

Extended abstract:
Paternal childcare in the early years in the UK: Determinants and consequences for the school readiness of girls and boys

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Introduction and background literature

Changes in the economic independence of mothers of young children are part of a broader set of social changes in the roles played by mothers and fathers. Alongside rising maternal employment we find increasing evidence, both qualitative and quantitative, that fathers are becoming more actively involved in the lives of their children. A diverse body of literature has arisen on whether these changes in parental roles have consequences for children's developmental outcomes.

One strand focuses on the effects of mothers who participate in the labour market in the early years of the child's life¹. The underlying hypothesis tested in this literature is that children are damaged by regular lengthy periods of maternal absence, an idea motivated by the developmental psychology literature on the importance of the security of infant/mother attachment². Findings from this research are mixed. There is some consensus that maternal employment in the first year of life has negative consequences, but little consensus on the effects of employment in the second and third years.

Another strand explores whether trends towards a more active parenting role amongst fathers are associated with improved outcomes in their children. In general this literature finds positive effects of greater father involvement, although the magnitude of these effects are typically only moderate and become smaller when mothers' parenting behaviours are controlled for³.

Finally, a third strand of literature focuses on the issue of the quality of non-maternal childcare. This literature has generally focused on differing quality amongst centre-based care providers (e.g. NICHD Early Child Care Research Network, 2000) so relatively little is known about the impacts of other types of care on children, in particular by relatives including the father. However, findings from this literature suggest that stable care provided by a warm, high-quality provider can lead to developmental outcomes that are at least as positive as those found in children experiencing maternal care only.

Overall, the role of the father has been understudied in work on the effects of different types of care arrangements on children, perhaps because of the implicit assumption that the role of the father in family life is the traditional one of breadwinner. This paper uses an unusually rich dataset (the Avon Longitudinal Study of Parents and Children or ALSPAC) to explore the extent and consequences of regular childcare provided by the father while the mother is absent, during the first three years of life. We show that this type of primary care by the father is more widespread than might be expected, and occurs in a wide variety of family circumstances. One study that has focused on the effects of paternal childcare in this period of the child's life is Averett et al (2005) which uses the NLSY. This study focuses only on households on which the mother is employed and uses retrospective data on childcare that records paternal care being used in only around 10 percent of such households. Our study does not select on maternal employment status and uses much richer contemporaneous data on paternal childcare. We find that fathers

¹ Examples of this literature include Baum (2003), Ruhm (2004), Gregg et al (2005) and Waldfogel et al (2002).

² See for example Belsky and Rovine (1988).

³ See Marsiglio, Amato, Day and Lamb (2000) for a thorough review of the literature on father involvement.

provide at least 5 hours of childcare per week on a regular basis when the mother is absent in two-thirds of all intact families, including around a half of families in which the mother is not in work at all in the first three years. Furthermore, fully a quarter of fathers in our sample provide regular care of at least 16 hours a week at some point in the first three years, equivalent to half a full-time job. This suggests that many fathers play a substantial and largely unrecognised role in the care of infants and toddlers that is worthy of further attention.

Due to the large sample size of our dataset, this study allows us to explore a number of types of heterogeneity in the patterns and effects of paternal childcare. Firstly, we provide a descriptive section that explores the circumstances in which fathers in intact families provide childcare in the first three years. We pay particular attention to parental endowments such as earnings capacity and financial resources, to other personal characteristics of the parents such as physical and mental health, and to patterns of employment. The ALSPAC dataset also provides a rare opportunity to explore whether the innate characteristics of the child influence parental choices about childcare. The reverse causation problem, in which the child's development influences the choice of parental inputs rather than vice versa, is one that causes difficulties in the estimation of the impact of any chosen parental input on child outcomes. We use detailed data on the child's temperament and ability from birth onwards, as well as medical data such as birth weight and gestation at delivery, to throw light on the question of whether fathers are more likely to care for more able, more outgoing children, or conversely whether they care more for less able or less healthy children.

We then go on to explore the links between paternal childcare and school readiness at age 4 in terms of both cognitive and socio-emotional outcomes. We explore results separately for boys and girls to test whether the effects of paternal care differ by the gender of the child⁴, and also explore several potential mediating mechanisms such as the parenting styles of both parents, the quality of the marital relationship and the degree of parental confidence and enjoyment of childrearing. Finally, we test for interaction effects to explore whether the effects of early paternal childcare are restricted to certain sub-groups of children.

Theoretical framework

The first part of our analysis explores the circumstances under which fathers provide substantial early years childcare, using the household production model of Gary Becker as a framework (Becker, 1991). Becker's model emphasises that parents' allocation of time and expenditure patterns are chosen simultaneously in order to maximise parental utility, subject to the constraints imposed by their endowments of human capital. The child's welfare or 'quality' is one of a number of outcomes on which parental utility depends. Where there are two parents in the household, there exist the possibility of gains to specialisation and a division of labour, in which the spouse with a comparative advantage in market work devotes more time to paid work, and the spouse with a comparative advantage in domestic work allocates more labour to the home and childcare. The model provides a number of predictions as to factors that are likely to be associated with paternal childcare that we explore descriptively in the paper. Examples of factors that may be associated with paternal childcare are: relatively equal earnings capacities between the husband and wife or cases in which the wife is the higher potential earner; factors that adversely affect the mother's ability in childrearing such as post-natal depression; lack of financial resources that precludes the use of paid carers; and the degree of enjoyment that both parents derive from childcare.

This theoretical framework implies that attempts to describe parental work schedules as 'determinants' of childcare patterns are misplaced⁵. Observed work and childcare patterns are

⁴ A large body of psychological literature exists on parents' differential socialisation of boys and girls. See Lytton and Romney (1991) for a review.

⁵ A number of studies have taken this view, e.g. Brayfield (1995), Burchfield (1996).

both outcomes of the household decision-making process in which scarce resources are allocated amongst competing uses, and hence the observed relationship cannot be interpreted as causal in either direction. Our analysis is based on this view and documents how both types of decisions are related to an underlying set of parental tastes and human capital endowments.

Data and estimation methods

ALSPAC is a cohort survey of children born in the Avon area of the UK in early 1990s. It contains detailed data on the childcare arrangements experienced by children in first three years of life, plus a wealth of measurements on the parenting activities of both mothers and fathers. It also contains longitudinal measurements of the cohort children's cognitive, socio-emotional and health-related outcomes. Because the ALSPAC study treats fathers on an equal basis with other potential non-maternal carers, it presents a rare opportunity to explore the prevalence of paternal childcare, the circumstances under which fathers assume substantial childcare responsibilities and the subsequent impact of paternal care on children's development. Our sample relates to 6010 couples who are the biological parents of the study child and who lived together continuously until at least four years after the birth of the study child. Our focus on intact families is motivated by the fact that the absence of the father from the household raises additional issues that exceed the scope of this study.

Our childcare measures relate specifically to regular care provided without the mother present and, in principle at least, should sum to the total hours per week that the child spends apart from the mother. The paternal care variables capture the amount of time in which the father is the primary carer – note our measure does not include 'shared time' that both the mother and father spend with the child (and we do not have data on this). We use the raw data to construct measures of paternal childcare in an average week, distinguishing between care in the first year and care in the two following years. We also distinguish between medium hours of paternal care (5 to 15 hours per week) and long hours of paternal care (16 or more hours per week).

The first part of our analysis provides descriptive evidence on the systematic differences between paternal care and non-paternal care households. As well as being of interest in its own right, this part of the study provides evidence on factors that may confound the estimated effects of paternal care on children, and also on factors that may mediate this relationship.

The second part of our analysis uses these insights and focuses on the impact of early years paternal childcare on the subsequent school readiness of boy and girl children. We use two measures of school readiness – one cognitive, derived from tests administered by the school to children in their first year of schooling, and one socio-emotional, derived from the Strengths and Difficulties Questionnaire that measures behavioural problems in children.

Our methodology is one commonly used in studies of this type, namely the sequential addition of different sets of control variables in a regression of the child outcome measure on the paternal care variables. However, our study contributes to this literature in two ways. Firstly, we pay careful attention to how the interpretation of our parameter of interest is affected by the inclusion of different types of controls. In some cases, controls can be thought of as reducing the selection bias in the parameter of interest caused by the confounding effect of other household characteristics. In other cases, where the controls are jointly determined with paternal childcare, the interpretation of the paternal care parameter becomes that of a 'net' effect where one of the routes through which paternal care impacts on children has been removed from the estimate. A prime example of such a control is household income, which may be lower because of the joint determination of fathers' earnings and fathers' childcare time. This issue has been recognised with regard to household income in some of the literature on maternal employment (e.g. Harvey, 1999), but is rarely applied systematically to other types of parental input. Secondly, we employ a bootstrap method that allows us to test whether the change in the paternal care coefficient resulting from the inclusion of a set of controls is statistically significant. To our knowledge, no

study to date has put standard errors on this quantity, but have instead relied on ad-hoc conclusions based on the magnitude of the effect.

Preliminary findings

Findings from the descriptive stage of our study show that fathers who engage in early years childcare tend to have lower education and occupational class than other fathers, confirming the predictions of the household production model on the opportunity cost of time. They are also more likely to live in households in which the wife has equal or higher earnings capacity. As we would expect, these types of characteristics predict greater paternal childcare and also less traditional patterns of paid work within the household. We find evidence that some fathers may provide childcare due to post-natal depression suffered by the mother, but that in general the attributes and parenting styles of wives of paternal carers differ little from those of other mothers. We also find little evidence that fathers care because of temporary shocks in economic circumstances as suggested by Averett et al. Rather, caring fathers in our study are likely to report higher levels of bonding with the child and enjoyment of parenting than other fathers, and also to show stronger pro-parenting attitudes prior to the birth of the child, for example by being more likely to attend ante-natal classes with the mother. With regard to the effects of paternal care on school readiness, we find no effects on girls' outcomes at all. We do find that boys experiencing long hours of care in the second and third years score worse on cognitive tests at age 4, despite the fact that caring fathers engage more in parenting activities that are beneficial than other fathers. This finding cannot be explained by the poorer socio-demographic characteristics of paternal care households, nor by the early characteristics of the boys themselves. We do find, however, a positive association between boys' behaviour and medium hours of paternal care in the second and third years.

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