instability as we have just seen encompasses more than changes in family status between birth and five years. Many mothers experience instability between these times, including additional relationship transitions as well as births with new partners, and these too may vary by family status at birth.

To explore these issues, we counted the total number of transitions mothers experienced, including dating transitions which did not involve a change in residential status. In this section, we define a transition as moving into or out of a relationship. So entering lone parenthood from marriage or cohabitation would be one transition and subsequently starting a relationship with a new partner would be a second transition. Due to the structure of the MCS questionnaires, our estimates may underestimate the number of transitions made by mothers, particularly mothers who re-partner. We found, as shown in Table 7, that the average number of total residential and dating transitions was seven times higher for single mothers than married mothers, 1.91 versus 0.27 and three times higher for cohabiting mothers than married mothers, 0.88 versus 0.27. These stark differences are partly a reflection of the stability of marriage as 89 percent of married mothers made no transitions. However, they also reflect the substantial minority of single mothers who make multiple transitions. A quarter of single mothers make more than two relationship transitions.

Examining dating and residential transitions separately reveals a similar story with single mothers experiencing the most transitions and married mothers experiencing the least in both cases. However, just 6 percent of single mothers experience more than one co-residential relationship (i.e. more than two residential transitions). whereas 26 percent experience more than one dating relationship.

Multi-partnered fertility

Another aspect of the increasing complexity of family life is the extent to which mothers have children with different partners. We estimated as best we could from the available data (Table 8) the proportion of mothers who had a child by a new partner between the birth of the cohort child and the interview that took place when the child was 5 years old. Among the mothers who were single mothers when their baby was born the proportion was 10.3 per cent and amongst those cohabiting and married the analogous proportions were 2.4 and 0.5 per cent respectively.

What predicts stability and change in family structures?

Family change was a feature of the lives of many of the MCS families including the breakdown of marital and cohabiting unions, and moves into marriage for the unmarried. To gain insights into these changes we examined the factors associated with whether unmarried mothers subsequently married their child's father and the results are shown in Table 9. The picture was slightly different depending on whether the mothers were single or cohabiting at birth. Mothers who were single at birth were more likely to marry if they were older, had higher qualifications, had higher household incomes, had more than one child and if they did not drink. There were also some ethnic differences with Asian single mothers and those born outside of the UK being particularly likely to marry. Mothers who were cohabiting at birth were similarly more likely to marry if they were better qualified, employed and not living in poverty. They were also more likely to marry if they were younger than 35 years of age and if they drank alcohol.

The results for the single mothers are largely as might be expected based on what we know from previous research. The results for cohabiting mothers who later marry are slightly contradictory and may indicate two different groups of cohabitants who do not marry. Firstly, those who are older and who may perhaps be choosing not to marry and, secondly, disadvantaged mothers who may not feel able to marry due to a lack of money or social status they regard as necessary for marriage.

As well as looking at the factors that predicted marriage, we also examined the factors associated with separation which are shown in Table 10. We found that marriages were more likely to break-up if the mothers were younger, of black ethnicity, had a child with another partner, had parents who had separated, had low qualifications, were unemployed, poor or had low household incomes, had worse physical health, a long-standing illness or disability, had experienced depression or took recreational drugs. A similar set of factors were associated with the break-up of cohabiting relationships except that multi-partner fertility, drug use and ethnicity were not significant factors. These findings are in accord with previous research on parental separation which highlight that mothers who separate from their child's father tend to be drawn from the more disadvantaged groups.

Trajectories in Economic Well-Being and Mental Health

The moves into and out of relationships described above may also affect parents' economic well-being and mental health. In this section we use our set of family pathways to assess their impact on families' economic resources and maternal mental health.

Economic resources

We begin by examining the economic resources of families. By tracing the household income trajectories of the different family pathways, we can see how family stability or change within different types of families impacts on parents' economic resources. To do this, we used linear latent growth models of each family pathway's household income trajectory controlling for the mothers' ethnicity, education and age at first birth. Table 11 presents the results from the analysis and shows estimated mean incomes at each wave. Figure 3 shows the same results graphically.

From the top part of Figure 3 we see that married families, or those in stable cohabiting relationships, tend to have similar incomes when their child is age 5 irrespective of differences in their incomes at the 9 month old interview. This finding is important as it highlights that those cohabiting families who stay together, or move into marriage, have over time increasingly similar

household incomes to married families. These families also have the highest incomes of all the pathways shown here.

In contrast, the bottom part of Figure 3 shows that, irrespective of their initial household incomes, those who become, or remain, single mothers by 5 years have the lowest incomes at 5 years. Moreover, those who enter lone motherhood from marriage or cohabitation do not significantly differ in terms of household income from those who have been single mothers from birth. In other words, lone motherhood is associated with low economic resources irrespective of whether it is a result of relationship breakdown or giving birth as a single mother.

The final group of families in Figure 3 are all in co-residential partnerships at 5 years but have in the main experienced some form of family instability. Despite being in co-residential partnerships, these families have household incomes that are lower than those who remained in stable partnerships. Table 11 also shows that all these unstable family pathways had lower household incomes at 9 months than those that experienced stable family pathways. This is important as it demonstrates that families that experience instability tend to have fewer economic resources prior to breakdown than families that remain stable. Thus, our results suggest that lower economic resources may contribute to family instability which, in turn, contributes to lower economic resources in the future.

When the sample was split into three groups according to whether households had high, medium and low incomes at 9 months, the trajectories followed similar patterns (detailed in Holmes, Hobcraft and Kiernan, 2010). However, it was apparent that, amongst single mothers who were poor at 9 months, those who entered marriage with the natural father of the cohort member saw bigger increases in their incomes than single mothers who entered into cohabitation with the natural father or moved in with a new partner. This provides some evidence that the economic benefits accruing from leaving lone motherhood may be conditional on the nature of the new partnership. Previous research has suggested that this may be because single mothers are more willing to make the commitment of marriage to men who offer the greatest potential to economically support their family (Edin 2000; Gibson-Davis 2005).

Maternal mental health

To examine how family pathways relate to maternal mental health, we explored the mothers' mental health trajectories using the Rutter Malaise Inventory at 9 months and the Kessler Psychological Distress Scale at 3 and 5 years. We also assessed the extent to which persistently poor mental health was the product of income poverty shown to be associated with many of the family pathways, as opposed to differences between the pathways themselves (Table 12).

Figure 4 summarises the mental health trajectories of mothers for a selection of family pathways. It highlights that those in stable partnerships, whether formed through marriage or cohabitation, consistently have the best mental health whilst those who are single parents but experience short periods of partnership consistently have the worst mental health. We also see that initially married mothers who separate from their husband, either temporarily or more permanently, have worse mental health at some time points than stably single mothers. Finally, initially single mothers who move into marriage or cohabitation with their child's natural father have relatively good mental health at all waves compared to those who follow most of the other family pathways.

The alignment of the mental health trajectories with the family pathways shows that, although family transitions are typically related to changes in mental health, these changes are complex and not necessarily negative or lasting. There may be both short-term and long-term impacts and there is evidence of both positive and negative consequences of entering and exiting relationships. These

may be construed as relief, disruption or honeymoon effects, but are likely to be specific to individual contexts and not easily affixed as labels to the mental health trajectories of particular pathways.

As mental well-being and poverty tend to be inter-related, we also explored whether poverty mediated the relationship between the family pathways and poor maternal mental health for the set of mothers who were persistently depressed: defined as having poor mental health at all three waves of the study. The analysis shown in Table 12 revealed that after controlling for persistent poverty much of the difference in the prevalence of persistent mental health between the pathways was accounted for. This suggests that it may be the poverty associated with many of the pathways which fosters higher rates of persistently poor mental within these families, rather than necessarily the family instability experienced by these mothers.

Some mothers continued to have significantly increased likelihood of persistently poor mental health even after accounting for their experiences of poverty. These included those mothers who had been stably single mothers and those single mothers who had re-partnered with someone other than the cohort member's natural father. There was also some evidence that mothers who remained single but experienced temporary periods of partnership were more likely to have poor mental health. However, even within these exceptions, the increased rates of persistently poor mental health were greatly reduced by controlling for poverty.

In sum, our analyses suggest that family pathways are closely related to families' economic situations and the economic situation of mothers, particularly their experiences of poverty, may contribute to their poor mental health.   The poorest families typically experience greater family instability and worse mental health, whilst more affluent families enjoy stable relationships and better mental health. Where family transitions occur, economic resources often change, but it is the extent to which these economic resources become scarce which appears to determine the long-term impact on mothers' mental health, rather than the transition itself.

Parental Contributions and Parenting

In this section we enquire whether family structure and stability affect parental investments in their children by examining the extent to which unmarried fathers remain involved in their children's lives and also the quality of the mother's parenting behaviours.

Father Involvement

Table 13 shows that, when their child were aged 5 years, 57 per cent of the unmarried fathers were still living with their child down from 67 per cent at age 9 months. The extent to which these fathers saw their child or the frequency of contact did not decline over time. Around two-thirds of fathers made no contribution to their child's maintenance and there is a suggestion that this declined between age 3 and 5 years. There is also an indication that the extent to which mothers were on friendly terms with the child's father declined over time.

Mother's parenting

Although non-resident fathers' contributions are important, the majority of parenting is typically carried out by resident mothers. Therefore, we explored how maternal parenting differs by family status at birth and various forms of family instability.
Parenting is explored across four domains, namely: educationally enhancing activities, the parent-child relationship, disciplinary practices and household organisation. Educational activities are measured using the frequency with which parents engage in activities such as reading, telling stories

or singing nursery rhymes with the child. The parent-child relationship is measured using two scales from the PIANTA questionnaire which assess warmth and conflict in the relationship. Disciplinary practices are assessed from interviewer observations of negative discipline such as scolding or physical restraint. Finally, household organisation is measured as whether children have regular bedtimes and mealtimes.

From Table 14 we see that there is a gradient in maternal parenting behaviours by their family status at birth. Married mothers have the most warmth and the least conflict in their relationship with their child; they use less negative discipline and are more likely to set regular mealtimes and bedtimes. Cohabiting mothers are slightly less likely to score positively on these dimensions and single mothers are substantially less likely to do so. The exception is with regard to home learning activities which are not significantly related to family status at birth.

Mothers experiencing different kinds of family stability also parent their children very differently. For example, 19 percent of stably married mothers had high levels of conflict with their child compared to 42 percent of single mothers who experience temporary periods of partnership. Similarly, 9 percent of stably cohabiting mothers had irregular bedtimes for their children compared with 18 percent of mothers who cohabit but had had periods of separation. These kinds of differences are seen across most of the parenting measures, although, again, less so for the home learning measure. It is particularly noticeable that mothers who re-partner are less likely to have a good relationship with their child, are less likely to engage in educational activities and are more likely to use negative discipline.

We also looked at the number of residential transitions mothers made and how this related to their parenting behaviours (Table 14). Again we see that mothers who made more residential transitions did less well on the parenting measures with the exception of the home learning environment.

Family Structure/Stability and Child Wellbeing

So far, we have focused on how family status and stability are related to the characteristics and resources of parents. Here, we turn our attention to how family status and stability affect child outcomes and experiences.

The outcome measures used here assess children's behavioural and cognitive development at 5 years using the Strengths and Difficulties Questionnaire and the British Ability Scales Naming Vocabulary Test. Behavioural development is split into internalising behaviours (emotional scale) and externalising behaviours (conduct problems and hyperactivity/inattention scales). We also explore further children's experiences in relation to maternal parenting as this is a key influence on child outcomes (Shonkoff and Phillips 2000). To do so, we again use the four parenting domains described above.

Child outcomes

The results relating to the child outcomes are shown in Table 15. It is clear that neither family status at birth, nor most types of future instability have a substantial impact on the level of internalising behavioural problems experienced by children. Higher numbers of residential transitions and certain family pathways involving multiple transitions are associated with increased problems, but most transitions do not significantly affect internalising behaviours at this age.

The impact of family status and stability on externalising behavioural problems is much more pronounced. Children born to unmarried mothers and those children who experience more residential transitions are more likely to have externalising behavioural problems. Most family pathways which involve residential transitions are associated with increased externalising behavioural problems and the impact is greatest when children experience extended periods of lone parenthood. However, it is noteworthy that the effects seen for residential transitions are not seen for non-residential transitions, suggesting mother's dating behaviours are less disruptive to children's development.

Children born to unmarried mothers generally score lower on the cognitive tests. However, test scores are inconsistently associated with family instability. A number of family pathways are associated with lower test scores but these pathways have little in common with each other. Interestingly, it appears that dating transitions have a greater impact on children's cognitive outcomes than residential transitions, however, this relationship is only marginally significant.

In sum, these results suggest that the greatest impact of family status and instability are on children's externalising behavioural problems and that most types of residential instability can contribute to higher levels of these problems. However, the impact on internalising behavioural problems is minimal whilst the impact on early cognitive test scores is inconsistent and may be more related to factors associated with non-marital childbearing, such as youthful motherhood, dating behaviours and poor educational attainment, as opposed to subsequent family instability.

Child experiences

Turning our lens on parenting we see from the analyses in Table 16 that parents' efforts to create a positive home learning environment are largely invariant with regard to family status at birth or family instability with the exception of where there was re-partnering after a marriage or cohabitation. This is a positive finding as it suggests that parents continue to engage with their children's development despite disruptions in their family life.

With regard to parental conflict, warmth and use of negative disciplinary procedures and family organisation there appears to be a gradient to positive behaviours down from married to cohabiting to single at birth.

The association between family status and instability is most visible in relation to the level of conflict in the parent-child relationship. Children of unmarried parents have higher reported levels of conflict with their mothers and greater numbers of residential transitions were also associated with more reported conflict in the parent-child relationships.   The highest levels of conflict were seen in families that entered lone parenthood from cohabitation or remained in lone parenthood from birth to 3 years (with or without periods of partnership). This suggests family instability within initially cohabiting or single mother families may be particularly detrimental to parent-child relationships. A similar pattern is seen for the interviewer's observations of negative discipline. Children born to single mothers and those who experienced extended spells of lone parenthood were more likely to experience negative discipline during the interview.

Finally, in relation to household organisation we see that the children of unmarried parents are more likely to experience irregular bedtimes and mealtimes. However, the relationship between family instability and household organisation is less clear. Broadly, the results suggest that family instability is associated with more irregular household organisation and that this may be especially true when the instability involves spells of cohabitation or, particularly, lone parenthood, again linking into the results seen for conflict and discipline.

Overall, these findings suggest that parents continue to engage with their children's development and have a warm relationship with them in different family contexts and in the wake of family instability. However, despite this, instability in family life amongst cohabiting and single mothers may foster tensions in the parent-child relationship, leading to more conflict and negative discipline, whilst also contributing to irregular domestic routines.

Conclusion

The rise in non-marital childbearing in the UK has led to a gap in our knowledge about the lives, experiences, well-being and behaviours of unmarried families and the children within them. This report provides an overview of relevant findings from the Millennium Cohort Study and illustrates key differences between stably married families and other family forms. In particular, it highlights a gradient from the relatively advantaged married mothers, through less advantaged cohabiting mothers to relatively disadvantaged single mothers. This trend applies for a range of socioeconomic, demographic and health characteristics and behaviours.

However, when we start to look at what happens in these families over time, a more complex picture emerges. The single and cohabitating mothers who married were those with the most favourable characteristics, whilst married and cohabiting mothers who separated were those with the least favourable characteristics. Similarly, whilst being in a stable marriage or cohabiting relationship led to the most economic resources, it was the economic resources at the outset which appeared to determine whether relationships would be stable. Finally, where family instability occurred, mothers' mental health was affected, often negatively; however, when poverty was not present, the impact of family instability on mothers' mental health was less likely to be long-lasting. This interplay between family instability, economic resources and mother's mental health shapes the key contexts in which children develop and addressing these factors together, as opposed to treating them as distinct problems, offers a more productive means of responding to the challenges raised by the increased prevalence of fragile families.

Turning to children's experiences and outcomes, our analyses suggest that the rise of non-marital child-bearing has not had a direct impact on all aspects of children's lives. Parents' engagement in cognitively enhancing parenting and children's cognitive outcomes are not systematically related to family instability; a somewhat surprising finding given educational achievement in later schooling is known to be markedly lower amongst children of divorced or unmarried mothers. Parents in similar circumstances also maintain warm relationships with their children and their children experience comparable levels of internalising behavioural problems in the wake of most disruptions to family life; although multiple transitions arising from re-partnering or short-lived relationships can be problematic. The impact of family instability instead falls on the negative disciplinary practices mothers use, the conflict in their relationship with their child and the externalising behavioural problems the child displays. All of these increase when family instability is greater and there is likely to be considerable interplay between these factors with an increase in one leading to increases in the others.

The focus on processes linked to externalising behavioural problems should not, however, wholly remove focus from cognitive outcomes. Monitoring how these behavioural problems impact on children's early educational performance may be critical in better understanding the processes linking children's early family life and their later cognitive outcomes.

Fragile families present challenges to those interested in child development but their effects are neither produced in isolation nor all-encompassing. Overall, although unmarried mothers certainly have less advantageous circumstances, it is clear that the experiences and outcomes of children in

fragile families are more complex than can be simply explained by marital status at birth. The complex interplay between economic resources, family stability and maternal depression acts to shape children's developmental contexts. Moreover, developmental outcomes at age 5 are not uniformly disrupted by family instability and further study may reveal the processes through which children of fragile families see worse adult outcomes. Appreciating this more dynamic perspective is likely to lead to more effective policy and identification of appropriate intervention points.

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Table 1: Unmarried fathers' involvement around the time of birth by relationship status

	Cohabiting	Closely involved	Not in a relationship	All unmarried
Father present at the birth	92.0	68.6	9.6	45.0
Father named on the birth certificate	97.4	81.2	26.9	62.6

Source: Kiernan & Smith, 2003
Notes: Percentages are weighted

Table 2: Parental demographic characteristics and capabilities

		Married	Unmarried	Unmarried Cohabiting	Single	All
Age at birth of cohort member (mean)		30.3	25.7	26.6	24.7	28.3
Teen parent at first birth*		7.9	33.9	26.1	46.6	18.6
		(2.0)	(28.9)	(19.6)	(43.8)	(15.2)
Cohort member is first birth		36.6	50.0	49.8	50.3	42.1
Has child with another partner before birth of cohort member†		4.2	15.0	13.8	16.8	8.6
		(6.7)	(30.0)	(27.5)	(33.7)	(14.9)
Ethnicity	White	85.9	92.4	96.8	85.3	88.6
	Mixed	0.1	1.4	0.8	2.4	1.0
	Indian	3.0	0.4	0.1	0.9	1.9
	Pakistani	4.9	0.6	0.1	1.4	3.1
	Bangladeshi	1.7	0.2	0.0	0.4	1.1
	Black Caribbean	0.6	1.9	0.7	3.8	1.1
	Black African	1.2	2.0	0.8	3.9	1.5
	Other	2.2	1.1	0.6	1.8	1.7
Born in the UK‡		86.7	93.5	95.5	90.3	89.5
Parents separated before age 17		16.8	36.9	33.8	41.9	25.0
Qualifications	NVQ Level 4 or 5	43.8	18.5	23.5	10.2	33.4
	NVQ Level 3	14.5	14.6	16.0	12.4	14.5
	NVQ Level 2	27.4	34.8	36.4	32.1	30.4
	NVQ Level 1	5.6	12.7	10.9	15.6	8.5
	No qualifications	8.7	19.5	13.2	29.7	13.1
Weekly household income (mean)		£370	£224	£284	£149	£306
In poverty		15.8	48.4	29.5	78.7	29.3
In work/on leave		57.2	40.1	50.4	23.5	50.2

Notes:
Analyses based on 9 months data where natural mother is the main respondent
 Percentages are weighted
* ( ) conditional on first birth
† ( ) conditional on higher order birth

Table 3: Maternal and health related behaviours

| | Married | Unmarried | Unmarried | | All |
			Cohabiting	Single	
Smoked through pregnancy	8.1	28.4	32.3	43.4	21.5
Drank during pregnancy	33.2	31.0	33.6	26.9	32.3
Received ante-natal care	97.8	95.8	97.0	93.9	97.0
Ever Breast-fed cohort member	76.9	55.7	60.9	47.4	68.3
Experienced post-natal depression	11.3	16.9	15.3	19.7	13.6
General health (poor/fair)	13.7	20.9	18.8	24.3	16.6
Has limiting disability	20.3	22.9	22.3	24.0	21.4
Heavy drinker	4.3	11.1	10.1	12.7	7.1
Ever takes recreational drugs*	2.0	7.0	6.7	7.6	4.1

Notes:
Analyses based on 9 months data where natural mother is the main respondent
 Percentages are weighted
* measured at 3 years

Table 4: Mothers' views on marriage and lone parenthood and relationship quality in infancy

Strongly agrees/Agrees with statement (%)	Married	Unmarried	Unmarried		Total
			Cohabiting	Single	
Children need their father to be as closely involved in their upbringing as their mother	92.8	78.2	87.2	63.3	86.8
It's alright for people to have children without being married	60.5	88.0	91.8	81.8	71.8
A single parent can bring up children just as well as a couple can	46.0	75.2	69.2	84.9	58.1
Partner ever used force in relationship*	2.8	5.3	5.3	5.1	3.6
Relationship quality score (mean)*	6.7	7.8	7.7	8.4	7.0

Notes:

Analyses based on 9 months data where natural mothers is the main respondent

Percentages are weighted

* Mothers in co-residential relationships at 9 months only

Table 5: Relationship between natural parents at the time of birth, and family structure at age 5, for UK children in MCS surveys 1 and 3

Relationship between natural parents at birth	%
Married	59.1
Cohabiting	25.2
Single	15.7
Total	100.0
N	18,452

Family structure at age 5 (%)	%
Married	59.8
Cohabiting	15.3
Lone natural mother	19.7
Natural mother and other parent	5.3
Total	100.0
N	14,792

Notes:
Sample limited to households where the natural mother is the main respondent
Percentages are weighted

Table 6: Family pathways from birth to 5 years

	Relationship between natural parents at child's birth (%)			
	Married	Cohabiting	Single	Total
Married at birth				
Stable	88.9			53.9
Periods of separation	2.1			1.3
To lone parenthood	7.1			4.3
To re-partnered	1.9			1.2
Total %	100.0			
Cohabiting at birth				
Stable		44.0		10.9
To married		25.2		6.2
Periods of separation		6.0		1.5
To lone parenthood		18.5		4.6
To re-partnered		6.3		1.6
Total %		100.0		
Solo at birth				
Stable			40.4	5.9
To married			8.5	1.3
To cohabiting			17.7	2.6
To new partner			13.8	2.0
Periods of partnership			19.6	2.9
Total %			100.0	
Total sample %	60.6	24.7	14.7	100.0
N	7,790	2,979	2,026	12,795

Note:
Sample limited to households present at all waves where the natural mother is the main respondent
Percentages are weighted

Table 7: Residential and dating transitions by family status at birth

	Married	Cohabiting	Single	All (%)	N
Number of residential transitions					
0	88.9	69.1	40.2	76.9	9,822
1	6.7	16.3	36.2	13.4	1,753
2	3.4	10.5	17.9	7.3	891
3	0.8	2.5	3.3	1.6	214
4	0.3	0.9	1.8	0.7	80
5 – 10	0.0	0.7	0.6	0.3	35
Total (%)	100.0	100.0	100.0	100.0	12,795
Mean	0.17	0.52	0.92	0.37	
Number of dating transitions*					
0	95.2	84.6	47.3	86.8	8,862
1	1.3	3.2	11.0	3.0	312
2	1.6	4.5	20.1	4.6	470
3	0.9	2.7	6.5	2.0	193
4	0.5	2.9	9.7	2.2	222
5+	0.5	2.2	5.4	1.5	147
Total	100.0	100.0	100.0	100.0	10,206
Mean	0.12	0.45	1.46	0.36	
Total number of transitions†					
0	88.9	69.1	17.2	73.5	9,372
1	2.8	5.3	41.4	9.1	1,264
2	4.4	12.7	15.6	8.1	998
3	1.8	4.5	7.4	3.3	430
4	1.0	3.0	9.1	2.7	326
5+	1.0	5.3	9.3	3.3	405
Total	100.0	100.0	100.0	100.0	12,795
Mean	0.27	0.88	1.91	0.66	

Notes: Sample limited to households present at all waves where the natural mother is the main respondent
Percentages are weighted
* Based on respondents recollections at 5 years
† Includes cases with no data for dating transitions

Table 8: Multi-partnered fertility by family status at birth

Birth relationship	Another child by new partner (%)	Total N
Married	0.5	7,790
Cohabiting	2.4	2,979
All single at birth	10.3	2,026
Total	2.4	12,795

Notes:

Sample is limited to households present at all waves where the natural mother was the main respondent

Percentages are weighted

Table 9: Predictors of entering marriage from lone parenthood or cohabitation

		Lone parent to marriage				Cohabiting to marriage			
		Bivariate		Multivariate		Bivariate		Multivariate	
		O.R.	Sig.	O.R.	Sig.	O.R.	Sig.	O.R.	Sig.
Mother's age at first birth	13-19	1.00		1.00		1.00		1.00	
	20-24	2.08	**	1.37		1.33	†	1.02	
	25-29	2.44	*	1.41		1.31		0.89	
	30-34	2.14	*	0.68		1.08		0.69	
	35+	2.51	*	1.26		0.52	**	0.26	
Parity of child	First born	1.00		1.00		1.00		1.00	
	Second or later child	1.56	**	1.68	†	0.84		0.92	
Child with different partner	No	1.00		1.00		1.00		1.00	
	Yes	1.13		0.67		1.16		1.33	
Mother's ethnicity	White	1.00		1.00		1.00		1.00	
	Mixed	0.53		0.72		0.37		0.38	
	Indian	13.84	***	9.69	**	0.79		0.75	
	Pakistani	4.60	***	2.23		-		-	
	Bangladeshi	8.83	***	5.13		1.74		-	
	Black Caribbean	0.23		0.19	†	1.45		1.04	
	Black African	1.83	*	1.34		3.41	*	2.86	
	Other	7.99	**	2.66		0.87		1.26	
Immigrant status	Immigrant	1.00		1.00		1.00		1.00	
	Non-immigrant	3.41	***	1.09		1.02		0.94	
UK born	Born in UK	1.00		1.00		1.00		1.00	
	Not born in UK	3.33	***	1.18		1.09		1.26	
Experienced parental separation during childhood	No	1.00		1.00		1.00		1.00	
	Yes	0.52	**	0.99		1.16		1.27	
Mother's highest educational qualification	No recognised qualifications	1.00		1.00		1.00		1.00	
	NVQ level 1	0.71		0.89		1.27		0.97	
	NVQ level 2	1.06		1.33		1.60	*	1.28	
	NVQ level 3	1.15		1.10		2.14	**	2.01	*
	NVQ level 4 or 5	2.86	***	2.40		1.84	**	1.58	†
Mean weekly household income (£)		1.01	***	1.01	**	1.00	*	1.00	
Current employment status	Not in work/or on leave	1.00		1.00		1.00		1.00	
	In work/on leave	1.20		0.60		0.71	**	0.79	†
Experience of work before 9 month survey	No experience	1.00		1.00		1.00		1.00	
	Some experience	0.95		0.66		0.90		1.23	
Poverty status	Poor	1.00		1.00		1.00		1.00	
	Not poor	2.77	***	0.82		0.55	***	0.68	*

Table 9: continued

		Lone parent to marriage				Cohabiting to marriage			
		Bivariate		Multivariate		Bivariate		Multivariate	
		O.R.	Sig.	O.R.	Sig.	O.R.	Sig.	O.R.	Sig.
General health	Excellent	1.00		1.00		1.00		1.00	
	Good	1.06		0.99		0.85		0.92	
	Fair	1.10		1.19		0.76		1.00	
	Poor	1.22		3.18		0.70		1.17	
Longstanding illness	No	1.00		1.00		1.00		1.00	
	Yes	0.78		0.67		0.82		0.80	
Malaise score	0-3 (low)	1.00		1.00		1.00		1.00	
	4-9 (high)	0.90		0.73		0.77	†	0.75	
Drinking behaviour	Never	1.00		1.00		1.00		1.00	
	Light	0.54	*	0.92		1.38	†	1.45	†
	Moderate	0.57	*	1.20		1.62	**	1.71	**
	Heavy	0.46	†	1.00		1.48	†	1.32	
Recreational drug use (3 years)	Never	1.00		1.00		1.00		1.00	
	Regularly	-		-		0.67		0.64	
	Occasionally	0.15	†	0.27		0.87		1.49	

Notes:
*** p < 0.001; ** p < 0.01; * p < 0.05 † p < 0.1
Sample limited to households present at all waves where the natural mother was the main respondent.
All variables are measured at 9 months unless stated
Models are logistic regressions (1= enters marriage as opposed to remaining lone parent/cohabiting)

Table 10: Predictors of entering lone parenthood from marriage or cohabitation

		Marriage to lone parent				Cohabitation to lone parent			
		Bivariate		Multivariate		Bivariate		Multivariate	
		O.R.	Sig.	O.R.	Sig.	O.R.	Sig.	O.R.	Sig.
Mother's age at first birth	13-19	1.00		1.00		1.00		1.00	
	20-24	0.64	**	0.73		0.67	**	0.71	
	25-29	0.38	***	0.46	***	0.44	***	0.62	*
	30-34	0.28	***	0.41	***	0.30	***	0.51	*
	35+	0.23	***	0.25	***	0.24	***	0.29	**
Parity of child	First born	1.00		1.00		1.00		1.00	
	Second or later child	1.22	†	0.74	*	0.85		0.64	**
Child with different partner	No	1.00		1.00		1.00		1.00	
	Yes	2.28	***	1.32		1.02		0.96	
Mother's ethnicity	White	1.00		1.00		1.00		1.00	
	Mixed	1.05		0.79		1.74		1.30	
	Indian	0.68		0.84		-		-	
	Pakistani	1.31		0.92		2.61		1.85	
	Bangladeshi	0.71		0.73		-		-	
	Black Caribbean	2.76	†	2.19		4.64	**	3.42	†
	Black African	2.33	*	2.14		0.82		1.45	
	Other	1.00		1.50		0.91		1.23	
UK born	Born in UK	1.00		1.00		1.00		1.00	
	Not born in UK	0.84		0.71		0.74		0.83	
Experienced parental separation during childhood	No	1.00		1.00		1.00		1.00	
	Yes	1.73	***	1.26		1.86	***	1.60	**
Mother's highest educational qualification	NVQ level 4 or 5	1.00		1.00		1.00		1.00	
	NVQ level 3	1.37	†	1.09		1.45	†	0.95	
	NVQ level 2	1.89	***	1.40	*	1.56	*	0.99	
	NVQ level 1	2.24	***	1.46		1.90	**	0.94	
	No recognised qualifications	2.01	***	0.80		2.38	***	0.91	
Mean weekly household income (£)		0.998	***	0.999	*	0.997	***	0.999	*
Current employment status	In work/or on leave	1.00		1.00		1.00		1.00	
	Not in work/or on leave	1.34	**	0.98		1.46	**	0.94	
Experience of work before 9 months	Some experience	1.00		1.00		1.00		1.00	
	No experience	1.33		0.55		2.05	**	1.31	
Poverty status	Not poor	1.00		1.00		1.00		1.00	
	Poor	2.37	***	1.57	*	2.56	***	1.61	*

Table 10: continued

All variables refer to the natural mother at 9 months unless otherwise stated		Marriage to lone parent				Cohabitation to lone parent			
		Bivariate		Multivariate		Bivariate		Multivariate	
Logistic regressions (1=married/cohabiting to lone parent)		O.R.	Sig.	O.R.	Sig.	O.R.	Sig.	O.R.	Sig.
General health	Excellent	1.00		1.00		1.00		1.00	
	Good	1.19		0.85		1.19		0.91	
	Fair	2.01	***	1.13		1.68	**	1.03	
	Poor	2.42	**	1.25		2.18	*	1.04	
Longstanding illness	No	1.00		1.00		1.00		1.00	
	Yes	1.46	**	1.15		1.33	*	1.16	
Malaise score	0-3 (low)	1.00		1.00		1.00		1.00	
	4-9 (high)	1.79	***	1.27		1.63	**	1.37	†
Drinking behaviour	Never	1.00		1.00		1.00		1.00	
	Light	0.79		0.91		0.81		1.03	
	Moderate	0.91		1.19		0.88		0.98	
	Heavy	1.07		1.17		0.74		0.75	
Recreational drug use (3 years)	Never	1.00		1.00		1.00		1.00	
	Regularly	1.84		1.34		1.48		1.44	
	Occasionally	2.49	**	2.62	**	1.30		1.07	

Notes:
*** p < 0.001; ** p < 0.01; * p < 0.05 † p < 0.1
Sample limited to households present at all waves where the natural mother was the main respondent.
All variables are measured at 9 months unless stated
Models are logistic regressions (1= enters lone parenthood as opposed to remaining married/cohabiting)

Table 11: Latent growth models of income trajectories of family pathways

	Estimated weekly household income (£)*		
	9 months	3 years	5 years
Married at baseline			
Stably married	506	528	549
Married with periods of separation	430	476	521
Married to lone parent	432	382	343
Married but re-partnered	438	450	461
Cohabiting at baseline			
Cohabiting stable	465	496	525
Cohabiting to married	525	543	560
Cohabiting with periods of separation	307	362	420
Cohabiting to lone parent	377	348	324
Cohabiting but re-partnered	357	407	457
Single at baseline			
Single stable	272	292	311
Single to married	377	463	555
Single to cohabiting	290	367	451
Single to new partnership	277	353	438
Single with periods of partnership	265	291	315

Notes: Models are unweighted and sample is limited to families with no missing data at any wave and where the natural mother was the main respondent at all waves.
* Controlling for mother's ethnicity, highest qualifications at 9 months and age at first birth

Table 12: Logistic regression models predicting persistent poor maternal mental health

Dependent variable: mother has poor mental health at all waves	Model 1		Model 2		Model 3	
	O.R.	Sig.	O.R.	Sig.	O.R.	Sig.
Family Pathways						
Stably married	1.00		1.00		1.00	
Married with periods of separation	3.31	**	2.42	*	2.12	†
Married to lone parent	2.97	***	2.63	***	1.56	
Married but re-partnered	1.38		1.24		0.80	
Cohabiting stable	1.88	***	1.70	**	1.46	†
Cohabiting to married	1.73	*	1.69	*	1.57	†
Cohabiting with periods of separation	3.73	***	2.34	*	1.57	
Cohabiting to lone parent	2.90	***	2.20	**	1.35	
Cohabiting but re-partnered	1.21		0.89		0.60	
Single stable	5.16	***	3.25	***	1.78	*
Single to married	1.69		1.04		0.91	
Single to Cohabiting	3.21	***	2.11	**	1.17	
Single but re-partnered	4.17	***	2.94	***	2.12	*
Single with periods of partnership	4.37	***	2.64	***	1.56	
Persistence of poverty						
No experience of poverty	1.00		-		1.00	
Not poor at wave 3, poor at other waves	2.97	***	-		2.00	**
Poor at wave 3, not poor at other waves	4.71	***	-		3.05	***
Poor at all waves	6.83	***	-		3.72	***

Notes:
Sample limited to households present at all waves where the natural mother is the main respondent
Analyses are weighted
Control variables: mother's age at first birth, mother's ethnicity, mother's highest level of qualification at wave 1.
Model 1: Bivariate logistic regressions
Models 2-3: Multivariate logistic regressions

Table 13: Non-resident father involvement

	9 months	3 years	5 years
All fathers who were unmarried at birth			
Lives with child full-time	66.8	61.8	56.9
Non-resident fathers			
Ever sees child	54.2	53.7	52.6
Sees child once a month or more	40.6	47.1	34.7
Makes regular contributions to child maintenance	19.0	19.8	24.8
Makes irregular contributions to child maintenance	9.7	8.0	8.7
No contribution to child maintenance	71.3	72.3	66.6
Formal child support (court order/CSA)	-	-	12.7
Informal child support	-	-	20.8
In-kind support	-	-	42.5
Mother on friendly terms with non-resident father	36.4	34.2	32.6
Non-resident fathers (N)	1,142	1,142	1,142

Notes:
Sample is limited to households present at all waves where the natural mother is the main respondent and the natural father was non-resident at all waves.
Regular and irregular contributions to child maintenance are mutually exclusive categories

Table 14: Family status by parenting behaviours

			Parenting at 3 years				Parenting at 5 years	
		Home learning environment score (<9) %	PIANTA conflict score (21+) %	PIANTA warmth score (<33) %	Observed negative discipline (1+) %	Regular meal times (Sometimes/rarely/ never) %	Regular bed times (Sometimes/rarely/ never) %
Family status at birth	Married	22.1	19.2	17.5	7.0	4.6	7.4
	Cohabiting	19.8	23.6	21.8	10.2	7.0	10.3
	Single	22.0	30.5	28.3	15.1	13.5	15.5
Family pathway	Married stable	21.7	19.1	17.2	6.7	4.2	7.5
	Married with periods of separation	22.5	21.8	23.6	11.2	7.6	8.3
	Married to lone parent	28.4	18.2	21.3	11.0	8.9	7.1
	Married but re-partnered	39.5	28.4	26.4	13.6	5.0	3.0
	Cohabiting stable	19.9	22.0	21.1	8.9	6.4	9.2
	Cohabiting to married	18.2	22.9	19.0	8.7	6.1	7.4
	Cohabiting with periods of separation	22.8	28.0	24.0	11.3	10.5	18.1
	Cohabiting to lone parent	18.7	27.5	23.5	15.5	9.1	14.9
	Cohabiting but re-partnered	31.3	25.7	47.4	12.3	5.7	8.6
	Single stable	22.3	27.7	27.1	16.6	14.8	19.1
	Single to married	26.1	24.2	27.2	5.6	10.4	11.9
	Single to cohabiting	19.1	31.1	30.2	14.1	12.7	17.6
	Single to re-partnered	17.1	32.0	30.2	18.4	13.0	7.1
	Single with periods of partnership	24.4	41.6	30.4	16.8	13.2	14.0
Had child with another partner		21.7	24.9	23.2	10.1	9.9	15.9
All		21.5	21.9	20.1	9.0	6.5	9.3

Notes: Sample limited to household present at all three waves where the natural mother was the main respondent
Percentages are weighted

Table 14 (continued): Characteristics of mothers by parenting behaviours

		Parenting at 3 years				Parenting at 5 years	
		Home learning environment score (<9) %	PIANTA conflict score (21+) %	PIANTA warmth score (<33) %	Observed negative discipline (1+) %	Regular meal times (Sometimes/rarely/never) %	Regular bed times (Sometimes/rarely/never) %
Age at birth of cohort member	35+	25.4	17.7	16.9	6.4	6.3	10.8
	30-34	22.0	19.8	16.6	7.3	4.5	8.6
	25-29	19.1	21.1	20.4	9.0	5.9	7.6
	20-24	21.7	28.2	26.6	13.0	8.8	11.0
	13-19	18.5	32.9	30.0	14.2	13.1	11.3
Teen parent at first birth		21.7	28.4	27.4	11.7	11.1	14.6
Cohort member is first birth		16.7	24.1	18.8	9.8	6.0	7.3
Ethnicity	White	20.7	22.1	19.8	8.8	5.8	8.5
	Mixed	17.6	23.3	23.3	10.9	2.8	13.2
	Indian	18.3	14.0	15.2	8.2	6.9	15.4
	Pakistani	33.6	25.8	34.2	9.3	12.8	16.0
	Bangladeshi	45.8	19.6	31.4	14.2	23.3	9.9
	Black Caribbean	21.7	18.4	17.1	15.3	13.6	22.8
	Black African	35.4	10.0	23.6	14.7	16.9	22.1
	Other	27.1	23.6	18.5	7.8	13.4	15.5
Born in the UK*		20.6	22.0	21.2	8.9	6.1	8.8
Parents separated before age 17		21.1	26.1	22.9	11.7	8.2	11.4
Qualifications	NVQ Level 4 or 5	18.7	20.0	13.8	6.1	3.2	5.1
	NVQ Level 3	18.4	22.1	19.5	8.2	5.1	5.9
	NVQ Level 2	22.3	21.4	21.4	10.5	6.2	9.9
	NVQ Level 1	23.2	25.8	30.9	10.3	10.3	13.0
	No qualifications	28.6	26.9	32.4	13.1	14.8	21.2
Weekly household (mean)	(mean = £329)	£308	£313	£289	£275	£227	£239
Not work/on leave		23.6	24.5	23.6	10.0	8.6	11.8
In poverty		23.9	26.8	28.4	13.3	11.7	15.3
General health (poor/fair)		25.5	31.8	27.9	10.5	11.2	13.1
Has a limiting disability		21.8	26.4	21.6	9.6	7.5	10.4
Experienced post-natal depression		26.9	40.1	31.6	11.8	9.7	13.7
Heavy drinker		20.8	29.2	22.4	10.9	8.4	10.6
Ever taken recreational drugs*		19.4	35.1	21.7	11.1	8.4	9.9
Child is male		26.0	22.6	22.7	11.4	6.8	9.1
All		21.5	21.9	20.1	9.0	6.5	9.3

Notes: Sample limited to household present at all three waves where the natural mother was the main respondent
Percentages are weighted
*Characteristics are measured at 9 months except: * measured at 3 years*

Table 15: Regression models of child outcomes at 5 years by family status and stability

	Child outcomes at 5 years		
	Internalising behavioural problems[1]	Externalising behavioural problems[1]	Naming vocabulary score[1]
Model 1: Family status at birth			
Married	-	-	-
Cohabiting	0.00	0.06 ***	-0.03 **
Single	0.02	0.08 ***	-0.03 **
Model 2: Family pathway			
Married stable	-	-	-
Married with periods of separation	0.04	0.02 *	-0.01
Married to lone parent	0.03 **	0.05 ***	-0.03 **
Married but re-partnered	0.01	0.04 ***	0.00
Cohabiting stable	0.00	0.04 ***	-0.02 *
Cohabiting to married	-0.00	0.02 *	-0.01
Cohabiting with periods of separation	0.00	0.04 ***	-0.02 *
Cohabiting to lone parent	0.00	0.08 ***	-0.01
Cohabiting but re-partnered	0.03 **	0.06 ***	-0.02 **
Single stable	0.15	0.07 ***	-0.02
Single to married	0.00	0.02 †	-0.03 **
Single to cohabiting	0.00	0.05 ***	-0.01
Single to re-partnered	0.01	0.06 ***	-0.02 *
Single with periods of partnership	0.04 ***	0.05 ***	-0.01
Model 3: All transitions			
Total number of transitions	0.01	0.05 ***	-0.03 †
Model 4: Type of transitions			
Number of residential transitions	0.02 *	0.06 ***	-0.01
Number of non-residential transitions	0.00	0.02 *	-0.03 *

Notes:

[1] OLS regressions: Coefficients are standardised betas, regressions are unweighted

The sample for all models is limited to respondents at all waves where the natural mother is the main respondent

All models control for poverty, cohort member characteristics: birth weight, parity of birth, sex and age; maternal characteristics: age at first birth, age at birth of cohort member, ethnicity. All controls are measured at 9 months.

Models 3 and 4 also control for family status at birth
Naming vocabulary models do not control for cohort member's age as scores are normalised for age

Table 16: Regression models of children's parenting experiences by family status and stability

	Parenting at 3 years				Parenting at 5 years	
	Home learning environment score[1]	PIANTA warmth[1]	PIANTA conflict[1]	Observed negative discipline (1=at least one type)[2]	Regular bedtimes (1=sometimes/rarely /never) [2]	Regular mealtimes (1=sometimes rarely/never) [2]
Model 1: Family status at birth						
Married	-	-	-	-	1.00	1.00
Cohabiting	0.01	-0.01	0.04 ***	1.27 *	1.41 **	1.45 **
Single	-0.00	-0.03 *	0.07 ***	1.68 ***	1.40 **	1.95 ***
Model 2: Family pathway						
Married stable	-		-	-	1.00	1.00
Married with periods of separation	0.00	-0.01	0.02 †	1.64 †	0.75	1.60
Married to lone parent	-0.01	-0.01	-0.00	1.57 †	0.70 †	1.92 **
Married but re-partnered	-0.00	-0.01	0.02 †	1.54	0.38 †	1.28
Cohabiting stable	0.01	-0.01	0.03 **	1.23 †	1.22	1.52 **
Cohabiting to married	0.02 †	0.01	0.01	1.25	1.02	1.56 *
Cohabiting with periods of separation	-0.00	-0.02	0.03 **	1.38	1.87 *	2.03 *
Cohabiting to lone parent	-0.01	-0.01	0.04 ***	1.83 **	1.82 **	1.87 **
Cohabiting but re-partnered	-0.01	-0.03 **	0.02 *	1.57	1.10	1.37
Single stable	-0.00	-0.02	0.04 ***	2.12 ***	1.67 ***	2.44 ***
Single to married	0.00	-0.02 †	0.02 *	0.65	0.94	1.64 †
Single to cohabiting	-0.00	-0.01	0.03 **	1.69 *	1.89 **	2.53 ***
Single to re-partnered	0.01	-0.02 *	0.03 **	2.40 **	0.64	2.08 *
Single with periods of partnership	-0.02 *	-0.03 *	0.06 ***	2.02 **	0.91	1.98 *

Notes: [1] OLS regressions: Coefficients are standardised betas, regressions are unweighted
[2] Logistic regressions: Coefficients are odds ratios; regressions are weighted
The sample for all models is limited to respondents at all waves where the natural mother is the main respondent
Where outcome is measured at three years, longitudinal family variables are truncated accordingly. Non-residential transitions are measured at 5 years and cannot be disaggregated so are excluded from these models.
All models control for poverty, cohort member characteristics: birth weight, parity of birth, sex and age; maternal characteristics: age at first birth, age at birth of cohort member, ethnicity. All controls are measured at 9 months.

Table 16 (cont.): Regression models of children's parenting experiences by family status and stability

	Parenting at 3 years				Parenting at 5 years	
	Home learning environment score[1]	PIANTA warmth[1]	PIANTA conflict[1]	Observed negative discipline (1=at least one type)[2]	Regular bedtimes (1=sometimes/rarely /never)[2]	Regular mealtimes (1=sometimes rarely/never)[2]
Model 3: All transitions						
Total number of transitions					1.00	1.05 †
Model 4: Type of transitions						
Number of residential transitions	-0.02 *	-0.03 **	0.05 ***	1.08	0.93	1.00
Number of non-residential transitions					1.05	1.11 *

Notes:

[1] OLS regressions: Coefficients are standardised betas, regressions are unweighted

[2] Logistic regressions: Coefficients are odds ratios; regressions are weighted

The sample for all models is limited to respondents at all waves where the natural mother is the main respondent

Where outcome is measured at three years, longitudinal family variables are truncated accordingly. Non-residential transitions are measured at 5 years and cannot be disaggregated so are excluded from these models.

All models control for poverty, cohort member characteristics: birth weight, parity of birth, sex and age; maternal characteristics: age at first birth, age at birth of cohort member, ethnicity. All controls are measured at 9 months.

Models 3 and 4 also control for family status at birth

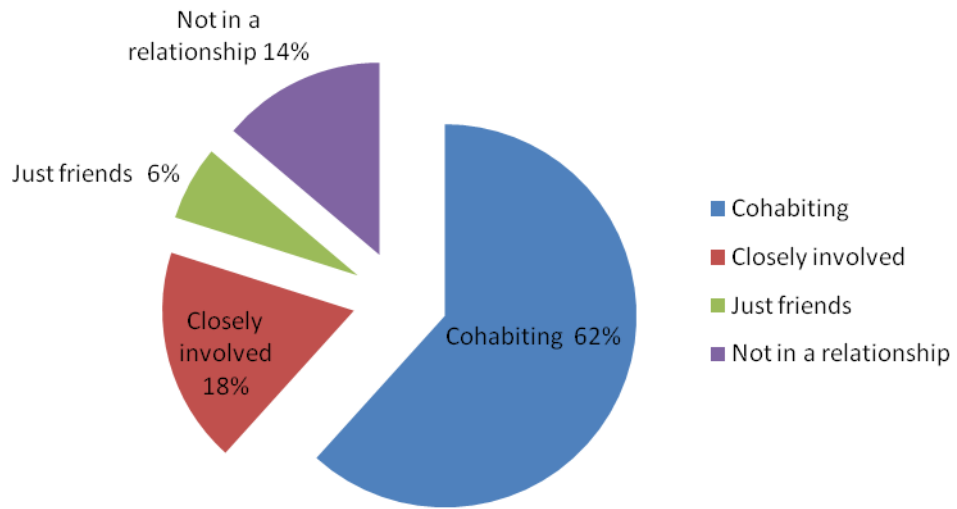Figure 1: Relationship status of unmarried mothers at birth

Not in a relationship 14%

Just friends 6%

Closely involved 18%

Cohabiting 62%

- Cohabiting
- Closely involved
- Just friends
- Not in a relationship

Figure 2: Relationships status of mothers at birth by ethnicity

All, White, Mixed, Indian, Pakistani, Bangladeshi, Black Caribbean, Black African, Other

- Not in a relationship
- Closely involved
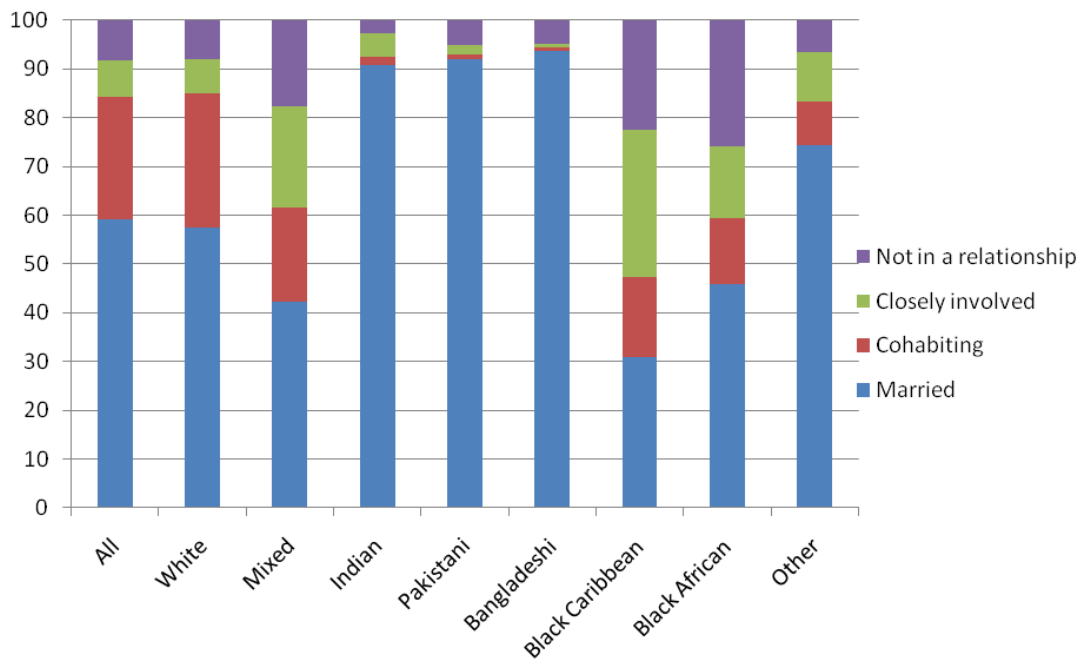- Cohabiting
- Married

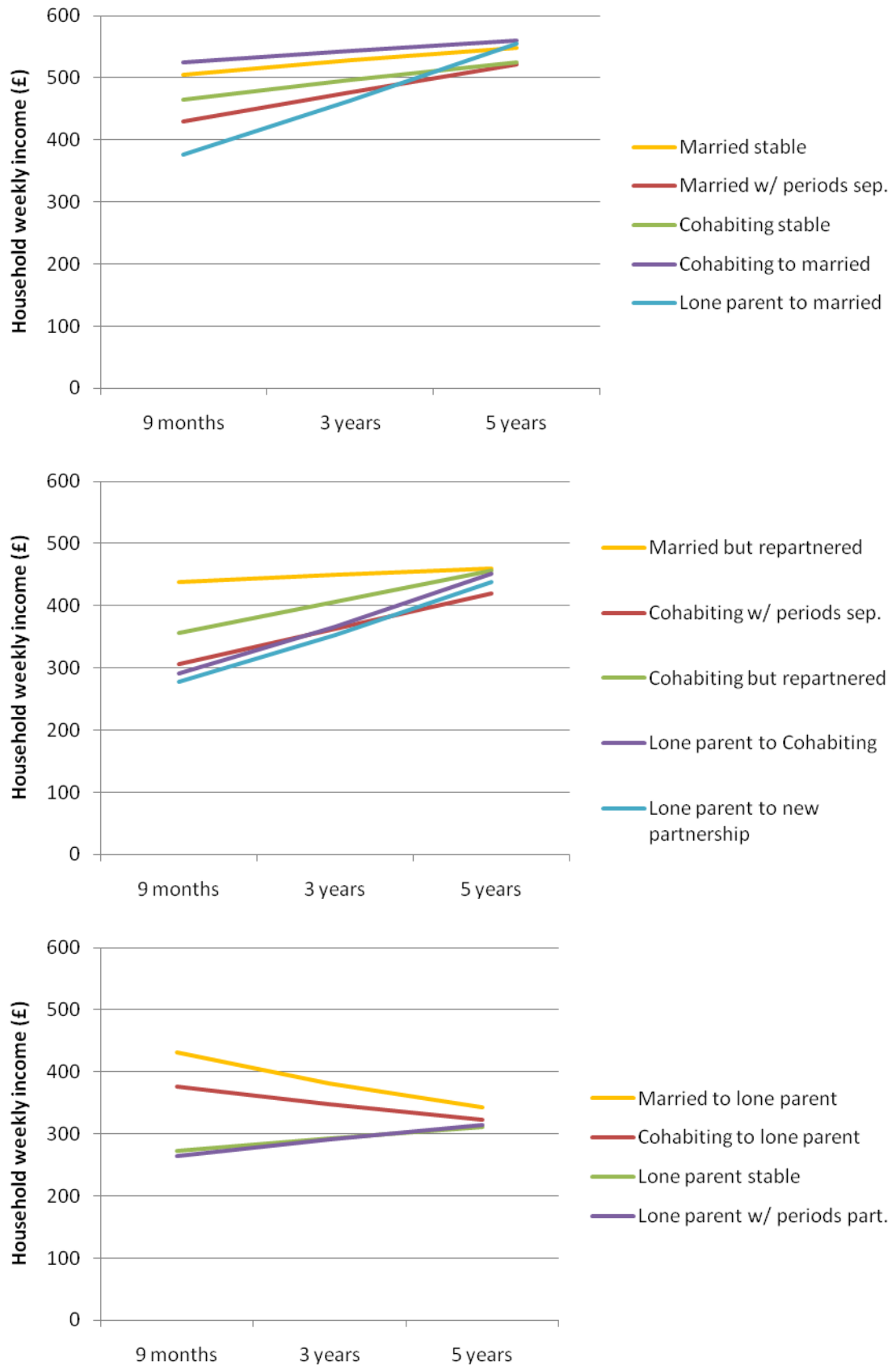**Figure 3: Estimated household income trajectories for sets of family pathways**

Figure 4: Mental health trajectories of mothers for selected family pathways