Socio–economic status and family structure differences in early trajectories of child adjustment: Individual and neighbourhood effects ☆

Eirini Flouri *, Emily Midouhas, Alexandra Ruddy

Department of Psychology and Human Development, UCL Institute of Education, University College London, UK

ABSTRACT

We examined the effects of single-parent family status and high parental socio-economic status (SES) on the trajectories of children's emotional/behavioural adjustment in early-to-middle childhood (ages 3–7 years). We also assessed whether these family characteristics interact with the equivalent neighbourhood characteristics of shares of single-parent families and high-SES adults in predicting these trajectories. Using data on 9850 children in England participating in the Millennium Cohort Study, we found that family status and parental SES predicted children's trajectories of adjustment. Even after controlling for these family factors and key child and parent characteristics, the neighbourhood shares of high-SES adults and single-parent families were related (negatively and positively, respectively) to child problem behaviour. Importantly, children of low-SES parents in neighbourhoods with a high concentration of high-SES adults had fewer emotional symptoms than their counterparts in areas with fewer high-SES adults. Surprisingly, the adverse effect of single-parent family status on child hyperactivity was attenuated in areas with a higher share of single-parent families.

© 2015 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY license (http://creativecommons.org/licenses/by/4.0/).

There is much research to suggest that low socio–economic status (SES) children (Bradley and Corwyn, 2002) or those in single-parent families (Lee and McLanahan, 2015) have more emotional and behavioural problems than their counterparts. However, the effects of these family characteristics may vary significantly by the equivalent contextual characteristics. Yet the evidence with respect to the direction of such moderator effects is mixed. For example, there is evidence that, rather than protecting from it, high-SES neighbourhoods (usually associated with positive outcomes in general) amplify the adverse effect of individual-level low SES on adult health (Winkleby, Cubbin, and Ahn, 2006). For child behaviour outcomes too, disparities by neighbourhood of residence among low-SES families suggest that disadvantaged families do not always benefit from the higher quality of resources and knowledge generally associated with higher-SES neighbourhoods (Flouri, Midouhas, and Tzatzaki, 2015).

The evidence with respect to the main effects of neighbourhood SES on child behaviour is less mixed. In studies carried out in the USA and the UK, the concentration of low-SES neighbourhood residents has been found to have a moderately adverse impact on children's emotional and behavioural adjustment, even when family background characteristics are accounted for (Kohen et al., 2008; Leventhal and Brooks-Gunn, 2000; McCulloch, 2006; Midouhas et al., 2014). High-SES adults in the neighborhood may act as positive role models, provide economic, social and educational resources, and help to maintain social control, thereby promoting opportunities and minimising antisocial behaviour (Sampson et al., 1999). Neighbourhood share of single-parent families, a good proxy measure of structural disadvantage and a correlate of low SES, can also relate to individual children's emotional and behavioural problems. This association has also been tested, but mostly in cross-sectional studies (Boyle and Lipman, 2002), frequently using small samples (Shumow et al., 1998). The link is certainly plausible. Single parenthood is related to poor material circumstances, which predict poor child outcomes (Bradley and Corwyn, 2002). At the same time, single parents are subject to numerous stressors (other than low income, unemployment or low SES), such as conflict with partners and steep parenting demands, that could weaken their involvement in the community, and, in turn, the institutional and social supports available to the children. To the extent that neighbourhood share of single-parent families has

* Correspondence to: Department of Psychology and Human Development, UCL Institute of Education, University College London, 25 Woburn Square, London WC1H 0AA, UK.

E-mail address: e.flouri@ioe.ac.uk (E. Flouri).

a genuine (net of neighbourhood SES) effect on individual child behaviour, the processes that may explain why children in neighbourhoods with a higher share of single parents are more likely to adopt deviant behaviours or show emotional problems appear to be inadequate supervision and difficulties in maintaining social control. With higher levels of single-parent households, it may be more difficult for a community to sustain a sense of empowerment or control the appearance of their neighbourhood or the behaviour of its residents.

We carried out this study to test the moderator effects of neighbourhood SES and share of single-parent families in the neighbourhood on the longitudinal associations, respectively, between parental SES and early child emotional/behavioural adjustment, and between single-parent family status and early child emotional/behavioural adjustment. Neighbourhood SES in our study was measured as the neighbourhood share of females in high-SES occupations[1] (i.e., in higher managerial, administrative or professional jobs). Neighbourhood share of single-parent families captured essentially the proportion of female-headed single-parent families in the neighbourhood.[2] In line with theory, we expected that both these neighbourhood composition measures would be associated with child adjustment, and would be inter-related but orthogonal constructs (Anderson et al., 2014; Beyers et al., 2003). We also expected that neighbourhood SES would be a more telling indicator of child health and behaviour than neighbourhood share of single-parent families, given its association with health-enhancing resources such as material and social benefits (Alegría et al., 2014).

1. The present study

To meet our research objective, we used data from all early and middle childhood sweeps (ages 3, 5 and 7 years) of the UK's Millennium Cohort Study (MCS), a large population cohort born in 2000–2002. We attempted to account for selection bias caused by families' selective sorting into neighbourhoods by adjusting, alongside parental SES and family structure, for family poverty and maternal education. As our outcomes were children's emotional and behavioural problems, we also controlled for maternal psychological distress, and child gender and ethnicity. Maternal depression is strongly associated with child problem behaviour (Goodman et al., 2011), but is also correlated with low SES and single motherhood and is higher in low-SES neighbourhoods (Ross, 2000). Girls, in general, are at lower risk of behavioural problems than boys (Egger and Angold, 2006). The main ethnic minority groups in the UK have similar or lower rates of emotional, behavioural and hyperactivity problems than white British children (Goodman et al. 2008), despite experiencing more poverty (Platt, 2007).

2. Method

2.1. Sample

MCS (www.cls.ioe.ac.uk/mcs) is a longitudinal survey, designed to over-represent areas with high proportions of ethnic minorities in England, areas of high child poverty, and the three smaller UK countries. Sweep 1 took place when the children were around 9 months. We analysed data from the early and middle childhood sweeps which had information about children's emotional and behavioural problems (Sweeps 2–4, corresponding to children's ages 3, 5 and 7 years). We used records for only one child per family (the first-born where there were twins or triplets), and, to avoid conflating neighbourhood with country effects, we used data from the largest UK country. Our analytic sample comprised children living in England at age 3 ($n=10,086$) and with a score for emotional and behavioural problems in at least one of ages 3, 5 or 7 ($n=9850$). Complete data on emotional and behavioural problems were not necessary as growth curve modelling, that we adopted, is able to handle unbalanced data (Snijders and Bosker, 1999).

2.2. Measures

The following describes how the key study variables were measured. All variables were measured at all three time-points unless otherwise specified. *Neighbourhood socio-economic status (NSES)*, measured with data from the 2001 UK Census, was the percentage of high-SES females in the neighbourhood [Lower layer Super Output Area (LSOA), which contains 1500 people on average]. The social class of all 16–74 year olds for each LSOA was grouped into five categories using the National Statistics Socio–economic Classification (NS-SEC). The category representing the highest social class is "higher managerial, administrative and professional occupations". In this study, the percentage (banded in deciles) of female residents with such occupations was used to measure NSES. *Parental socio–economic status (SES)* was measured at Sweep 4 with an indicator of whether the mother had been in the highest NS-SEC category at any point during the study period, from age 9 months to age 7 years. We chose to measure maternal SES by the highest occupational prestige achieved by the mother in order to both preserve as many cases as possible in the dataset (mothers taking time off to raise their children are outside the labour force and so are not assigned an SES category) and present an accurate picture of SES for this group (mothers of young children are more likely than other women to trade off higher wages, associated with higher SES, for mother-friendly jobs). *Neighbourhood single parenthood (NSP)*, also measured with LSOA-level data from the 2001 UK Census, was the percentage of single-parent households in the LSOA, banded in deciles. *Single-parent family status* was measured with an indicator of whether the family was single-parent or not. *Emotional and behavioural problems* were measured by the parent scores on four domains of the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997): emotional symptoms, conduct problems, hyperactivity/inattention and peer problems. Each domain is measured with five items on 3-point scales from 0 to 2, with higher scores indicating more serious problems. Across the three sweeps, Cronbach's alpha ranged from .50 to .65 for emotional, .55 to .68 for conduct, .71 to .78 for hyperactivity and .47 to .58 for peer problems.

As explained, the *key covariates* were the child-level variables of gender and ethnicity, and the family-level variables of poverty, maternal education and maternal psychological distress. Poverty was measured (following Malmberg and Flouri, 2011) as the sum of four binary indicators of the family's level of material or economic deprivation at Sweeps 2–4. This measure captures poverty and its associated material conditions more broadly than relying on measured income alone, and emphasises the interrelationships between family-level socio–economic risk factors. Its items are: overcrowding (>1.5 people per room excluding bathroom and kitchen), not owning the home, receipt of means-tested income support, and income poverty (below the poverty line, set as

---

[1] In view of the developmental stage of our sample (ages 3–7 years), we measured family SES by mother's SES. In order for neighbourhood and family SES to be equivalent, we measured neighbourhood SES by neighbourhood share of high-SES females. Neighbourhood shares of females and males in high-SES occupations are highly inter-related. In our sample, the correlation is about .90.

[2] In 2014, 91% of lone parents in the UK were mothers, a statistic which has changed little in the last decade (Office for National Statistics, 2015).