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Fathers' involvement and preschool children's behavior in stable single-mother families

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ABSTRACT

The research testing bidirectional relationships between non-resident fathers' involvement and children's behavior usually models outcomes in school age children. It also tends to include both families in which fathers have never lived with their children and families in which fathers have resided with their children at least some of the time. In this study we used data from the first two sweeps of the Millennium Cohort Study (MCS) to model bidirectional links between non-resident fathers' involvement and the behavior of preschool children growing up in continuously single-mother families (N = 930). Children's behavior was measured with the Carey Infant Temperament Scale at Sweep 1 (age 9 months), and the Strengths and Difficulties Questionnaire at Sweep 2 (age 3 years). Non-resident father involvement was mother-reported. We found no evidence for father involvement effects on later child behavior, but strong evidence for the association between early and later non-resident father involvement.

1. Introduction

The research testing bidirectional relationships between non-resident fathers' involvement and children's behavior usually models outcomes in school age children. It also tends to include both families in which fathers have never lived with their children and families in which fathers have resided with their children at least some of the time. However, this is problematic because in the latter group it could be parental separation rather than father involvement that is associated with children's behavior. Only recently have studies started to systematically examine the outcomes of young children whose fathers were continuously non-resident (Fagan, Lee, Palkovitz, & Cabrera, 2011). We carried out this study to add to this knowledge. We modeled, using longitudinal data, bidirectional associations between non-resident fathers' involvement and preschool children's behavior in a large sample of continuously single-mother families in the United Kingdom. By excluding families that had experienced parental separation we ensured that what we modeled was the effect of non-resident father involvement rather than family disruption. Our aim was to explore how our findings would compare with findings from research with school age children showing that, in general, among non-resident father families child behavior predicts father involvement rather than vice versa (Coley & Medeiros, 2007; Hawkins, Amato, & King, 2007), whereas among resident father families the converse is true (Coley, Votruba-Drzal, & Schindler, 2008; Jaffee et al., 2004), and with preschoolers in intact families showing that infant temperament is more strongly related to paternal than maternal involvement (Cabrera, Fagan, Wight, & Schadler, 2011; McBride, Schoppe, & Rane, 2002). The evidence with regards to the strength and direction of the association between temperament and non-resident fathers' parenting has certainly been more mixed. Although some studies have documented nonsignificant associations between easy temperament and involvement (Carlson, McLanahan, & Brooks-Gunn, 2008; Fagan & Palkovitz, 2011), a recent study showed that the association was positive when parents were in a romantic relationship, and negative when they were not (Fagan & Palkovitz, 2011).

Since both parenting and child behavior are related to both family adversity (Dunn, Davies, O'Connor, & Sturgess, 2000) and family-level socio-economic disadvantage (SED; McLoyd, 1998), in our study we modeled family SED and family adversity to predict both fathering and child behavior. We also adjusted for known covariates of both child behavior and father involvement, namely, mother's parenting (Feldman & Klein, 2003), depressed mood (Klein, Lewinsohn, Rohde, Seeley, & Olino, 2005), ethnicity (Deater-Deckard, Atzaba-Poria, & Pike, 2004), socio-economic status (Coley & Hernandez, 2006), and age (Geary, 2000), as well as quality of the inter-parental relationship (Sturge-Apple, Davies, & Cummings, 2006), and child's age (Tamis-LeMonda, Kahana-Kalman, & Yoshikawa, 2009), sex (Lytton & Romney, 1991), and developmental level (Baker et al., 2003).

2. Method

We used data from the first two sweeps of the Millennium Cohort Study (MCS), a longitudinal survey of originally more than 19,000

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children, drawing its sample from children born in the UK over a period of 12 months, beginning on 1/9/2000 in England and Wales, and three months later in Scotland and Northern Ireland. At the first two sweeps children were aged 9 months and 3 years, respectively. The MCS sample was selected from a random sample of electoral wards, disproportionately stratified to ensure adequate representation of all four UK countries, deprived areas and areas in England with high concentrations of ethnic minority families. In all, there were nine strata, i.e., England-advantaged, England-disadvantaged, England-ethnic, Wales-advantaged, Wales-disadvantaged, Scotland-advantaged, Scotland-disadvantaged, Northern Ireland-advantaged, and Northern Ireland-disadvantaged.

Our initial sample was all children who were present at both Sweep 1 (N = 18,552) and Sweep 2 (N = 15,590), a total of 14,898 children. Our study sample was children in continuously single-mother families, that is, children who lived only with their mother at both sweeps (N = 1584). As the main response variable was father involvement at Sweep 2, we further reduced the study sample to children about whom father involvement was reported at Sweep 2 (N = 930). All 930 children lived with their biological mothers.

3. Measures

Child behavior was mother-reported and measured by temperament at Sweep 1 and by emotional and behavioral problems at Sweep 2. Temperament was assessed with items from the Carey Infant Temperament Scale (Carey & McDevitt, 1978). These items index three dimensions of the baby's temperament, namely mood, adaptability, and regularity or rhythmicity. Internal consistencies of the three subscales were: $\alpha = .54$ (mood), $\alpha = .70$ (adaptability), and $\alpha = .74$ (regularity). Emotional and behavioral problems were assessed with the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997), a 25-item scale measuring four difficulties – i.e., hyperactivity, emotional symptoms, conduct problems, peer problems – and prosocial behavior (www.sdqinfo.org).

Father involvement was mother-reported for non-resident fathers at both sweeps. This is because non-resident fathers were not followed up in MCS. The items included in both sweeps were frequency of contact, interest in the child, and payment of child support.

Family SED was measured with a 5-item summative index of overcrowding, lack of home ownership, receipt of income support, income poverty (below the poverty line) and lack of access to a car or van (Schoon et al., 2002).

F*amily adversity* between the child's birth and Sweep 1 was measured, as in Flouri, Tzavidis, and Kallis (2010), with eight events from Tiet, Bird, Davies, et al.'s (1998) 25-item Adverse Life Events Scale (ALES). The ALES measures exposure to adverse or stressful life events at both family and child levels, and is a modification of the Life Events Checklist (Coddington, 1972), a psychometrically sound measure of exposure to potentially traumatic events. In view of this study's research aims, the eight events used measured only family-level risk, were developmentally appropriate, and could be reconstructed from the MCS data. These items were: "family member died", "family member was seriously injured", "negative change in parent's financial situation", "family member had mental/emotional problem", "family moved", "got a new brother or sister", "one of the parents went to jail" and "parents separated". Six of these eight items were based on maternal reports. One ('family member had mental/emotional problem') used responses from both mother and father where available, and one ('one of the parents went to jail') was recorded as 'yes' (= 1) if a proxy interview had to be carried out with a parent because she or he was in jail.

The *child-level covariates*, all mother-reported and measured at Sweep 1, were age, sex, and developmental milestones, a set of functional skills or age-specific tasks that most children can do at a certain age range. Developmental milestones assessing social and communication skills as well as fine and gross motor coordination typical for a 9 month old child were measured with twelve items from the Denver Developmental Screening Test (Frankenburg & Dodds, 1967), the most popular tool to screen for potential developmental problems.

The family-level covariates were mother's parenting, depressed mood, qualifications, social class, age, ethnicity, and mother-reported quality of inter-parental relationship. We did not control for important father-level variables, such as paternal depressed mood, age, qualifications, social class, ethnicity, and father-reported quality of the inter-parental relationship, as these were not available at MCS for non-resident fathers. In light of the strong association between quality of the inter-parental relationship and non-resident father's involvement (Fagan & Palkovitz, 2011; Kamp Dush, Kotila, & Schoppe-Sullivan, 2011), we controlled for mother-reported quality of the inter-parental relationship at both sweeps. All other family-level covariates were measured at Sweep 1, and were assessed with well-validated measures. Mother's parenting was measured with four items, originally derived by the European Longitudinal Study of Pregnancy and Childhood, and used in other UK longitudinal studies (such as the Avon Longitudinal Study of Parents and Children). Maternal depressed mood was measured with nine items from the Malaise Inventory (Rutter, Tizard, & Whitmore, 1970). Maternal social class was measured with the National Statistics Socio-economic Classification. Finally, mother's highest qualifications were grouped into six major categories, roughly equivalent to National Vocational Qualification levels. The quality of the parents' relationship was measured by one item, the mother's report of how friendly her relationship was with the child's father.

4. Results

We first tested for any correlates of non-response for father involvement at Sweep 2 among all our study covariates. Mothers in stable single-mother families who provided no data on father involvement at Sweep 2 (and were, therefore, excluded from our study sample) were younger ($t[1574] = 3.86$; $p < .001$), and more likely to be white ($\chi^2_{[1]} = 5.76$; $p < .05$), and have boys ($\chi^2_{[1]} = 4.17$; $p < .05$) than those included in our final study sample. We then inspected the descriptive statistics and the Pearson correlations of the study variables. Table 1 shows the correlations of the covariates with the main observed variables. As missingness was negligible (5.4%), single imputation using the MCMC method in SPSS was deemed sufficient.

4.1. Measurement model

Good fit for our models was indicated by a value below .05 on the Root Mean Square Error of Approximation (RMSEA) and the Standardised Root Mean Square Residual (SRMR), and above .95 on the Comparative Fit Index (CFI) and the Tucker–Lewis Index (TLI). Although chi-square is sensitive to sample size and model complexity (Browne & Cudeck, 1993), we also report chi-square values. A confirmatory factor analysis (CFA) of the temperament items showed that the model in which items were specified to load on their respective constructs did not fit data well ($\chi^2_{[74]} = 228.01$; $p < .001$; RMSEA = .047; SRMR = .041; CFI = .905; TLI = .883). An alternative specification in which we parceled the items into three indicators per construct fitted data better ($\chi^2_{[24]} = 43.50$; $p < .001$; RMSEA = .030; SRMR = .026; CFI = .981; TLI = .971). Similarly, a CFA of the SDQ items showed that the model in which items were specified to load on their respective constructs did not fit data well ($\chi^2_{[265]} = 1253.60$; $p < .001$; RMSEA = .063; SRMR = .065; CFI = .741; TLI = .706). Again, the alternative specification in which we parceled the items into three indicators per construct fitted data better ($\chi^2_{[80]} = 214.771$; $p < .001$; RMSEA = .043; SRMR = .038; CFI = .947;