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Does Residential Mobility Affect Child Development at Age Five?

A Comparative Study of Children Born in US and UK Cities

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This is a pre-copyedited, author-produced PDF of an article accepted for publication in *Developmental Psychology* following peer review. The published paper can be found here: https://psycnet.apa.org/record/2022-47461-007 and can be cited as
Gambaro, L., Buttaro, A., Jr., Joshi, H., & Lennon, M. C. (2022). Does residential mobility affect child development at age five? A comparative study of children born in U.S. and U.K. cities. *Developmental Psychology, 58*(4), 700–713. https://doi.org/10.1037/dev0001288

Abstract

Residential mobility is a normal feature of family life but thought to be a source of disruption to a child's development. Mobility may have its own direct consequences or reflect families' capabilities and vulnerabilities. This paper examines the association between changes of residence and verbal and behavioral scores of children aged 5, contributing to the literature in three ways. First it compares two countries, by drawing on the Fragile Families and Child Wellbeing Study in the US (N=up to 1,820) and an urban subsample of the UK Millennium Cohort Study (N=up to 7,967). Second, beside taking into account an extensive range of demographic characteristics, it applies inverse probability weights to minimize observable selection bias associated with residential mobility and further controls for a wide range of family changes that often co-occur with moves. Third, the paper adds to extant research on residential mobility by incorporating the type of locality from and into which families move. Individual-level longitudinal data are linked to objective measures of neighborhood socio-economic status to gauge the quality of moves families make. Results show that residential moves are not inevitably deleterious to children. In both countries the poorer outcomes of some moves result not from moving *per se*, but the context in which they occur.

Keywords: residential mobility, neighborhood change, verbal skills, externalizing and internalizing behavior, family transitions

Introduction

Residential mobility is a common experience among very young children in the US as well as in the UK (Lawrence et al., 2015; Gambaro et al., 2017). But while changes of residence are not an unusual feature of the early years, the circumstances can vary dramatically. Studies on children's and youth's outcomes from residential mobility have generally found negative associations with health (Jelleyman & Spencer, 2008), social and emotional adjustment (Adam & Chase-Lansdale, 2002; Coley & Kull, 2016; Gjelsvik et al., 2019), and, albeit less consistently across age groups, educational outcomes (Astone & McLanahan, 1994; Cutuli et al., 2013; Scanlon & Devine, 2001). Although the exact processes behind these patterns are still poorly understood (Anderson et al., 2014), the loss of familiar environments, routines and social support networks are thought to make residential moves stressful, with repercussions for family functioning and child wellbeing (Clair 2018).

A crucial aspect of residential mobility is where a family moves to. Better housing or neighborhood quality has implications for children (Hango 2006). Findings on mobility assistance programs have shown that relocation into more desirable neighborhoods can be beneficial for children's education (Rosenbaum 1995), mental health (Leventhal & Brooks-Gunn 2003), and their later outcomes on the labor market (Chetty et al. 2016). Although the topic of residential mobility is clearly intertwined with that of neighborhood (Leventhal & Brooks-Gunn 2001), there is surprisingly little overlap between these two lines of research. In part this is due to the fact it is difficult to empirically disentangle the two effects: residential mobility can affect children precisely because it changes their exposure to potentially more or less stressful neighborhood environments.

A second methodological challenge to research on residential moves is that they are often correlated with other changes in the family. Most studies take into account the broad

demographic and socio-economic characteristics that distinguish mobile from non-moving families, but fewer consider co-occurring changes, such as parents' partnership formation or dissolution, which often cause moves and are consequential for children independently of other factors (Desmon & Perkins, 2016). Without simultaneously considering both family characteristics and changes, it is difficult to relate child outcomes purely to residential mobility.

This study investigates whether residential moves are independently associated with three developmental outcomes at age five: language ability, externalizing behavior, and internalizing behavior, offering a systematic comparison across different developmental domains. We ask whether the associations between residential moves and children's development vary depending on the differences in socioeconomic advantage between neighborhoods of origin and destination to better understand the role of neighborhood contexts. In line with the literature on mobility assistance programs, we are particularly interested in moves in and out of the relatively most disadvantaged neighborhoods. By including a broad range of confounders and seeking to adjust for selection into residential moves, our analytical strategy specifies the circumstances of mobility in greater detail than most previous studies (reviewed below). The further inclusion of co-occurring changes allows setting children's outcomes against trajectories – in neighborhood, family structure, employment – to present a nuanced picture of the circumstances and consequences of residential mobility.

We also extend the scope of the analysis geographically. While most studies stem from the US, we bring in evidence from the UK. We draw on data from the Fragile Families and Child Wellbeing Study (FFCWS) for the US and the Millennium Cohort Study (MCS) for the UK. At a broad level, the two countries share a common culture and economic system. Yet the UK offers an interesting contrast to the US, as it has a lower rate of residential mobility

(Caldera Sanchez & Andrews, 2011), higher prevalence of relatively stable social housing tenancy (Cho & Whitehead, 2013) and a less distinct pattern of residential segregation of ethnic minorities (Zhang et al., 2017). Finally, in the early 2000s – the time period examined here – more generous benefits for families with young children and subsidized childcare and early education services made the UK more family-friendly than the US (Waldfogel, 2010). The advantage of a cross-national perspective is that it can uncover whether the effects of residential mobility vary not only in relation to the immediate circumstances of a move, but also to the broader policy environment (Waldfogel, 2013).

Prior Research

Residential Mobility and Child Outcomes in Early Childhood

Research on the consequences of residential mobility has mainly focused on school-aged children. Changes of school and peer networks that may result from home moves are viewed as disruptive for this age group (Leventhal & Brooks-Gunn, 2001) because of the link between place of residence and school attended (McKoy & Vincent, 2008). Recently attention has turned to the effects of residential mobility in the years before school entry, a life stage characterized by higher residential mobility than middle childhood or adolescence (U.S. Census Bureau, 2010; Champion, 2005)

Early childhood is an especially sensitive developmental period, and alterations of a child's ecology may have long-lasting effects (Shonkoff et al., 2012). Yet a change of home and neighborhood may affect young children only indirectly, with a stable family environment and family capabilities buffering possible negative effects. Moreover, the extent to which residential moves are a source of stress for the family is likely to depend on a range of factors, related to the circumstances and quality of the moves and the resources families have (e.g. Pettit, 2004).

There is limited empirical research on the consequences of moves in early and mid-childhood and findings are inconclusive, although possible negative effects are more consistently found on behavioral rather than on cognitive outcomes. Most studies consider residential mobility across early childhood, covering four to five years. Using data from the Early Childhood Longitudinal Study – Kindergarten Cohort (ECLS-K), Coley and Kull (2016) showed how the influence of early moves on children's cognitive skills was weak and dissipated over time. By contrast, moves in early childhood were associated with lower social skills, higher internalizing and externalizing problems at both Kindergarten entry and at the end of fifth grade, albeit with lesser strength. Mollborn, Lawrence, and Dowling Root (2018) drew on the Early Childhood Longitudinal Study – Birth Cohort (ECLS-B) and reported similar finding on behavior but did not find any association between mobility and verbal cognition.

Findings are contradictory as to whether the negative effects of residential mobility are restricted to disadvantaged families only. Mollborn, Lawrence, and Dowling Root (2018) suggest the characteristics of moves matter more than family resources. Their study examined different aspects of residential mobility and uncovered negative effects associated specifically with frequent moves, moves to more disadvantaged neighborhood, and long-distance moves. These associations were similar across different subgroups of families. By contrast, Ziol-Guest and McKenna (2014), using the Fragile Families and Child Wellbeing Study (FFCWS) as we do here, found that frequent mobility was associated with preschoolers' externalizing behavior among disadvantaged families only. Beck, Buttaro and Lennon (2016), also drawing on FFCWS data, showed that number of moves was associated with worse cognitive and behavioral outcomes at age 5, but these associations were completely explained away by family socio-economic characteristics, changes in parents' partnership status and employment, and housing related measures.

Studies based on data on low-income families are more consistent in pointing to a negative association between residential mobility and children's outcomes. Schmitt, Finders, and McClelland (2015), for example, reported a negative association between early childhood moves and inhibitory control, math and literacy achievement at the start of preschool, but with maternal education as the only additional control. Two further studies differed in that they did not measure residential mobility over the entire early childhood period. Schmitt and Lipscomb (2016) revealed a small negative association between mobility during the prekindergarten year and cognitive outcomes at the end of pre-Kindergarten among children attending Head Start. This association was over and above controls for family socio-economic background, for parenting style and for a parent reading to the child. Fowler, Henry, Schoeny, Taylor, and Chavira (2014) looked at data on families who had come into contact with the child welfare system and estimated a steep increase in behavioral problems among preschoolers who had moved between age three and four.

Taken together these findings lend support to the idea that residential moves may be potentially disruptive for children. The fact that age five children in the US have had limited exposure to the formal education system could help explain that the more detectable effect on behavior than on cognition. However it remains unclear whether these effects are related to family resources or rather to moves that are frequent and disadvantageous in terms of their destination.

Upward and downward residential mobility

One crucial aspect of residential moves isthe characteristics of the origin and destination neighborhoods. Recent evidence suggests that families with young children tend to relocate in better quality areas. Using representative data from the US, Root and Humphrey (2014) and Lawrence, Root and Mollborn (2015) showed that neighborhood characteristics improved among movers relative to non-movers. UK longitudinal data suggest similar

patterns. Rabe and Taylor (2010) reported, for England, that a new birth was associated with a move to a less deprived neighborhood. Hansen (2014) showed that the majority of residential moves among families with children under school age were motivated by a desire to change for better areas, often in conjunction with better-performing schools. Such a pattern of upward neighborhood mobility, while numerically prevalent overall, tend to be far less common among families with relatively low resources or with experience of parents' breakup (Sampson, 2008; Gambaro et al., 2017).

There is also evidence that negative life events trigger downward mobility. South, Crowder and Trent (1998) tracked families with young children in deprived neighborhoods. They showed that children of divorcing parents not only moved more often than children in intact families, but also moved to poorer neighborhoods. Children whose co-resident divorced parent married again, however, tended to move to better-off neighborhoods.

Some recent studies show that the characteristics of neighborhood destinations and of mobility trajectories more generally are helpful in distinguishing potentially heterogeneous effects on children. Roy, McCoy, and Raver (2014) examined the effect of relocation on self-regulatory functioning in a sample of low-income children from Chicago. They included measures of neighborhood poverty at both origin and destination and found that children who had moved out of poor neighborhoods had better outcomes than children whose family had not moved. Children who had moved into poor neighborhoods were found to do worse than children who had been stable in poor neighborhoods. Mollborn et al. (2018) reported similar evidence on a representative national sample of children (ECLS-B) and argued that the neighborhood quality of moves is a distinct and important aspect of residential mobility in early childhood. However, their measure of moves quality was based on the direction of neighborhood change and did not consider the absolute level of advantage or disadvantage of area of origin and destination. This approach fails to differentiate between, on the one hand,

moves that entail a negative change relative to the area of origin but nonetheless occur within advantaged areas and, on the other hand, moves to and within the most disadvantaged areas at national level. This latter may be the most detrimental to children.

These findings are limited to the US, raising the question of whether evidence from other countries confirm these patterns. A recent study in New Zealand by Nathan and colleagues (2019) reported that moves to areas of higher socioeconomic deprivation were associated with more behavioral problems in young children. But again this negative change was relative to the area of origin and did not take into account the absolute level of socio-economic deprivation of areas of origin and destination. In the present study we further investigate the potentially different effects of residential moves depending on neighborhoods of origin and destination, taking into account not only the direction of neighborhood change but also the absolute level of socio-economic disadvantage of neighborhoods.

The Present Study

This study focuses on early childhood and examines the association between changes of residence and children's outcomes at age five for samples in both the US and the UK. We consider verbal and behavioral outcomes, offering the first systematic comparison of this kind across different developmental domains in two different countries.

We follow the framework proposed by Anderson et al. (2014) analyzing residential mobility in relation to two ecological contexts salient to young children – the neighborhood and the family. Drawing on emerging research, we examine whether the consequences of residential mobility vary depending on the neighborhood of origin and of destination. We link individual-level longitudinal data to objective measures of neighborhood socio-economic status to gauge the quality of moves families make. This allows us to distinguish moves that occur within advantaged areas, and within disadvantaged ones, as well as moves upwards and downwards between them.

Our modelling strategy also seeks to account for factors that could confound the association between residential mobility and children's outcomes. To minimize the observable selection bias associated with residential mobility, we employ inverse probability weights. Furthermore, beside family resources and characteristics at baseline, we account for other sources of instability and record the type of change in parents' partnership status and changes in households' employment status, testing whether specific changes in these domains are consequential for children.

Finally, extending the analysis beyond the US to the UK offers three main advantages. First, knowledge from another national source helps address the current imbalance in the literature, which is almost exclusively from the US. Second, as noted earlier, the UK provides some interesting contrasts to the US. With its more generous income and services support for young families, the UK would seem to offer greater protection against housing instability and downwards moves. At the same time, the lower prevalence of residential mobility in the UK may indicate that home moves are less commonplace, and, perhaps, more stressful, as a result. The third advantage is that our approach is thoroughly comparative. Given that existing studies vary in their measures of children's outcomes, residential mobility, neighborhoods socio-economic characteristics and family resources, it is important that the constructs examined are as comparable as possible. We ensure that through extensive harmonization of the data. Furthermore, as the FFCWS sample comprises children born in large US cities, we restrict the UK sample to children born in large urban areas, as detailed below.

Method

Data and Comparative Analytical Approach

For our study we wished to exploit two large birth cohort longitudinal data sets: the Fragile Families and Child Wellbeing Study (FFCWS) for the United States, and the

Millennium Cohort Study (MCS) for the United Kingdom. For both datasets appropriate permissions were obtained to access the restricted access versions containing geographical identifiers of the origins and destinations of moves. Because the research involved completely anonymous information, the research project underlying this study, titled "Home moves in the early years: the impact on children in UK and US", was deemed exempt by the Graduate School & University Center (CUNY) Human Research Protection Program (HRPP) Office and by Institute of Education Research Ethics Committee.

FFCWS is a panel study of 4,898 families with children born between 1998 and 2000 selected in 20 large US cities with an oversampling of unmarried parents (Reichman et al. 2001). Extensive information on demographic characteristics, economic and employment status, attitudes, relationships, parenting behavior, physical and mental health and more was collected starting from the birth of the focal child and subsequently at 1, 3, 5, 9, and 15 years of age, so far. The core surveys refer to mothers and fathers, who were separately interviewed in all waves up to age 9. When children were age 5, 74% of mothers participated in an additional in-home survey module, through which the cognitive skills of 57% of children were assessed. FFCWS is better focused than a more fully nationally representative US dataset, such as the ECLS, to investigate disadvantaged families in cities (Wagmiller 2010), precisely the population for whom previous research has reported possible negative mobility effects (Ziol-Guest & McKenna 2014).

MCS is a nationally representative longitudinal study of children born in the UK between 2000 and 2002 (University of London, Institute of Education, Centre for Longitudinal Studies, 2017a, 2017b, 2017c, 2017d). Families were selected from the records of Child Benefit, a cash transfer then payable to all families with children regardless of income. MCS design over-samples areas with high child poverty, high minority ethnicity (in England only), and the three smaller countries of the UK. Altogether 19,243 families have

been interviewed, but, as we explain later, we select here nearly 8,000 children born in large cities. The first interviews with the main caregiver (almost always the biological mother) were conducted when children were 9 months old followed by face-to-face surveys when they were 3, 5, 7, 11, 14 and 17 years old, so far (Joshi & Fitzsimons 2016). The domains covered in MCS mirror those in FFCWS. Both assess demographic background; neighborhood and residential mobility; employment, income and poverty; child development; and health of child and parent.

To focus on early childhood, we selected three waves of data collection occurring when children were a similar age in each study, namely: age 1, 3 and 5 years in FFCWS; age 9 months (the first), 3 and 5 years in MCS. To simplify, in the rest of the paper we refer to both the interview at age 1 in FFCWS and at 9 months in MCS as the 'year 1 wave.' The relevant time window in which we study residential moves is approximately four years. As detailed later, to construct family composition changes and employment changes at family level we extended the time window to incorporate information about the family at the time of the focal child's birth. This was elicited at birth in FFCWS and through retrospective questions at the first MCS interview. All interviews were conducted from 1999 through 2006 in the US, and from 2001 through 2007 in the UK.

To increase the comparability of the datasets, we took some additional steps. First, we dealt with the different geographical coverage of the two surveys. The FFCWS was designed to be nationally representative of births in large cities, whereas the MCS had a national sample representative of both urban and non–urban population. We selected children from the MCS who were born in hospitals in large cities, defined as with population above 100,000 (see Supplemental Material 1). Our comparison between the two countries is thus confined to children born urban areas, although hereinafter we refer to the two samples as US and UK respectively.

As a second step to increase comparability, the analytic samples were restricted to survey respondents who were the biological mother, thus excluding a small number of cases from both surveys. Third, only children with complete data on residential mobility, neighborhood characteristics, and outcome variables were included. For the FFCWS these restrictions resulted in a sample of 1,458 children with data on verbal skills and 1,820 with behavior scores. For MCS, the analytic sample size of city-born children was 7,967 and 7,688 respectively. Comparison of the characteristics of full and analytic samples showed in general very small differences. The largest deviations in the analytic samples were, in the US, an underrepresentation of mothers born abroad (-3.3%) and an overrepresentation in the Black ethnic group (+2.0%) for the verbal sample; the MCS had an underrepresentation both of mothers born abroad and in the White ethnic group (respectively -3.4% and -2.7%).

Missing data on covariates were imputed using a two-step procedure. First, we logically replaced some of the missing data using a version of the variable from other waves, or in the US case, taking information from the questionnaire to fathers. Secondly, remaining missing data were imputed *via* Rubin's (1987) Multiple Imputation (MI) procedure. In the analyses, parameters of interest are estimated and averaged across 20 data sets and adjusted for missing data uncertainty. In all analyses we adjusted for survey design effects (i.e. Primary Sampling Units and sampling strata), using the *svy* command in Stata version 14.

The FFCWS interview data are available through Princeton University's Office of Population Research (OPR) data archive, see https://fragilefamilies.princeton.edu/documentation. FFCWS data including goegraphic identifiers are available upon application at https://fragilefamilies.princeton.edu/restricted. Most UK Millennium Cohort Study (MCS) data are available through the UK Data Service, at https://beta.ukdataservice.ac.uk/datacatalogue/series/series?id=2000031, with data containing geographical identifiers subject to stricter access conditions. As explained earlier

and described in Supplement 1, we restricted the MCS sample using information about the location of the hospitals where children were born, which is not publicly available. The analysis code used in this study is available by emailing the corresponding author. The study was not preregistered.

Variables

In terms of comparative validity, these two data sets bear substantial, but not perfect content and construct equivalence (Bechger et al., 1999; Prince, 2008). In this section we describe the operational definitions of the measures used in our investigation, detailing steps taken towards cross–sample equivalence. Univariate statistics of all the main variables used are reported in Table 1; Supplement 2 presents additional univariate and bivariate statistics.

Child outcomes

We investigate three outcomes of child development at age 5: verbal score reflecting cognitive skills, and two measures of behavioral adjustment: externalizing and internalizing problems. The comparative measures of cognitive development are the *Peabody Picture Vocabulary Test* (PPVT) (Dunn & Dunn, 1997) for FFCWS and *Naming Vocabulary*, for MCS, from the British Ability Scales II (BAS II) (Elliott et al., 1996). Although they assess receptive vocabulary and expressive language skills respectively, they are both designed to capture children's linguistic skills through identification of everyday objects on test showcards and have been used before in comparative research (Bradbury et al., 2015). They are age-normed tests based on the national population of 5-year-old children with mean = 100, SD = 15 for US and mean = 50, SD = 10 for UK. In both analytic samples the means and standard deviations depart from the national norms (see Table1).

Externalizing Behavior and *Internalizing Behavior* are the two comparable behavioral outcomes based on primary caregiver's rating of the child on behavioral and emotional problems. They consisted of a computation of items ('0. not true', '1. somewhat or sometimes

true', '2. very true or often true') from mothers' responses to questions from the Child Behavior Checklist (CBCL) (Achenbach, 1992; Achenbach & Rescorla, 2000) in the US, and the Strengths and Difficulties Questionnaire (SDQ) (Goodman, 1997) in the UK. The CBCL Externalizing scale assessed acting-out forms of behavioral problems (e.g. argues a lot, disobedient at home/school, lies/cheat; mean score of 30 items; Cronbach's alpha = .86), whereas the Internalizing scale covers emotional problems (mean score of 22 items; Cronbach's alpha = .75). The SDQ Externalizing measure consisted of the sum of 10 items from the 'Conduct problem' (e.g. often has temper tantrums, fights/bullies other children) and 'Hyperactivity' sub-scales (e.g. easily distracted, fidgeting); the Internalizing outcome summed a total of 10 items belonging to the 'Emotional' (e.g. often worried, unhappy) and 'Peer problems' sub-scale (e.g. tends to play alone, bullied by other children). Cronbach's alpha for the externalizing and internalizing measures were respectively .66 and .79.

To facilitate comparisons between the two country samples, we transformed all three outcomes into percentile scores ranging from 1 for children with the lowest scores, to 100 for the highest scoring children. This approach has been used in educational and comparative research (Feinstein, 2003; Waldfogel & Washbrook, 2011) since it increases stability by reducing the influence of extreme values. Moreover, literature shows that replacing raw score with percentiles does not increase t-test Type-I error across a wide variety of distributions (Zimmerman & Zumbo, 2005). When averaged across outcomes, the correlation between original scores and relative percentile version was .95 in the US and .94 in the UK (for a comparison of OLS estimates between predicting original vs percentile version of outcomes, see Supplemental Table S5.1).

Independent Variables

To capture residential mobility we created a dichotomous variable indicating whether the family had ever moved between year 1 and year 5 waves (see Supplement 2, Table S2.1).

This was based on respondents' answers to the question of whether their address was the same as at the previous interview. In supplemental analyses we used two different variables on residential mobility. The first was *additional residential moves after the first, 1–5yrs,* computed by subtracting '1' from the total number of residential moves reported by respondents who had changed address. The second was a three-fold variable distinguishing the timing of residential moves into *"moves between 1 and 3 years"* (=1), *"moves between 3 and 5 years"* (=2), and *"moves between both 1-3 and 3-5 years"* (=3).

The quality of neighborhoods where family lived at the age 1 and age 5 waves was measured by an index of local area relative advantage. The was a composite score obtained by Principal Component Analysis (PCA) run on a series of census-based indicators of socio–economic conditions in the residential area (Wodtke et al., 2011), with higher scores on the resulting index indicating greater socio-economic advantage at the area level. As described in more detail by Buttaro and Gambaro (2018), we took measures of disadvantage/advantage from the 2000 US Census and, for the UK, from the 2001 Census and administrative data. Six measures common to both countries were the proportions of: unemployed in the labor force; households receiving welfare; female–headed households; adults with no high school diploma or UK equivalent; adults with a college degree; and adults who are managerial/professional workers; a seventh variable selected for the US index was proportion of people below poverty level. We created the index at the national level first and then merged to both data sets by the geocodes of surveyed addresses at year 1 and year 5 waves. We further dichotomized quality of neighborhoods index into the categories '*top 70%*' (=0) and '*bottom 30%*' (=1), as done in previous operationalizations (The Annie E. Casey Foundation, 2020; NAO, 2006; Wilson, 1997). We tested whether results were sensitive to the choice of cutoff by using the fourth (i.e. 'top 60%' vs 'bottom 40%'), and the second (i.e. 'top 80%' vs 'bottom 20%') deciles instead of the third.

Control variables: variables representing child, mother and household characteristics were included to capture capabilities and vulnerabilities mainly at baseline, along with co-occurring changes in household composition and employment.

Child characteristics. Child's sex is male is a dichotomy coded '1' when the focal child is a boy. *Child's age in months at 5yr wave* allows for variation in the exact age at interview. C*hild was born underweight* is coded '1= less than 2,500 gm' and '0=2,500 gm or more'. *Cohort member was the first child* is coded 'l=yes' when the focal child does not have any older sibling at birth. *Child's general health* was available only at different ages, measured on a different scale and in different directions, although they assess similar constructs. In FFCWS it was collected at age 1 on a range '1 = poor' through '5 = excellent'. In MCS at the 3yr wave, mothers were asked whether the child had "had any longstanding health condition", coded here as '1 = presence of any longstanding health conditions'.

Maternal characteristics. Mother was single at child's birth is a binary variable representing mother's partnership status when the child was born, coded '0' if partnered, and coded '1' if single. M*other's age in years* records her age at the focal child's birth. *Mother's general health at 1yr wave* is based on self-reported health at the first wave but the studies had different ranges: in FFCWS it was '1 = poor' through '5 = great'; in MCS '1 = up to fair' through '3 = excellent'. *Mother was depressed at 1yr wave* in FFCWS is based on meeting criteria for a major depressive episode (MDE) on the Composite International Diagnostic Interview Short Form (Kessler et al., 1998). Without an exact equivalent in MCS, and similarly to Jackson, Kiernan and McLanahan (2017), we used an item indicating a severe problem, where mothers were asked in the first survey whether they had ever been diagnosed by a doctor with depression or serious anxiety. Although mobile mothers may subsequently become less likely to access mental health services, the measure refers to diagnosis received before the time window in which moves are observed. *Mother's race/ethnicity* has four–

categories in FFCWS (i.e. White, Black, Hispanic, and Other race/ethnicity), and five in MCS (White, Black, Indian, Pakistani/Bangladeshi, and Other race/ethnicity). We note that ethnic groups bearing the same label, such as White or Black, have different social origins and histories of assimilation in the two countries. *Mother was not born in US/UK* is a dummy variable reflecting immigrant status. Given differences in the education systems in the two countries, we constructed a comparable seven–point ordinal variable *mother's level of education* to approximate content-equivalence. It ranges from '1 = less than 9th grade (US)/minimal formal qualification (UK)' through '7 = graduate degree/higher degree'.

Household Characteristics.

We constructed two longitudinal variables to assess the influence of additional sources of instability. *Family structure change birth–5yrs* is a longitudinal variable about the parents living with the focal child and transitions occurring from birth to age five. In both samples we combined the cross–sectional measures of the specific family structure (i.e. mother and biological father, mother and other partner, and single mother) at each wave including information around the child's birth, for a total of four cross–sectional trichotomies. Combining these produced a six–category measure distinguishing mothers who from birth to the 5yr wave: 'had been stably coupled with child's biological father'; 'been stably single'; 'transitioned from living with child's biological father to a new partner'; 'transitioned from being single to living with a partner'; 'transitioned from living with the child's biological father to being single', and 'experienced multiple transitions'. This variable may overestimate stability, insofar as a change – departure and return of a partner or the reverse – may have occurred between waves. Yet the underestimation is likely to be small, as more precise analyses of partnership histories in both studies suggest that such occurrences were rather rare (Kiernan & Mensah, 2010, Lee & McLanahan, 2015). We made no distinction between married and cohabiting couples. This simplifies the recording of changes over time, but we

acknowledge that this simplification is more appropriate for the UK than the US, with its greater differences between married and cohabiting couples (Kiernan et al., 2011). Family changes occurring after the year 1 interview may or not precede moves in the same interval, those recorded between birth and year one precede any move in our analysis.

Household employment change birth–5yrs measures the change in the employment status of the mother and her partner within each household from child's birth through age five. We considered their employment status at each wave, assigning the 'employed' status to the household if at least one did "any regular work for pay" in the previous week (in FFCWS) or was "currently doing paid work/had paid job but on leave" (in MCS). After combining these four intermediate dummy variables, the resulting categories were: stably workless; from workless to employed; from employed to workless; in and out of work; and stably employed. As with family change employment changes between birth and 'year 1' would be pre-cursors of moves, rather than co-occurring.

Finally, we included *household size at 5yrs,* which counted the number of people living in the household including the respondent; and *mean equivalized income 1yr–5yrs*. The latter was computed from the three cross–sectional household income variables in each data set, adjusted for household size and composition, converted in 2007 currency value and averaged across waves. We used the natural logarithm of this average to reduce the influence of outliers.

Analytic Strategy

To investigate the association of residential mobility with child outcomes, we ran three Ordinary Least Square (OLS) regression models. Model 1 tested baseline associations between the dichotomous indicator of residential mobility and child outcomes controlling for child sex and age at the time of assessment. Model 2 assessed whether this association varied depending on neighborhoods of origin and destination by including the dichotomous

indicator on neighborhood quality 'bottom 30%' at both age 1 and age 5 waves. It additionally included the interaction between 'bottom 30%' at age 1 and the residential mobility variable (with the interaction between mobility and 'bottom 30%' and age 5 dropping from the models because of redundancy). Model 3 accounted for confounding factors and for selection into residential mobility by taking the following steps. First, Model 3 also included child's and mother's characteristics, such as mothers' education and ethnicity. Second, to understand whether concurrent family and employment changes further reduced any association between residential mobility and children's outcomes, the model also included detailed changes in mothers' partnership status and employment changes at the family level. Third, to test for differences between those who move and those who did not, Model 3 applied inverse probability weights. We employed propensity scores to reweight the group of non-movers to be more like the group of movers across a battery of characteristics. Given that propensity to move varies between the two countries, we specified different models to derive scores: the FFCWS model only included mother's age, neighborhood advantage at wave 1 and their interaction; in MCS instead, it comprised several socio-economic and household-related covariates (see Supplement 3). Model 3 thus provides the most conservative estimates and it is the preferred specification presented here. Intermediate models, including baseline covariates and changes in parents' partnership and employment respectively (referred to as transitions), are shown in Supplement 4.

To explore whether the association with residential mobility varied across developmental domains, the analyses were run on children's verbal scores, externalizing problems, and internalizing problems. Tables 2-4 show only the coefficients relative to residential mobility, quality of neighborhood, and their interaction, with all other coefficients reported in the Supplement 4. Of particular interest in this paper is the coefficient of the interaction variable, which tests whether residential moves originating in the most

disadvantaged areas were associated with the developmental outcome. Together with the main effects of residential mobility and neighborhood of origin and destination, the inclusion of this interaction allowed us to derive the association between specific residential mobility trajectories and child outcomes. For example, we were able to test whether verbal scores of children moving out of the bottom 30% areas differed from those of children remaining in such areas. Of course, the association of trajectories of this kind, that entail a change of neighborhood, cannot be decomposed into a neighborhood and a moving 'effect', because the two overlap. But the exercise also allows one to contrast children who moved within the top 70% areas to those living in the same areas with no move, and to also contrast children moving to or within the bottom 30% to non-movers. Such comparisons highlight any potential association between residential mobility and child outcomes, holding the neighborhood context constant. In presenting the results in this way we report regression coefficients in the top panel of each table, and, in the bottom part, the computed difference in coefficients between non-movers and movers, with the latter grouped by neighborhood trajectory.

Results

Mobility and instability in the two samples

Children born in US cities are far more mobile than their British counterparts. Table 1 shows that 60% of children in the UK sample do not experience any move at all, while only 37% of those in the US sample live at the same address throughout their early childhood. In both samples approximately one third of children lived in the most disadvantaged areas, and this was stable between the age 1 and age 5 surveys. The greater residential mobility of the US sample was also accompanied by greater instability in both the partnership and

employment domains, with much higher incidence of both break-ups and re-partnering as well as movements in and out of the labor market in the US relative to the UK one.

Moves and Children's Verbal Scores

Table 2 reports the three OLS regression models used to investigate the association of residential mobility with child verbal scores. In all models we control for sex and age of the child at assessment. The coefficients of residential mobility in Model 1 show for each country that children who experienced at least one residential move by age 5 did not differ in their verbal score from their non-mover peers. Because this approach does not take into account the quality of the move, Model 2 includes the indicators of most disadvantaged (bottom 30%) neighborhood at age 1 and age 5 and the interaction between mobility and bottom 30% at age 1. In this specification, the reference group is families who stayed within the top 70% and the coefficient of residential mobility refers to children who had moved within the top 70% of residential areas. Their verbal scores were not different from those of children who had stayed at the same address in the more advantaged areas. Children living in the bottom 30% areas at age 5 and also, in the UK sample only, at age 1, had worse verbal scores irrespective of whether they had experienced a move. The interaction term between residential mobility and poor area of origin was not significant, indicating that moves originating in the bottom 30% areas were not a source of further disadvantage. This is not surprising, given that such moves also include moves to more advantaged areas. The bottom panel of Table 2 reports the results of testing different mobility trajectories against each other. In the US sample, children moving to a bottom area from the top show significantly worse scores compared to stayers at the top, but mainly due to the movers' exposure to disadvantaged areas at age 5. Similarly, in the UK sample, any trajectory that reduced exposure to the bottom 30% areas was associated with higher verbal scores. Yet, children who had moved within the bottom 30% areas appeared to suffer a moving penalty of -3 percentile points – a small difference, but

nonetheless suggesting that within more disadvantaged areas moves can constitute an additional vulnerability for the cognitive development of the child.

In Model 3 we addressed the problem of selection into residential mobility by applying inverse probability weighting and by adding information on families' vulnerabilities and capabilities. This set of controls included both child's and mother's characteristics, but also possible additional sources of instability: changes in mother's partnership status and household's changes in employment status. These controls substantially reduced the magnitude and the statistical significance of the parameters of neighborhood disadvantage. The associations were primarily reduced by the addition of baseline controls rather than by the inclusion of partnership and employment transitions (as shown in Supplemental Table S4.1). Living in bottom 30% areas at age 5 was associated with lower verbal scores, with a difference of 7 and 4 percentile points in the US and UK samples respectively. When testing different mobility trajectories against each other as we had done for Model 2, children who had moved to the bottom 30% areas appeared to be at disadvantage compared to either group of their more residentially stable peers (those stably in the bottom 30% in the US sample, and those stably in the top 70% in the UK sample respectively).

Moves and externalizing problems

We also use the same models to investigate the patterns of associations between residential mobility and children's externalizing problems (Table 3), where the overall level of fit is lower than for the verbal score. In Model 1 the estimates show that children who moved had more externalizing symptoms than non-movers in the UK, but not in the US. As the variable on neighborhood and the interaction between bottom 30% area and mobility were included in Model 2, the coefficient of residential mobility lost significance in the UK sample. Among children from US cities, living in the bottom 30% areas was not associated with more externalizing symptoms nor was any moving trajectory (Table 3, Model 2, bottom

panel). Instead, results from the MCS sample revealed some differences between children with different residential mobility histories and the patterns mirrored those described for verbal scores. Children living in the 30% most disadvantaged areas at either age 1 or 5 displayed more externalizing symptoms than children living elsewhere. Residential mobility did not appear to be associated with children's externalizing behavior either when occurring within the top 70% areas or when originating from the bottom 30%. However, as the tests reported in the lower panel of the table show, children moving within the bottom 30% areas had an externalizing score 4 percentile points higher than their peers who had been similarly living in the bottom 30% areas but had not experienced a change of home.

Model 3 brought an unexpected change of significance in the coefficient of residential mobility in the US sample, indicating that, given controls, movers had fewer behavioral problems than children who had not changed home. The parameters tests reported in the bottom panel confirmed that, relative to children stably living in top 70% areas, in the US sample children who had moved either within or from top 70% had 9 or 6 percentile points lower externalizing symptoms. Whereas moves within top 70% areas can be advantageous, the result of downward moves raises the question of whether such trajectory can entail a trade-off with larger homes (Gambaro et al. 2016), something that unfortunately we cannot explore with the data available. The parameter tests for the UK sample showed fewer differences among children with different residential mobility trajectories than similar tests on Model 2. Only having moved from a bottom 30% area to a top 70% one remained significantly associated with higher behavioral problems in comparison to having lived stably in the top 70%.

Overall, the patterns of associations for externalizing problems were tenuous but different between the two countries. In the US sample, there was some indication that residential mobility could be associated with lower externalizing problems even when it

entailed a more disadvantaged destination. In the UK, on the other hand, it was harder to detect many significant associations between children's externalizing behavior scores and the residential mobility variables. For children from UK cities, instability in family structure rather than instability of residential location appeared to be a source of stress associated with more externalizing problems (see Supplemental Table S4.2).

Moves and internalizing problems

Table 4 presents the associations between residential mobility and internalizing symptoms, again with lower levels of variance explained than the verbal outcomes. In the US sample, none of the coefficients of the residential mobility or of neighborhood advantage or their interaction were significant in any model. Nor did the parameter test analysis show any significant contrast between moving trajectories. In the UK sample there were some significant associations, mainly with living in a disadvantaged area at either age 1 or age 5. Whereas children who had moved did not exhibit higher internalizing scores than their more stable peers, moves within the bottom 30% areas were associated with three percentile points higher internalizing symptoms. The associations with disadvantaged neighborhoods became insignificant in Model 3, with the inclusion of controls and family transitions and the use of inverse probability weights (see also Supplement 4). As in the models on verbal scores and externalizing problems, the inclusion of family transitions did not alter these results. There was some evidence that children in the UK sample who had moved out of the more disadvantaged areas were at greater risk of developing internalizing symptoms relative to stayers in the more advantaged areas (see bottom panel of Table 4, Model 3).

Taken together these results suggest that in the US sample residential mobility was not associated with internalizing symptoms. However, among children in UK sample, for whom moving is generally a less common experience, moving to more advantaged areas was associated with more internalizing problems compared to stably living in such areas.

Additional moves and their timing

So far we have captured residential mobility with a dichotomous variable, indicating whether children have experienced at least one residential move between age one and age 5. Some studies however have pointed to the detrimental effect of frequent moves. To check this possibility, we added the variable "number of additional moves" to Model 3, which however was not significant for any outcome (Supplemental Table S5.3).

Most of the previous studies conceptualize early childhood mobility as occurring during children's first four or five years of life as we do here. It could be however that residential mobility disrupts social ties and access to local resources only in the short term. A final set of supplemental analyses further distinguished between children who had moved home between the age 1 and age 3 survey waves, or between the age 3 and age 5 ones, and also those who had moved at both time intervals. Results (Supplemental Tables S5.4-S5.6) did not indicate different associations between early or more recent residential moves and children's outcomes. However, in the UK sample, children who had moved at both time intervals displayed higher internalizing scores, albeit the association was only weakly significant and not confirmed by results on two or more additional moves. Overall, we do not find evidence that repeated or more recent residential moves are more strongly associated with children's outcomes.

Discussion

In the present study we examine the associations between early childhood residential mobility and children's outcomes, accounting for the neighborhood and family contexts in which moves take place. We contribute to existing research in three ways. First, by looking at children in the UK as well as in the US, we extend research on residential mobility during childhood across the Atlantic and add to an emerging literature using comparable cohort studies to examine family-level processes and their influence on child development (e.g.

Jackson, et al., 2017; Linberg et al., 2018). This comparative approach has the potential of revealing whether the patterns of association between residential mobility and child outcomes remain similar across different macro contexts, characterized by different levels of residential mobility and policy support. Second, we investigate whether the association of residential mobility with children's outcomes varies according to the level of social disadvantage of the neighborhood of origin and destination (Mollborn et al. 2018; Roy et al. 2014). Rather than qualifying moves by the direction of neighborhood change, we focus on moves to, from, and within the most disadvantaged areas defined at the national level. Third, we test whether co-occurring changes in parents' partnership status and employment account for mobile children's worse outcomes. Both these differentiations – of neighborhood and family dynamics – add nuance to the estimation of the association between residential mobility and children's development.

Our comparative approach highlights differences but also some commonalities between the two countries. Children born in large US cities experience a less stable environment in terms of housing, employment, and parental partnership than children born in large UK cities. But no negative consequences of the higher mobility in the US were detected. By contrast, there were some tenuous associations between some types of residential moves and child outcomes in the UK sample. This is partly due to the larger UK sample size, but could indicate residential mobility being more stressful and possibly more consequential in a context where it is less the norm.

Specifically, in the UK sample movers out of disadvantaged areas still showed worse externalizing and internalizing symptoms than those who stayed in advantaged areas. In the US, movers within or from advantaged areas had fewer externalizing problems than stayers in these areas. In both cases (UK and US), effects were small, ranging from 3 to 9 percentile points. Findings from the UK also indicated that children moving to the most disadvantaged

areas had lower cognitive scores than their non-moving peers in the least disadvantaged areas, thus diverging from previous US research suggesting that behavioral outcomes rather than cognitive ones may be more susceptible to the effects of residential mobility (Ziol-Guest & McKenna, 2014; Mollborn et al., 2018).

The further inclusion of changes in family structure and employment did not alter these results. Thus, similarly to Mollborn et al. (2018) and notwithstanding our different definition of the nature of family changes, we did not find that residential mobility was interwoven with changes in parents' partnership status and employment. Unlike Mollborn et al. (2018) and Ziol-Guest and McKenna (2014), we did not find any association between multiple moves and worse behavioral outcomes. Those studies however did not account for the level of disadvantage in areas of origin and destination, either generally or when examining multiple moves.

Overall, our results confirm previous studies in showing that mobility during early childhood is not invariably consequential for children, although exposure to stressful neighborhood conditions often is (Mollborn et al., 2018; Roy et al., 2018; Ziol-Guest & McKenna, 2014). From a policy perspective, these results are consistent with the idea that investing in neighborhoods can help reduce such stressful conditions. But the importance of family resources as predictors of child outcomes, particularly of verbal scores in the US sample, suggests that a more effective policy strategy to reach poor families would be to support incomes and services regardless of neighborhood type, along lines that characterized the family-friendly UK welfare state at the start of the Millennium.

Our study has some limitations. First, our comparative approach is based on two studies – the FFCWS and the MCS – which, although broadly similar, were not designed with comparison in mind and do not employ exactly the same outcome measures. Second, the smaller sample size of the FFCWS means that it is not as highly powered as the MCS,

resulting in less precise estimates. Nevertheless both sources tap very similar verbal abilities and behavioral outcomes allowing us allow us to compare the relationship of a similar set of predictors with the relative variations in 5 year old outcomes.

Based on two samples of children born in large cities, our findings are not generalizable to the whole population. However, results were broadly similar in the same analyses on the nationally representative UK sample including children born outside large cities (Gambaro & Joshi, 2016). It is also important to consider the historical times examined here, as both surveys predate the 2008 recession. Changes in housing markets since then are likely to have increased mobility rates. For example, in the US, the Great Recession saw some 7.8 million mortgage foreclosures between 2007 and 2016 (CoreLogic, 2017). In addition, "doubling-up" increased among families with young children (Dunifon et al., 2014). In the UK, there has been a large increase in private renting among families with young children, who had traditionally been able to buy a home (Lupton 2016). Insofar as these tenures are more unstable, mobility rates are likely to increase and possibly become more stressful and disadvantageous than we have observed here.

Another limitation of our study is that neither survey includes the exact timing of family events or, in the case of FFCWS, of moves, precluding more fine-grained analysis of triggering events. We are limited by lack of information on housing quality at age 5 in FFCWS and thus cannot take it into account in assessing neighborhood quality. Our dichotomous measure of neighborhood disadvantage is crude, but we have checked that results were not sensitive to the 30 percent threshold chosen (Supplemental Table S5.2). There is also evidence that it is congruent with subjective ratings of the neighborhood (Gambaro & Joshi, 2016). Our data did not include information on the distance moved or, for that matter, proximity of kin (Chan & Ermisch 2015).

Finally, residential mobility may affect children differently depending on their age and on the time of assessment. For example, findings from the Moving to Opportunity (MTO) experiment suggests that moving during the teenage years moderately increased delinquency among boys (Schmidt et al., 2018). Long-term follow-up of MTO children indicates that moves to better areas had positive effects in early adulthood as long as moves occurred during early childhood (Chetty et al., 2016). While we cannot assess effects in early adulthood, our study suggests that residential moves are not generally associated with worse outcomes in early childhood, consistent with the assumption that early moves have a lesser negative impact than later ones.

Moving is a multifaceted experience. Whether moving is advantageous, disadvantageous, or neutral depends on the direction of move, the group to which movers are compared, the outcome on which they are assessed, and the country in which they are observed. Allowing for family resources and transitions weakens most of the associations to insignificance, though for externalizing behavior apparently beneficial association of some moves remains or becomes significant. Future research should use richer measures of the neighborhood environments families move to, paying particular attention to the implications of residential mobility for school choice. Future research could contribute to a better understanding of the various reasons why families move, or indeed fail to move, and try to estimate the degree of agency families with young children have in their residential choices.

Acknowledgements:

This work was funded by ESRC Grant ES/K000438/1. The families taking part in the Millennium Cohort Study (MCS) and in the Fragile Families and Child Wellbeing Study are thanked for their cooperation. We thank David Church and Jon Johnson for their help with the MCS and Julien Teitler for his help with FFCWS.

Data:

The main data reported in this article were obtained from publicly available data. The Fragile Families and Child Wellbeing Study (FFCWS) interview data are available through Princeton University's Office of Population Research (OPR) data archive (see https://fragilefamilies.princeton.edu/documentation). FFCWS data including goegraphic identifiers are available upon application at https://fragilefamilies.princeton.edu/restricted. Most of United Kingdom Millennium Cohort Study (MCS) data are available through the United Kingdom Data Service at https://beta.ukdataservice.ac.uk/datacatalogue/series/series?id=2000031. Some MCS data used in this study are not publicly available and were provided to the authors by the study owner: Center for Longitudinal Studies, University of London. The analysis code used in this study is available by emailing Ludovica Gambaro. The study was not preregistered.

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Tables

Table 1. Weighted Descriptive Statistics, US and UK Samples

Variable	US				UK			
	N	***Mean***	***SD***	***Range***	***N***	***Mean***	***SD***	***Range***
Verbal score at 5yrs (original)	1,458	95.2	17.6	40-133	7,967	54.6	11.1	20-80
Verbal score at 5yrs (percentile)	1,458	53.8	30.5	1-100	7,967	52.7	28.0	1- 99
Externalizing behavior at 5yrs (original)	1,820	0.4	0.2	0-1.5	7,668	4.7	3.4	0-20
Externalizing behavior at 5yrs (percentile)	1,820	47.5	28.6	1-100	7,668	44.3	29.3	1-100
Internalizing behavior at 5yrs (original)	1,820	0.2	0.2	0-1.1	7,668	2.5	2.5	0-18
Internalizing behavior at 5yrs (percentile)	1,820	47.3	30.7	1-100	7,668	40.5	30.9	1-100
Moved between 1-5yrs	1,820	.628	—	0-1	7,967	.399	—	0-1
Lived in bottom 30% neighborhood at 1yr	1,820	.323	—	0-1	7,967	.336	—	0-1
Lived in bottom 30% neighborhood at 5yrs	1,820	.308	—	0-1	7,967	.321	—	0-1
Child's sex is male	1,820	.559	—	0-1	7,967	.506	—	0-1
Child's age in months at 5yrs	1,820	60.9	2.2	56-71	7,967	62.6	2.9	53-74
Mother was single at child's birth	1,820	.201	—	0-1	7,946	.149	—	0-1
Household was workless at child's birth	1,778	.120	—	0-1	7,507	.115	—	0-1
Family structure change birth–5yrs								
Stably coupled (ref. group)	1,809	.525	—	0-1	7,095	.751	—	0-1
Stably single	1,809	.065	—	0-1	7,095	.059	—	0-1
From coupled to new partner	1,809	.035	—	0-1	7,095	.012	—	0-1
From single to coupled	1,809	.077	—	0-1	7,095	.050	—	0-1
From coupled to single	1,809	.175	—	0-1	7,095	.073	—	0-1
Multiple transitions	1,809	.123	—	0-1	7,095	.055	—	0-1
Household employment change birth–5yrs								
Stably workless	1,756	.019	—	0-1	6,551	.049	—	0-1
From workless to employed	1,756	.070	—	0-1	6,551	.040	—	0-1
From employed to workless	1,756	.091	—	0-1	6,551	.054	—	0-1
In and out of work 2 or 3 changes	1,756	.137	—	0-1	6,551	.062	—	0-1
Stably employed (ref. group)	1,756	.683	—	0-1	6,551	.795	—	0-1
Household size at 1yr	1,814	4.4	1.5	1-15	7,967	4.0	1.2	2-12
Household size at 5yrs	1,809	4.5	1.4	1-13	7,966	4.3	1.2	2-20
LN equivalized income at 1yr	1,820	9.9	1.4	0.0-13.0	7,875	9.7	0.7	6.8-11.2
LN mean equivalized income 1-5yrs	1,820	10.1	1.0	6.1-13.0	7,958	9.7	0.6	7.7-11.1
Cohort member was first child	1,819	.364	—	0-1	7,967	.447	—	0-1
Child was born underweight	1,775	.061	—	0-1	7,959	.073	—	0-1
Child's general health at 1yr/3yrs	1,818	4.5	0.8	1-5	7,089	.159	—	0-1
Mother's age in years at birth	1,820	26.8	6.2	14-47	7,966	29.3	5.8	14-49
Mother's general health at 1yr	1,820	3.7	1.0	1-5	7,963	2.2	0.7	1-3
Mother depressed at 1yr	1,820	.122	—	0-1	7,963	.229	—	0-1
Race/Ethnicity								
White (ref. group)	1,820	.383	—	0-1	7,967	.855	—	0-1
Black	1,820	.246	—	0-1	7,967	.036	—	0-1
Hispanic	1,820	.300	—	0-1	NA	—	—	—
Indian	NA	—	—	—	7,967	.028	—	0-1
Pakistani/Bangladeshi	NA	—	—	—	7,967	.050	—	0-1
Other race/ethnicity	1,820	.071	—	0-1	7,967	.030	—	0-1
Mother was not born in US/UK	1,816	.208	—	0-1	7,089	.122	—	0-1
Mother's level of education	1,820	4.0	1.8	1-7	7,950	4.0	1.7	1-7

Table 2. Verbal Score at 5yrs: OLS Unstandardized Regressions Coefficients (Standard Error in parentheses) in US (N=1,458) and UK (N=7,967)[a] and Parameter Tests

Variable	Model 1: Mobility		Model 2: Neighborhood		Model 3: Baseline + Transitions + IPWs	
	US	***UK***	***US***	***UK***	***US***	***UK***
Moved between 1–5yrs	0.82 (7.07)	-0.63 (1.01)	3.17 (8.58)	0.53 (1.33)	2.40 (2.52)	-0.43 (1.18)
Lived in bottom 30% neighborhood at 1yr	—	—	0.47 (10.19)	-6.16** (1.92)	9.36* (3.84)	-0.76 (1.68)
Lived in bottom 30% neighborhood at 5yrs	—	—	-21.09** (6.11)	-10.33*** (1.46)	-6.85** (2.34)	-3.59** (1.38)
*Lived in bottom 30% neighborhood at 1yr * Moved between 1-5yrs* (interaction)	—	—	-4.36 (6.41)	-3.12 (1.83)	0.84 (5.32)	-1.41 (1.77)
Constant	104.95 (74.42)	67.49*** (9.38)	85.15 (65.69)	77.07*** (8.30)	-61.48 (33.83)	6.93 (12.55)
F-test	0	4*	77***	33***	2931***	100***
Adjusted R^2	.00	.00	.12	.08	.49	.23
Parameter Tests						
Moved w-in top 70% vs stayed in top 70%	—	—	3.17 (8.58)	0.53 (1.33)	2.40 (2.52)	-0.43 (1.18)
Moved to bottom 30% vs stayed in top 70%	—	—	-17.91** (5.88)	-9.80*** (1.64)	-4.45 (2.36)	-4.02* (1.65)
Moved to top 70% vs stayed in top 70%	—	—	-0.71 (13.05)	-8.75*** (1.68)	12.61 (6.80)	-2.60 (1.53)
Moved to top 70% vs stayed in bottom 30%	—	—	19.9 (9.69)	7.74*** (1.58)	10.10 (7.35)	1.75 (1.53)
Moved to bottom 30% vs stayed in bottom 30%	—	—	2.70 (3.35)	6.69*** (1.75)	-6.96* (2.84)	0.33 (1.48)
Moved w-in bottom 30% vs stayed in bottom 30%	—	—	-1.19 (4.46)	-2.59* (1.15)	3.24 (5.48)	-1.84 (1.21)

*p<.05; **p<.01; ***p<.001.

Notes: All models control for child's sex and age at 5yrs; Model 3 adds all other predictors (change in family structure and household employment 0-5yrs, household size 5yrs, mean income 1-5yrs, child being first born or born underweight, her/his general health conditions 1yr/3yrs, then mother's age, general health and depression 1yr, ethnicity, immigrant status, level of education), and applies inverse probability weights. See Supplemental Table S4.1 for details on the sequential specification and relative results from Model 1 through 3.

Table 3. Externalizing Behavior at 5yrs: OLS Unstandardized Regressions Coefficients (Standard Error in parentheses) in US (N=1,820) and UK (N=7,668) and Parameter Tests

Variable	Model 1: Mobility		Model 2: Neighborhood		Model 3: Baseline + Transitions + IPWs	
	US	***UK***	***US***	***UK***	***US***	***UK***
Moved between 1–5yrs	-3.62 (3.23)	2.78** (.90)	-7.79 (5.51)	1.73 (1.14)	-8.91* (3.86)	0.70 (1.08)
Lived in bottom 30% neighborhood at 1yr	—	—	-7.79 (10.15)	6.99** (2.00)	-6.12 (5.57)	3.57 (2.00)
Lived in bottom 30% neighborhood at 5yrs	—	—	6.94 (6.51)	5.16** (1.72)	1.76 (4.05)	-0.77 (1.81)
Lived in bottom 30% neighborhood at 1yr * Moved between 1-5yrs (interaction)	—	—	13.21 (8.48)	2.42 (1.94)	11.12 (6.41)	-0.58 (1.95)
Constant	6.29 (26.72)	62.70*** (8.60)	15.75 (25.61)	55.99*** (8.34)	74.04* (32.78)	99.32** (12.61)
F-test	2	56***	19***	68***	299***	52***
Adjusted R^2	.01	.02	.03	.06	.11	.13
Parameter Tests						
Moved w-in top 70% vs stayed in top 70%	—	—	-7.79 (5.51)	1.73 (1.14)	-8.91* (3.86)	0.70 (1.08)
Moved to bottom 30% vs stayed in top 70%	—	—	-0.85 (2.58)	6.88*** (1.70)	-7.15** (1.80)	-0.07 (1.87)
Moved to top 70% vs stayed in top 70%	—	—	-2.37 (7.06)	11.13*** (1.51)	-3.91 (3.19)	3.69* (1.50)
Moved to top 70% vs stayed in bottom 30%	—	—	-1.52 (4.92)	-1.01 (1.49)	0.44 (2.99)	0.90 (1.58)
Moved to bottom 30% vs stayed in bottom 30%	—	—	-0.00 (5.37)	-5.26** (1.76)	-2.79 (2.49)	-2.87 (1.82)
Moved w-in bottom 30% vs stayed in bottom 30%	—	—	5.42 (3.48)	4.14** (1.37)	2.21 (2.89)	0.12 (1.45)

*p<.05; **p<.01; ***p<.001.

Notes: All models control for child's sex and age at 5yrs; Model 3 adds all other predictors (change in family structure and household employment 0-5yrs, household size 5yrs, mean income 1-5yrs, child being first born or born underweight, her/his general health conditions 1yr/3yrs, then mother's age, general health and depression 1yr, ethnicity, immigrant status, level of education), and applies inverse probability weights. See Supplemental Table S4.2 for details on the sequential specification and relative results from Model 1 through 3.

Table 4. Internalizing Behavior at 5yrs: OLS Unstandardized Regressions Coefficients (Standard Error in parentheses) in US (N=1,820) and UK (N=7,668)[a] and Parameter Tests

Variable	Model 1: Mobility		Model 2: Neighborhood		Model 3: Baseline + Transitions + IPWs	
	US	***UK***	***US***	***UK***	***US***	***UK***
Moved between 1–5yrs	0.39 (4.04)	1.78* (9.87)	-2.42 (6.71)	0.61 (.99)	-2.20 (4.89)	0.14 (.90)
Lived in bottom 30% neighborhood at 1yr	—	—	-6.56 (12.09)	5.91** (1.93)	-7.97 (7.97)	1.71 (1.93)
Lived in bottom 30% neighborhood at 5yrs	—	—	8.09 (10.33)	6.47*** (1.60)	5.00 (7.64)	1.60 (1.93)
*Lived in bottom 30% neighborhood at 1yr * Moved between 1-5yrs* (interaction)	—	—	8.97 (10.32)	2.88 (1.77)	6.56 (7.98)	1.66 (1.67)
Constant	-69.65 (43.41)	53.31*** (9.87)	-62.40 (40.95)	46.37*** (9.77)	-16.12 (41.01)	110.33** (19.27)
F-test	5**	2	20***	29***	809***	38***
Adjusted R^2	.02	.00	.03	.04	.11	.11
Parameter Tests						
Moved w-in top 70% vs stayed in top 70%	—	—	-2.42 (6.71)	0.61 (.99)	-2.20 (4.89)	0.14 (.90)
Moved to bottom 30% vs stayed in top 70%	—	—	5.67 (4.94)	7.09*** (1.69)	2.80 (5.80)	1.74 (1.96)
Moved to top 70% vs stayed in top 70%	—	—	-0.00 (8.81)	9.40*** (1.54)	-3.61 (5.54)	3.52* (1.54)
Moved to top 70% vs stayed in bottom 30%	—	—	-1.54 (5.57)	-2.98 (1.62)	-0.64 (5.73)	0.21 (1.74)
Moved to bottom 30% vs stayed in bottom 30%	—	—	4.14 (6.81)	-5.30** (1.80)	5.77 (4.81)	-1.57 (1.74)
Moved w-in bottom 30% vs stayed in bottom 30%	—	—	6.55 (4.74)	3.49* (1.38)	4.35 (4.14)	1.81 (1.35)

*p<.05; **p<.01; ***p<.001.

Notes: All models control for child's sex and age at 5yrs; Model 3 adds all other predictors (change in family structure and household employment 0-5yrs, household size 5yrs, mean income 1-5yrs, child being first born or born underweight, her/his general health conditions 1yr/3yrs, then mother's age, general health and depression 1yr, ethnicity, immigrant status, level of education), and applies inverse probability weights. See Supplemental Table S4.3 for details on the sequential specification and relative results from Model 1 through 3.

Supplemental Material

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Supplement 1: Making the Samples from the MCS and the FFCWS Comparable

The Fragile Families and Child Wellbeing Study (FFCWS) in the US and the Millennium Cohort Study (MCS) in the UK are two large-scale longitudinal datasets focused on family disadvantage and change in early life. They share many features, but not their sampling strategy. This note explains the approach we have taken to draw a sample of MCS cases which is as close a comparison as possible to the FFCWS sample.

The sampling strategy of FFCWS is described in detail by Garfinkel, McLanahan, Tienda, and Brooks-Gunn (2001). For our purposes it is important to highlight that the study recruited respondents by approaching mothers and fathers *in hospitals* soon after the child's birth. The study selected 20 cities from the 77 American cities that, in 1994, had a population of over 200,000, thus considered "large". Sixteen of the final 20 cities were randomly selected from these strata, while an additional four cities were selected because they were of interest in their own right. Within each city, hospitals were sampled to ensure adequate representation of non-marital births. When including only the 16 cities randomly selected, the sample is representative of births in all US cities with more than 200,000 residents.

The Millennium Cohort Study, on the other hand, had a different focus and much larger scope, collecting information on about 20,000 babies born in the UK in 2000-2001 (Joshi & Fitzsimons, 2016). Its sampling strategy aimed to cover children growing up in all four countries of the UK, boosting representation of ethnic minorities and children from disadvantaged backgrounds (Plewis, 2007). When weighted, the resulting sample is representative of births in the entire UK at the start of the millennium.

The most obvious difference in sampling strategies is that the FFCWS sampled hospitals in large cities (Garfinkel, McLanahan, Tienda, & Brooks-Gunn, 2001), whereas the MCS sampled residential addresses from the entire UK (Plewis, 2007), thus including children born in rural areas, towns or small cities. It also includes a small number of births outside hospitals.

To make the MCS sample comparable with FFCWS, we restricted our analysis to those MCS children who were born in hospitals in large UK cities. We used local authorities as the basis of our selection in UK. This ensured that cities were delineated by

administrative boundaries, as in the FFCWS sample. A classification due to Atkins, Champion, Coombes, Dorling and Woodward (1996) divides local authorities into types, according to their level of urbanization and the size of its urban settlement, going from "Remote mainly rural district" to "Principal metropolitan cities" and "London boroughs". Following this and Lupton and Power (2004), we considered "comparable cities" those local authorities classified as:

- *Greater London borough*: the 33 local authorities that form the Greater London authority
- *Principal metropolitan city*: the major cities of the industrial revolution (population 0.5-1 million)
- *Other metropolitan district*: the cities surrounding the principal metropolitan cities (population 90,000-470,000)
- *Large non metropolitan city*: large cities which do not belong to larger conurbation areas (population 150,000-450,000)
- *Small non metropolitan city*: relatively smaller (population 80,000-150,000)

Among these urban local authorities we selected only those that had a large population in 2001. This resulted in excluding six local authorities outside London that had, in 2001, a population under 100,000. Furthermore, we added the only two large cities of Northern Ireland – Derry and Belfast. This amounted to 103 local authorities, 70 of which are outside London. A list of the local authorities included is available upon request. The distribution of MCS families by place of birth and eligibility for the "comparable sample" is shown in Table S1.1.

As mentioned before, we included in the analysis only MCS babies born in hospitals located in one of the 103 selected local authorities. Information about the location of the hospitals is not publicly available and the MCS data owner – the Centre for Longitudinal Studies at the Institute of Education, University of London – performed the matching between the hospital data and a binary variable, where 1 corresponded to the 103 "large" local authorities we had identified.

Of course, children born in city hospitals may reside outside the city. This is indeed the case for the FFCWS too. While we cannot assess with precision the percentage of American children from outside the city in which they were born, Reichman et al (2001) report that such children accounted for "a good portion" of births.

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Table S1: MCS Families by Hospital Place of Birth

	Frequencies	Percentage
London borough	2,313	12.47
Principal met city	1,514	8.16
Other metropolitan borough	2,409	12.99
Large non-met city	2,230	12.02
Small non-met city	1,238	6.67
Northern Ireland city	810	4.37
Total eligible for "comparable sample"	***10,514***	***56.67***
Born outside the UK	26	0.14
Not born in hospital	433	2.33
Born in rural/small urban local authority	7,579	40.85
Total excluded from "comparable sample"	***8,038***	***43.33***
GRAND TOTAL	**18,552**	**100**

Supplement 2: Additional Descriptive Statistics

Table S2.1 Univariate Statistics of Residential Mobility – US and UK Cities

Number of residential moves 1yr.–5yrs	US (N = 1,820)			UK (N = 7,967)		
	%	*Mean*	*SD*	*%*	*Mean*	*SD*
0 moves	37.2			60.1		
1 move	33.1			27.8		
2 moves	16.4			8.3		
3 moves	7.0			2.4		
4 moves	3.6			0.8		
5 moves or more	2.7			0.6		
Total Percentage	**100.0**	—	—	**100.0**	—	—
	—	***1.1***	***1.25***	—	***0.6***	***.88***

Table S2.2 Pearson's Correlations* in US Sample

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)	(41)	(42)	(43)	(44)	(45)	(46)	(47)
(1) Verbal score	—																																														
(2) Externalizing behavior	**-.17**	—																																													
(3) Internalizing behavior	**-.27**	**.57**	—																																											
(4) Moved between 1-5yrs	.00 NS	**-.06**	.02 NS	—																																									
(5) Lived in bottom 30% neigh. at 1yr	**-.27**	**.09**	**.09**	.04 NS	—																																								
(6) Lived in bottom 30% neigh. at 5yrs	**-.35**	**.10**	**.11**	.01 NS	**.73**	—																																						
(7) Child sex is male	.01 NS	**.05**	-.01 NS	-.03 NS	.03 NS	-.04 NS	—																																						
(8) Child age in months at 5yrs	**-.06**	**.05**	**.13**	**.11**	**.08**	**.06**	**.10**	—																																				
(9) Mother single at child's birth	**-.14**	**.12**	**.05**	**.11**	**.26**	**.27**	-.03 NS	.01 NS	—																																			
(10) HH workless at child's birth	**-.19**	**.06**	**.05**	.03 NS	**.28**	**.27**	**-.05**	-.04 NS	**.58**	—																																		
(11) Stably coupled	**.30**	**-.12**	**-.12**	**-.19**	**-.31**	**-.29**	**.10**	**-.16**	**-.52**	**-.32**	—																																	
(12) Stably single	**-.11**	-.01 NS	.01 NS	-.02 NS	**.13**	**.15**	-.03 NS	-.00 NS	**.53**	**.27**	**-.28**	—																																
(13) Couple to new partner	**-.08**	-.03 NS	**.05**	**.09**	**.12**	**.12**	**.06**	**.10**	**-.09**	**-.05**	**-.20**	**-.05**	—																															
(14) Single to coupled	**-.08**	**.10**	.03 NS	**.11**	**.18**	**.17**	.00 NS	-.02 NS	**.58**	**.39**	**-.30**	**-.08**	**-.05**	—																													
(15) Coupled to single	**-.17**	.04 NS	**.08**	**.06**	.04 NS	.03 NS	**-.16**	**.12**	**-.23**	**-.14**	**-.48**	**-.12**	**-.09**	**-.13**	—																													
(16) Multiple transitions	-.05 NS	**.07**	.04 NS	**.09**	**.11**	**.10**	.01 NS	**.06**	**.25**	**.16**	**-.39**	**-.10**	**-.07**	**-.11**	**-.17**	—																													
(17) Stably workless	**-.08**	-.04 NS	-.00 NS	-.00 NS	**.10**	**.09**	-.02 NS	**-.05**	**.24**	**.38**	**-.14**	**.32**	-.01 NS	-.00 NS	**-.05**	.04 NS	—																													
(18) Workless to employed	**-.13**	**.08**	**.05**	**.07**	**.21**	**.20**	-.03 NS	-.00 NS	**.42**	**.74**	**-.23**	**.08**	-.04 NS	**.46**	**-.11**	**.07**	-.04 NS	—																												
(19) Employed to workless	**-.25**	**.06**	**.07**	**.16**	.03 NS	**.07**	**-.11**	**.05**	.00 NS	**-.12**	**-.30**	.03 NS	**-.06**	**-.08**	**.46**	.00 NS	-.04 NS	**-.09**	—																												
(20) In/out of work	**-.14**	**.05**	.04 NS	.03 NS	**.24**	**.19**	.04 NS	.04 NS	**.21**	**.13**	**-.26**	**.13**	**.07**	**.07**	-.03 NS	**.23**	**-.06**	**-.11**	**-.13**	—																											
(21) Stably employed	**.35**	**-.11**	**-.10**	**-.16**	**-.34**	**-.32**	**.07**	-.05 NS	**-.46**	**-.54**	**.54**	**-.25**	.01 NS	**-.25**	**-.19**	**-.22**	**-.21**	**-.40**	**-.46**	**-.59**	—																											
(22) HH size at 1yr	**-.28**	**.11**	**.07**	**-.07**	**.15**	**.16**	-.04 NS	**-.05**	**.07**	**.15**	**-.14**	.02 NS	-.02 NS	**.11**	**.08**	.03 NS	.01 NS	**.16**	.03 NS	.03 NS	**-.13**	—																										
(23) HH size at 5yrs	**-.15**	**.09**	.05 NS	**-.16**	.04 NS	.04 NS	-.03 NS	**-.06**	**-.07**	.01 NS	**.13**	**-.11**	**-.12**	.04 NS	**-.07**	.00 NS	.00 NS	.03 NS	-.03 NS	.00 NS	-.00 NS	**.46**	—																								
(24) LN equivalized income at 1yr	**.47**	**-.14**	**-.18**	-.05 NS	**-.45**	**-.44**	**.06**	**-.09**	**-.35**	**-.35**	**.41**	**-.23**	**-.11**	**-.20**	**-.08**	**-.12**	**-.18**	**-.28**	**-.11**	**-.20**	**.42**	**-.30**	**-.12**	—																								
(25) LN mean equiv. income 1-5yrs	**.57**	**-.16**	**-.23**	-.04 NS	**-.48**	**-.50**	**.08**	**-.10**	**-.34**	**-.34**	**.47**	**-.20**	**-.13**	**-.20**	**-.16**	**-.15**	**-.18**	**-.25**	**-.19**	**-.24**	**.49**	**-.36**	**-.18**	**.83**	—																							
(26) CM was first child	**.08**	-.04 NS	-.02 NS	**.14**	**-.08**	**-.10**	.01 NS	-.01 NS	**.13**	.02 NS	-.00 NS	**.09**	**-.05**	**.10**	**-.07**	-.03 NS	-.02 NS	.04 NS	.04 NS	-.00 NS	-.03 NS	**-.38**	**-.32**	**.15**	**.19**	—																						
(27) Child was born underweight	**-.09**	.02 NS	.01 NS	**.06**	.03 NS	**.07**	.01 NS	**-.05**	**.18**	**.16**	**-.12**	**.11**	-.00 NS	**.10**	**-.05**	**.08**	.03 NS	**.17**	.00 NS	.03 NS	**-.12**	.00 NS	-.04 NS	**-.14**	**-.10**	**.11**	—																				

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)	(41)	(42)	(43)	(44)	(45)	(46)	(47)
(28) Child's general health at 1yr	**.12**	**-.05**	**-.10**	-.02 NS	**-.06**	**-.05**	**-.12**	.02 NS	.02 NS	-.01 NS	-.00 NS	.01 NS	**-.09**	-.00 NS	.03 NS	.00 NS	-.02 NS	-.00 NS	**.13**	-.04 NS	-.04 NS	**-.08**	**-.06**	**.15**	**.18**	**.09**	**-.08**	—																			
(29) Mother's age in years	**.28**	**-.16**	**-.07**	**-.17**	**-.19**	**-.23**	.01 NS	**-.14**	**-.34**	**-.26**	**.30**	**-.15**	**-.09**	**-.24**	**.05**	**-.15**	**-.11**	**-.20**	**-.15**	**-.17**	**.35**	-.04 NS	**.10**	**.30**	**.33**	**-.32**	**-.07**	**-.05**	—																		
(30) Mother's general health at 1yr	**.26**	**-.16**	**-.24**	-.01 NS	-.01 NS	-.02 NS	**.10**	.02 NS	-.02 NS	.00 NS	**.13**	**-.07**	**-.08**	.01 NS	**-.11**	.02 NS	-.02 NS	-.01 NS	**-.13**	**-.06**	**.13**	**-.18**	**-.08**	**.25**	**.29**	**.08**	.04 NS	**.27**	.03 NS	—																	
(31) Mother depressed at 1yr	**-.07**	**.11**	**.11**	**.11**	.05 NS	**.08**	**-.14**	**.05**	.00 NS	.03 NS	**-.19**	-.03 NS	.01 NS	**.01 NS**	**.25**	.00 NS	.02 NS	**.06**	**.23**	-.03 NS	**.16**	.03 NS	-.00 NS	**-.05**	**-.06**	.00 NS	-.03 NS	**-.07**	**-.07**	**-.23**	—																
(32) White	**.53**	**-.11**	**-.09**	-.00 NS	**-.43**	**-.46**	-.02 NS	**-.12**	**-.22**	**-.18**	**.24**	**-.12**	**-.05**	**-.15**	**-.10**	-.01 NS	**-.06**	**-.13**	**-.05**	**-.15**	**.24**	**-.22**	**-.08**	**.40**	**.46**	**.13**	**-.07**	**.11**	**.16**	**.13**	.02 NS	—															
(33) Black	**-.24**	**.11**	.01 NS	-.03 NS	**.33**	**.31**	.03 NS	**.16**	**.35**	**.22**	**-.35**	**.16**	-.04 NS	**.20**	**.09**	**.17**	**.08**	**.16**	-.01 NS	**.17**	**-.23**	**.11**	**.06**	-.24	**-.28**	**-.08**	**.16**	.05 NS	**-.17**	.03 NS	.02 NS	**-.45**	—														
(34) Hispanic	**-.36**	-.03 NS	**.10**	.01 NS	**.22**	**.22**	-.02 NS	.01 NS	-.04 NS	.01 NS	.03 NS	.02 NS	**.11**	.00 NS	.00 NS	**-.12**	.01 NS	.03 NS	-.00 NS	.05 NS	**-.05**	**.15**	**.05**	**-.28**	**-.33**	**-.07**	-.04 NS	**-.21**	**-.05**	**-.15**	**-.06**	**-.52**	**-.37**	—												
(35) Other race/ethnicity	**.07**	**.07**	-.02 NS	.04 NS	**-.12**	-.04 NS	.01 NS	**-.08**	**-.09**	**-.06**	**.08**	**-.07**	-.02 NS	**-.05**	.02 NS	**-.05**	-.04 NS	**-.06**	**.12**	**-.07**	.03 NS	-.04 NS	-.03 NS	**.15**	**.18**	.00 NS	**-.06**	.08	**.07**	-.02 NS	**.05**	**-.22**	**-.16**	**-.18**	—											
(36) Not born in US	**-.26**	.03 NS	**.10**	**-.06**	**.10**	**.07**	-.00 NS	**-.12**	**-.14**	**-.08**	**.07**	-.03 NS	**.10**	**-.07**	**.06**	**-.15**	-.00 NS	**-.05**	-.03 NS	**-.08**	**.10**	**.10**	.03 NS	**-.16**	**-.18**	**-.09**	**-.10**	**-.24**	**.12**	**-.22**	**-.09**	**-.39**	**-.19**	**.44**	**.27**	—										
(37) Mother's level of education	**.50**	**-.14**	**-.18**	**-.05**	**.35**	**-.41**	**.12**	-.02 NS	**-.27**	**-.31**	**.37**	**-.14**	**-.17**	**-.20**	**-.14**	-.04 NS	**-.14**	**-.24**	**-.19**	**-.13**	**.38**	**-.33**	**-.09**	**.61**	**.68**	**.08**	**-.05**	**.17**	**.45**	**.25**	**-.09**	**.37**	**-.11**	**-.36**	**.13**	**-.24**	—									
(38) Neigh. social advantage at 1yr	**.41**	**-.15**	**-.14**	-.01 NS	**-.83**	**-.66**	-.02 NS	**-.08**	**-.31**	**-.34**	**.38**	**-.16**	**-.12**	**-.22**	-.05 NS	**-.15**	**-.14**	**-.25**	-.02 NS	**-.27**	**.33**	**-.24**	**-.10**	**.53**	**.60**	**.13**	**-.09**	**.10**	**.29**	**.13**	-.04 NS	**.50**	**-.43**	**-.22**	**.17**	**-.10**	**.48**	—							
(39) Lived in bottom 20% neigh. at 1yr	**-.25**	**.08**	**.11**	**.06**	**.75**	**.56**	-.03 NS	**.11**	**.25**	**.32**	**-.30**	**.12**	**.16**	**.18**	.00 NS	**.13**	**.14**	**.21**	**-.05**	**.21**	**-.29**	**.10**	-.01 NS	**-.37**	**-.42**	**-.08**	**.06**	**-.07**	**-.17**	**-.06**	.03 NS	**-.37**	**.39**	**.08**	**-.10**	.01 NS	**-.29**	**-.79**	—						
(40) Lived in bottom 20% neigh. at 5yrs	**-.31**	**.10**	**.10**	.01 NS	**.52**	**.70**	.00 NS	**.07**	**.29**	**.33**	**-.23**	**.15**	-.02 NS	**.21**	**-.05**	**.14**	**.11**	**.23**	.00 NS	**.21**	**-.32**	**.13**	**.06**	**-.32**	**-.39**	-.01 NS	**.10**	-.01 NS	**-.25**	.03 NS	-.00 NS	**-.35**	**.35**	**.09**	**-.10**	-.04 NS	**-.27**	**-.59**	**.63**	—					
(41) Lived in bottom 40% neigh. at 1yr	**-.37**	**.16**	**.14**	.01 NS	**.82**	**.62**	**.05**	**.07**	**.26**	**.25**	**-.33**	**.12**	**.15**	**.19**	**.05**	**.11**	**.09**	**.20**	-.01 NS	**.23**	**-.30**	**.21**	**.12**	**-.44**	**-.48**	**-.12**	**.06**	**-.08**	**-.22**	**-.06**	**.06**	**-.48**	**.36**	**.26**	**-.15**	**.16**	**-.38**	**-.82**	**.61**	**.44**	—					
(42) Lived in bottom 40% neigh. at 5yrs	**-.44**	**.14**	**.14**	-.00 NS	**.62**	**.80**	-.02 NS	**.09**	**.25**	**.24**	**-.30**	**.14**	**.14**	**.15**	.04 NS	**.11**	**.08**	**.19**	**.05**	**.19**	**-.30**	**.24**	**.14**	**-.45**	**-.51**	**-.13**	**.09**	**-.09**	**-.26**	**-.06**	**.07**	**-.51**	**.36**	**.25**	**-.08**	**.14**	**-.44**	**-.65**	**.47**	**.56**	**.71**	—				
(43) Never moved 1-5yrs	-.00 NS	**.06**	-.02 NS	-1.00 NS	-.04 NS	**-.01 NS**	.03 NS	**-.11**	**-.11**	-.03 NS	**.19**	.02 NS	**-.09**	**-.11**	**-.06**	**-.09**	.00 NS	**-.07**	**-.16**	-.03 NS	**.16**	**.07**	**.16**	.05 NS	.04 NS	**-.14**	**-.06**	.02 NS	**.17**	.01 NS	**-.11**	.00 NS	.03 NS	-.01 NS	-.04 NS	**.06**	**.05**	.01 NS	**-.06**	-.01 NS	-.01 NS	.00 NS	—			
(44) Moved between 1-3yrs only	.00 NS	**.05**	.02 NS	**.39**	**-.06**	.05 NS	**-.13**	-.03 NS	-.01 NS	**-.05**	**.09**	-.01 NS	**-.07**	.00 NS	**.05**	-.03 NS	-.02 NS	-.02 NS	.04 NS	-.04 NS	.02 NS	-.01 NS	-.02 NS	**.07**	**.06**	**.09**	-.04 NS	-.00 NS	-.03 NS	.02 NS	**.05**	.01 NS	-.05 NS	-.04 NS	**.13**	.03 NS	-.00 NS	**.07**	**-.10**	.02 NS	**-.07**	.04 NS	**-.39**	—		
(45) Moved between 3-5yrs only	.03 NS	**-.10**	-.03 NS	**.40**	-.02 NS	**-.08**	**.12**	**.09**	.03 NS	.04 NS	**-.08**	-.02 NS	-.04 NS	.04 NS	**.05**	**.06**	.04 NS	.05 NS	.04 NS	**.05**	**-.10**	-.02 NS	**-.10**	.02 NS	.02 NS	**-.05**	**.07**	-.01 NS	.03 NS	**.06**	**-.11**	-.02 NS	-.05 NS	**.11**	**-.08**	-.04 NS	**.12**	.00 NS	.04 NS	.00 NS	-.01 NS	**-.11**	**-.40**	**-.26**	—	
(46) Moved bet. both 1-3yrs and 3-5yrs	-.03 NS	-.02 NS	.03 NS	**.40**	**.12**	**.05**	-.03 NS	**.07**	**.10**	**.05**	**-.23**	.01 NS	**.22**	**.08**	**.07**	**.08**	-.02 NS	**.06**	**.11**	.03 NS	**-.11**	**-.05**	**-.07**	**-.14**	**-.12**	**.14**	.05 NS	-.01 NS	**-.21**	**-.10**	**.18**	.00 NS	**.05**	**-.06**	.01 NS	**-.06**	**-.17**	**-.09**	**.13**	-.01 NS	.09	**.07**	**-.40**	**-.26**	**-.27**	—	
(47) Additional moves 1-5yrs	**-.11**	-.04 NS	.00 NS	**.41**	.03 NS	-.01 NS	**-11**	**.13**	**.07**	.03 NS	**-.19**	.01 NS	**.14**	**.07**	**.08**	**.05**	-.03 NS	.03 NS	**.15**	.02 NS	**-.11**	**-.06**	**-.08**	**-.09**	**-.08**	**.21**	.03 NS	.04 NS	**-.26**	**-.07**	**.23**	-.05 NS	.01 NS	-.01 NS	**.08**	**-.08**	**-.18**	-.02 NS	**.06**	**-.02 NS**	.00 NS	.01 NS	**-.41**	**-.13**	**-.09**	**.70**	—

* All boldface correlations are statistically significant at least at $p < .05$; all other correlations are noted as "Not (statistically) Significant" (NS).

Table S2.3 Pearson's Correlations* in UK Sample

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)	(41)	(42)	(43)	(44)	(45)	(46)	(47)	(48)	(49)	(50)	(51)	(52)	(53)
(1) Verbal score	—																																																					
(2) Externalizing behavior	**-.20**	—																																																				
(3) Internalizing behavior	**-.16**	**.34**	—																																																			
(4) Moved between 1-5yrs	-.01 NS	**.04**	**.03**	—																																																			
(5) Lived in bot. 30% neigh. at 1yr	**-.26**	**.19**	**.19**	**.03**	—																																																		
(6) Lived in bot. 30% neigh. at 5yrs	**-.27**	**.18**	**.18**	-.01 NS	**.80**	—																																																	
(7) Child sex is male	**.04**	**.12**	.00 NS	-.01 NS	-.01 NS	.01 NS	—																																																
(8) Child age in months at 5yrs	**-.02**	**-.03**	-.02 NS	**.05**	-.02 NS	**-.03**	.02 NS	—																																														
(9) Mother single at child's birth	**-.15**	**.17**	**.11**	**.09**	**.26**	**.26**	-.01 NS	-.01 NS	—																																													
(10) HH workless at child's birth	**-.24**	**.17**	**.14**	**.06**	**.31**	**.31**	-.01 NS	-.00 NS	**.57**	—																																												
(11) Stably coupled	**.17**	**-.20**	**-.14**	**-.14**	**-.26**	**-.26**	-.00 NS	**-.02**	**-.68**	**-.42**	—																																											
(12) Stably single	**-.10**	**.10**	**.10**	**.05**	**.17**	**.19**	-.01 NS	-.01 NS	**.64**	**.37**	**-.43**	—																																										
(13) Couple to new partner	-.02 NS	**.07**	.01 NS	**.05**	-.01 NS	.00 NS	.01 NS	.02 NS	**-.04**	-.02 NS	**-.19**	**-.03**	—																																									
(14) Single to coupled	**-.08**	**.08**	**.03**	**.05**	**.14**	**.12**	-.01 NS	-.02 NS	**.59**	**.31**	**-.40**	**-.06**	**-.03**	—																																								
(15) Coupled to single	**-.05**	**.07**	**.04**	**.07**	**.05**	**.04**	.01 NS	**.04**	**-.11**	**-.03**	**-.49**	**-.07**	**-.03**	**-.07**	—																																								
(16) Multiple transitions	**-.08**	**.09**	**.07**	**.08**	**.14**	**.13**	.00 NS	**.02**	**.23**	**.16**	**-.42**	**-.06**	**-.03**	**-.06**	**-.07**	—																																								
(17) Stably workless	**-.18**	**.12**	**.12**	**.03**	**.23**	**.23**	-.02 NS	-.00 NS	**.38**	**.68**	**-.29**	**.44**	**-.02**	**.03**	-.01 NS	**.07**	—																																								
(18) Workless to employed	**-.11**	**.06**	**.04**	**.04**	**.16**	**.14**	-.02 NS	-.02 NS	**.34**	**.60**	**-.24**	**.09**	-.01 NS	**.38**	**-.05**	**.04**	**-.05**	—																																								
(19) Employed to workless	**-.07**	**.09**	**.08**	**.05**	**.14**	**.13**	-.01 NS	-.00 NS	**.12**	**-.08**	**-.30**	**.18**	.02 NS	**-.04**	**.28**	**.11**	**-.05**	**-.05**	—																																								
(20) In/out of work	**-.09**	**.08**	**.09**	**.06**	**.14**	**.14**	-.01 NS	**.03**	**.24**	**.09**	**-.29**	**.08**	**.03**	**.17**	**.07**	**.21**	**-.06**	**-.05**	**-.06**	—																																								
(21) Stably employed	**.24**	**-.19**	**-.17**	**-.10**	**-.36**	**-.35**	.02 NS	-.01 NS	**-.58**	**-.66**	**.61**	**-.43**	-.01 NS	**-.28**	**-.17**	**-.24**	**-.45**	**-.40**	**-.47**	**-.50**	—																																								
(22) HH size at 1yr	**-.22**	.01 NS	**.04**	**-.07**	**.10**	**.10**	.02 NS	.00 NS	**-.10**	**.08**	**.07**	**-.08**	.02 NS	**-.04**	.01 NS	-.02 NS	**.06**	**.04**	**.04**	-.02 NS	**-.06**	—																																								
(23) HH size at 5yrs	**-.17**	**-.03**	.01 NS	**-.07**	**.06**	**.05**	.01 NS	.01 NS	**-.14**	**.06**	**.24**	**-.18**	**.04**	**.04**	**-.23**	**-.08**	**.03**	**.06**	**-.07**	**-.04**	-.02 NS	**.62**	—																																							
(24) LN equivaliz. income at 1yr	**.35**	**-.23**	**-.22**	**-.07**	**-.47**	**-.47**	.00 NS	-.00 NS	**-.46**	**-.47**	**.45**	**-.31**	**-.04**	**-.23**	**-.07**	**-.21**	**-.34**	**-.25**	**-.20**	**-.28**	**.59**	**-.19**	**-.09**	—																																								
(25) LN mean equiv. inc. 1-5yrs	**.39**	**-.26**	**-.26**	**.05**	**-.51**	**-.52**	-.00 NS	.00 NS	**-.45**	**-.49**	**.49**	**-.34**	**-.03**	**-.17**	**-.15**	**-.23**	**-.39**	**-.22**	**-.29**	**-.28**	**.64**	**-.21**	**-.10**	**.89**	—																																								
(27) CM was first child	**.15**	-.00 NS	**.05**	**.15**	**-.06**	**-.06**	-.01 NS	.01 NS	**.06**	**-.10**	**-.03**	**.04**	-.01 NS	**-.02**	-.01 NS	.02 NS	**-.06**	**-.07**	**.03**	**.04**	**.03**	**-.53**	**-.40**	**.12**	**.14**	—																																							
(27) Child was born underweight	**-.05**	**.06**	**.06**	.02 NS	**.03**	**.03**	-.02 NS	**-.04**	**.02**	**.03**	**-.04**	**.02**	.01 NS	.01 NS	.02 NS	.01 NS	.02 NS	.02 NS	**.02**	-.01 NS	**-.03**	-.00 NS	-.00 NS	**-.04**	**-.05**	**.05**	—																																						

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)	(41)	(42)	(43)	(44)	(45)	(46)	(47)	(48)	(49)	(50)	(51)	(52)	(53)
(28) Child's gen. health at 3yrs	**-.04**	**.05**	**.04**	.01 NS	.01 NS	.02 NS	.02 NS	-.01 NS	**.02**	**.03**	**-.02**	.02 NS	.01 NS	.00 NS	.01 NS	.02 NS	**.04**	-.00 NS	-.00 NS	.00 NS	-.02 NS	**-.03**	**-.04**	-.02 NS	-.02 NS	.00 NS	**.05**	—																								
(29) Mother's age in years	**.18**	**-.19**	**-.14**	**-.19**	**-.31**	**-.31**	.00 NS	-.01 NS	**-.31**	**-.24**	**.34**	**-.18**	**-.06**	**-.17**	**-.07**	**-.17**	**-.15**	**-.14**	**-.16**	**-.20**	**.36**	**.14**	**.13**	**.41**	**.43**	**-.27**	**-.02**	**-.03**	—																								
(30) Mother's gen. health at 1yr	**.12**	**-.17**	**-.17**	-.02 NS	**-.16**	**-.15**	.01 NS	**.04**	**-.11**	**-.13**	**.13**	**-.07**	-.01 NS	**-.05**	**-.05**	**-.06**	**-.12**	**-.05**	**-.08**	**-.08**	**.18**	**-.09**	**-.03**	**.23**	**.25**	**.08**	**-.07**	**-.05**	**.09**	—																								
(31) Mother depressed at 1yr	**-.04**	**.11**	**.10**	**.04**	**.08**	**.08**	.00 NS	-.02 NS	**.07**	**.08**	**-.12**	**.04**	.01 NS	.02 NS	**.09**	**.07**	**.06**	**.03**	**.08**	**.06**	**-.13**	**.03**	-.00 NS	**-.13**	**-.15**	**-.08**	**.04**	**.06**	**-.04**	**-.25**	—																								
(32) White	**.29**	**-.03**	**-.12**	**.04**	**-.12**	**-.13**	.00 NS	.00 NS	**-.05**	**-.10**	**.03**	**-.05**	**.04**	-.02 NS	.00 NS	-.01 NS	**-.08**	**-.07**	**-.04**	**-.05**	**.12**	**-.23**	**-.19**	**.21**	**.23**	**.05**	**-.07**	**.04**	**.03**	**.10**	**.09**	—																								
(33) Black	**-.13**	.00 NS	**.03**	-.01 NS	**.05**	**.05**	-.01 NS	-.00 NS	**.14**	**.09**	**-.12**	**.13**	-.02 NS	**.04**	.01 NS	**.04**	**.07**	**.03**	**.03**	**.03**	**-.09**	.01 NS	.01 NS	**-.09**	**-.10**	**-.04**	**.02**	-.02 NS	**.07**	**-.03**	**-.05**	**-.47**	—																								
(34) Indian	**-.05**	.01 NS	.02 NS	**-.03**	-.02 NS	-.02 NS	.02 NS	.01 NS	**-.04**	-.02 NS	**.04**	**-.03**	-.01 NS	-.00 NS	-.02 NS	-.02 NS	-.02 NS	-.00 NS	-.02 NS	.01 NS	.02 NS	**.10**	**.08**	-.01 NS	-.01 NS	-.01 NS	**.05**	-.01 NS	-.01 NS	**-.04**	**-.05**	**-.41**	**-.03**	—																								
(35) Pakistani/ Bangladeshi	**-.24**	**.05**	**.12**	**-.03**	**.17**	**.18**	-.01 NS	-.01 NS	**-.05**	**.06**	**.05**	**-.03**	-.02 NS	-.02 NS	.00 NS	**-.03**	**.04**	**.06**	**.05**	.02 NS	**-.09**	**.26**	**.23**	**-.20**	**-.23**	**-.05**	**.05**	**-.04**	**-.10**	**-.07**	**-.03**	**-.56**	**-.04**	**-.04**	—																								
(36) Other race/ethnicity	**-.10**	-.00 NS	**.05**	-.00 NS	-.01 NS	-.00 NS	-.01 NS	-.01 NS	**.06**	**.05**	**-.03**	.02 NS	**-.02 NS**	**.04**	-.01 NS	.02 NS	**.04**	**.04**	.01 NS	**.03**	**-.06**	**.02**	.01 NS	**-.06**	**-.06**	.01 NS	.01 NS	-.00 NS	.01 NS	**-.04**	**-.03**	**-.43**	**-.03**	**-.04**	**-.03**	—																								
(37) Not born in UK	**-.20**	-.00 NS	**.06**	**-.03**	**.05**	**.05**	.01 NS	.01 NS	-.01 NS	**.07**	**.04**	-.01 NS	**-.03**	.01 NS	**-.03**	**-.03**	**.06**	**.04**	.02 NS	**.03**	**-.08**	**.16**	**.18**	**-.11**	**-.12**	**-.04**	**.03**	**-.05**	**.03**	**-.06**	**-.07**	**-.56**	**.18**	**.37**	**.20**	**.28**	—																							
(38) Mother's level of education	**.36**	**-.26**	**-.22**	.00 NS	**-.39**	**-.40**	-.01 NS	.02 NS	**-.27**	**-.35**	**.29**	**-.19**	**-.04**	**-.13**	**-.06**	**-.14**	**-.28**	**-.15**	**-.15**	**-.15**	**.40**	**-.20**	**-.12**	**.54**	**.60**	**.12**	**-.07**	.00 NS	**.30**	**.18**	**-.11**	**.16**	-.02 NS	**-.19**	**-.03**	**-.03**	**-.13**	—																						
(39) Neigh. social advantage at 1yr	**.31**	**-.21**	**-.20**	-.02 NS	**-.82**	**-.70**	.00 NS	**.04**	**-.29**	**-.34**	**.30**	**-.19**	-.01 NS	**-.15**	**-.07**	**-.15**	**-.25**	**-.17**	**-.14**	**-.15**	**.38**	**-.11**	**-.05**	**.56**	**.60**	**.07**	**-.03**	**-.04**	**.38**	**.19**	**-.10**	**.15**	.00 NS	**-.18**	**-.06**	-.00 NS	**-.03**	**.48**	—																						
(40) Public housing	**-.24**	**.20**	**.17**	**.03**	**.44**	**.41**	-.02 NS	-.02 NS	**.38**	**.42**	**-.40**	**.26**	-.00 NS	**.19**	**.09**	**.21**	**.33**	**.21**	**.19**	**.22**	**-.52**	.02 NS	**.03**	**-.50**	**-.54**	**-.11**	**.03**	**.03**	**-.28**	**-.18**	**.11**	**-.10**	**-.05**	.01 NS	**.19**	**.04**	**.05**	**-.38**	**-.46**	—																						
(41) Subsidized rented housing	**-.07**	**.05**	.01 NS	**.08**	**.06**	**.08**	.00 NS	**.03**	**.16**	**.17**	**-.14**	**.09**	.01 NS	**.07**	.01 NS	**.10**	**.08**	**.13**	**.07**	**.12**	**-.22**	**-.05**	-.01 NS	**-.18**	**-.18**	.01 NS	.02 NS	-.00 NS	**-.10**	**-.04**	**.05**	.00 NS	-.01 NS	-.00 NS	-.01 NS	.02 NS	.02 NS	**-.08**	**-.08**	**-.09**	—																						
(42) Market rented housing	.00 NS	.02 NS	.00 NS	**.13**	**-.03**	.00 NS	**.03**	.00 NS	-.01 NS	-.01 NS	**-.02**	**-.03**	**.03**	**.03**	.02 NS	.01 NS	**-.03**	.01 NS	.01 NS	.01 NS	-.00 NS	**-.06**	**.03**	-.02 NS	**-.03**	**.06**	**.03**	.02 NS	**-.07**	.02 NS	.02 NS	-.01 NS	-.00 NS	.00 NS	-.02 NS	**.05**	**.03**	-.01 NS	**.03**	**-.12**	**-.03**	—																						
(43) Owned housing	**.27**	**-.22**	**-.17**	**-.17**	**-.42**	**-.43**	-.01 NS	.00 NS	**-.46**	**-.45**	**.47**	**-.32**	-.01 NS	**-.23**	**-.09**	**-.23**	**-.32**	**-.25**	**-.22**	**-.27**	**.58**	**-.10**	-.02 NS	**.61**	**.64**	.01 NS	**-.04**	**-.04**	**.43**	**.18**	**-.11**	**.15**	.01 NS	**-.08**	**-.14**	**-.07**	**-.09**	**.42**	**.45**	**-.73**	**-.22**	**-.30**	—																						
(44) Shared/other types of housing	**-.08**	**.05**	**.04**	**.12**	**.06**	**.08**	**.02**	.00 NS	**.16**	**.08**	**-.13**	**.15**	-.00 NS	**.08**	.00 NS	.02 NS	**.06**	**.05**	**.07**	**.08**	**-.15**	**.26**	.01 NS	**-.21**	**-.19**	**.13**	.00 NS	.01 NS	**-.25**	**-.03**	**-.03**	**-.12**	**.08**	**.15**	-.02 NS	.01 NS	**.06**	**-.12**	**-.08**	**-.13**	**-.04**	**-.05**	**-.33**	—																						
(45) Lived in bot. 20% neigh. at 1yr	**-.25**	**.17**	**.16**	**.03**	**.80**	**.66**	.00 NS	-.01 NS	**.24**	**.31**	**-.24**	**.16**	-.02 NS	**.13**	**.05**	**.12**	**.24**	**.16**	**.13**	**.12**	**-.36**	**.10**	**.07**	**-.43**	**-.47**	**-.04**	**.03**	.01 NS	**-.29**	**-.14**	**.07**	**-.11**	**-.03**	**.19**	.01 NS	-.00 NS	**.05**	**-.36**	**-.67**	**.38**	**.09**	-.02 NS	**-.39**	**.06**	—																						
(46) Lived in bot. 20% neigh. at 5yrs	**-.24**	**.16**	**.15**	-.02 NS	**.66**	**.79**	.01 NS	-.01 NS	**.24**	**.30**	**-.25**	**.17**	.01 NS	**.13**	**.04**	**.12**	**.24**	**.15**	**.12**	**.13**	**-.35**	**.11**	**.06**	**-.43**	**-.47**	**-.06**	**.03**	.01 NS	**-.28**	**-.15**	**.07**	**-.11**	**-.03**	**.19**	.01 NS	-.00 NS	**.05**	**-.36**	**-.67**	**.38**	**.09**	-.02 NS	**-.39**	**.08**	**.79**	—																						
(47) Lived in bot. 40% neigh. at 1yr	**-.27**	**.19**	**.19**	**.03**	**.84**	**.70**	.00 NS	**-.03**	**.26**	**.30**	**-.25**	**.16**	.00 NS	**.13**	**.05**	**.13**	**.22**	**.15**	**.12**	**.14**	**-.34**	**.10**	**.06**	**-.49**	**-.52**	**-.06**	**.02**	.01 NS	**-.33**	**-.17**	**.08**	**-.14**	**.03**	**.15**	**.07**	-.00 NS	**.05**	**-.41**	**-.83**	**.43**	**.06**	**-.03**	**-.41**	**.06**	**.67**	**.57**	—																						
(48) Lived in bot. 40% neigh. at 5yrs	**-.27**	**.18**	**.17**	-.01 NS	**.69**	**.84**	.01 NS	**-.04**	**.26**	**.29**	**-.26**	**.18**	.01 NS	**.12**	**.05**	**.13**	**.22**	**.13**	**.12**	**.14**	**-.34**	**.11**	**.04**	**-.48**	**-.53**	**-.06**	**.03**	**.03**	**-.32**	**-.17**	**.08**	**-.14**	.01 NS	**.15**	**.06**	.02 NS	**.05**	**-.41**	**-.70**	**.41**	**.07**	.01 NS	**-.42**	**.08**	**.57**	**.66**	**.80**	—																						
(49) Never moved 1-5yrs	.01 NS	**-.04**	**-.03**	-1.00 NS	**-.03**	.01 NS	.01 NS	**-.05**	**-.09**	**-.06**	**.14**	**-.05**	**-.05**	**-.05**	**-.07**	**-.08**	**-.03**	**-.04**	**-.05**	**-.06**	**.10**	**.07**	**.08**	**.06**	**.05**	**-.15**	-.02 NS	-.01 NS	**.19**	.02 NS	**-.04**	**-.03**	**.03**	**.03**	.01 NS	.00 NS	**.03**	-.00 NS	.02 NS	**-.03**	**-.08**	**-.13**	**.17**	**-.12**	**-.03**	.02 NS	**-.03**	.01 NS	—																						
(50) Moved bet. 1-3yrs only	-.00 NS	**.03**	.00 NS	**.73**	.01 NS	-.00 NS	-.01 NS	.00 NS	**.06**	**.03**	**-.08**	**.05**	.00 NS	**.04**	**.03**	**.03**	**.03**	.02 NS	**.05**	**.03**	**-.07**	**-.04**	**-.06**	**-.04**	**-.03**	**.10**	.00 NS	.01 NS	**-.13**	-.01 NS	**.04**	**.02**	-.02 NS	-.02 NS	-.01 NS	.00 NS	**-.02**	.01 NS	**-.41**	.01 NS	**.05**	**.09**	**-.12**	**.11**	.02 NS	-.01 NS	.01 NS	-.00 NS	**-.73**	—																						
(51) Moved bet. 3-5yrs only	-.02 NS	**.03**	.02 NS	**.41**	**.02**	-.01 NS	.01 NS	**.03**	**.04**	**.04**	**-.05**	.00 NS	**.03**	-.00 NS	**.03**	**.03**	-.01 NS	.02 NS	**-.03**	**.03**	-.01 NS	**-.03**	-.02 NS	**-.03**	**-.03**	**.05**	.01 NS	-.00 NS	**-.06**	.00 NS	.01 NS	.01 NS	-.00 NS	-.01 NS	.02 NS	**-.02**	.00 NS	-.01 NS	-.02 NS	**.02**	**.03**	**.03**	**-.05**	.02 NS	.02 NS	-.01 NS	.02 NS	-.01 NS	**-.41**	**-.20**	—																						
(52) Moved both 1-3yrs and 3-5yrs	-.00 NS	.00 NS	**.03**	**.24**	.02 NS	-.01 NS	-.00 NS	**.07**	**.03**	.01 NS	**-.11**	.00 NS	**.05**	**.04**	**.06**	**.08**	.01 NS	.02 NS	**.06**	**.04**	**-.08**	**-.04**	**-.04**	-.02 NS	-.01 NS	**.07**	.01 NS	-.00 NS	**-.10**	-.01 NS	.02 NS	**.04**	**-.03**	**-.03**	**-.03**	.02 NS	-.02 NS	.00 NS	-.01 NS	.01 NS	**.04**	**.10**	**-.08**	**.03**	.02 NS	-.00 NS	.01 NS	-.02 NS	**-.24**	**-.12**	**-.07**	—																						
(53) Additional moves 1-5yrs	-.02 NS	**.05**	.02 NS	**.39**	.02 NS	.01 NS	.01 NS	**.07**	**.08**	**.06**	**-.16**	.01 NS	**.10**	**.05**	**.10**	**.08**	.02 NS	**.04**	**.06**	**.07**	**-.11**	**-.04**	**-.07**	**-.07**	**-.07**	**.07**	.02 NS	.00 NS	**-.15**	**-.05**	**.06**	**.03**	**-.03**	**-.04**	-.01 NS	.02 NS	-.02 NS	**-.03**	**-.02**	**.04**	**.06**	**.12**	**-.13**	**.06**	**.02**	.01 NS	.02 NS	.01 NS	**-.39**	**.14**	**.09**	**.55**	—																						

* All boldface correlations are statistically significant at least at $p < .05$; all other correlations are noted as "Not (statistically) Significant" (NS).

Supplement 3: Estimation of Inverse Probability Weights

The combination of propensity score, in the form of inverse probability weighting (IPW), and regression has been shown to reduce treatment estimation bias in observational studies (Rubin, 1974; Rosenbaum & Rubin, 1983; Hernán & Robins, 2020). The use of this type of regression adjustment is justified when the selection into treatment is, conditional on observable covariates, independent of the outcome. When this condition is not met, we are in the presence of treatment endogeneity, which shows as correlation between the residuals of the "selection model" predicting the treatment, and the residuals of the "outcome model" predicting the dependent measure.

In our study, the propensity score is the probability that children would experience a residential move within the age range 1-5yrs. The relative selection model is a probit regression including a set of baseline covariates related to the outcomes, and further measures that specifically distinguish treated from control group. For each country different selection models were required, with the model for the US sample being more parsimonious than that for the UK. However, we kept the same specification across the outcomes within each sample (see Table S3.1 and S3.2). The predicted probabilities (i.e. the propensity score) were then turned into their inverse and movers were assigned a weight equal to 1/p, and non-movers received a weight equal to 1/1-p. Finally, we ran the fully conditional regression models predicting the three outcomes (i.e. Model 4: Transitions) including the IPWs in the final weights (i.e. the product of survey weights and inverse probability weights) to estimate the average treatment effect of residential mobility between 1-5yrs on cognitive and behavioral outcomes measured at 5yrs.

In both samples, the specified selection models show non-significant correlations between residuals of the treatment equation and outcome equations (see the last row of both Table S3.1 and S3.2). The covariates are balanced as assessed by both the (non-statistically significant) Balance Test χ^2, and the other balance statistics computed across movers and non-movers: for both countries and across outcomes, when IPWs are included in the analyses, the weighted standardized difference of means and variance ratios are respectively closer to 0 and 1 compared to the not-weighted results (see tables below).

References

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Table S3.1 Balancing and Endogeneity Test for Non-Imputed Selection Model Covariates in US

Variable	Verbal score at 5yrs (N=1,384)				Externalizing behavior at 5yrs (N=1,725)				Internalizing behavior at 5yrs (N=1,725)			
	Standardized Difference of Means		***Variance Ratio***		***Standardized Difference of Means***		***Variance Ratio***		***Standardized Difference of Means***		***Variance Ratio***	
	Not weighted	*Weighted*	*Not weighted*	*Weighted*	*Not weighted*	*Weighted*	*Not weighted*	*Weighted*	*Not weighted*	*Weighted*	*Not weighted*	*Weighted*
Mother's age in years	-.60	-.05	.78	1.10	-.55	-.06	.83	1.13	-.55	-.06	.83	1.13
Neighborhood social advantage at 1yr	-.08	-.01	.78	.95	-.04	-.04	.79	.96	-.04	-.04	.79	.96
*Mother's age in years * Neighborhood social advantage at 1yr* (interaction)	-.07	-.02	.79	.99	-.10	-.00	.70	.94	-.10	-.00	.70	.94
N Moved (treated group)	929	731	—	—	1,177	902	—	—	1,177	902	—	—
N Not moved (control group)	455	653	—	—	548	823	—	—	548	823	—	—
Balance Test[1] χ^2	22				22				22			
Endogeneity Test[2] χ^2	0				1				2			

[1] H_0: covariates are balanced.
[2] H_0: treatment and outcome residuals are uncorrelated.

Table S3.2 Balancing and Endogeneity Test for Non-Imputed Selection Model Covariates in UK

Variable	Verbal score at 5yrs (N=6,407)				Externalizing behavior at 5yrs (N=6,265)				Internalizing behavior at 5yrs (N=6,279)			
	Standardized Difference of Means		*Variance Ratio*		*Standardized Difference of Means*		*Variance Ratio*		*Standardized Difference of Means*		*Variance Ratio*	
	Not weighted	*Weighted*	*Not weighted*	*Weighted*	*Not weighted*	*Weighted*	*Not weighted*	*Weighted*	*Not weighted*	*Weighted*	*Not weighted*	*Weighted*
Household size at 1yr	-.17	.02	1.07	1.07	-.17	.01	1.05	1.02	-.17	.01	1.07	1.03
LN equivalized income at 1yr	-.09	.01	1.17	1.12	-.11	.01	1.17	1.11	-.10	.01	1.17	1.10
Cohort member was first child	.35	-.02	1.06	1.00	.35	-.01	1.06	1.00	.35	-.01	1.05	1.00
Mother's age in years	-.39	.04	1.18	1.06	-.41	.03	1.19	1.04	-.41	.03	1.18	1.04
Race/Ethnicity												
White	.10	.07	.85	.89	.07	.05	.88	.91	.07	.06	.89	.90
Black	-.03	.01	.89	1.05	-.02	.01	.90	1.05	-.02	.01	.90	1.04
Indian	-.09	-.00	.63	.99	-.08	-.01	.65	.96	-.08	-.01	.66	.96
Pakistani/Bangladeshi	-.07	.01	.79	1.04	-.03	.01	.88	1.05	-.03	.01	.90	1.04
Other race/ethnicity	.00	-.01	1.01	.94	.01	-.00	1.06	.98	.01	-.00	1.05	.99
Mother was not born in UK	-.09	.01	.84	1.02	-.06	.02	.87	1.04	-.06	.02	.87	1.04
*Household size at 1yr * Mother was not born in UK* (interaction)	-.12	.02	.73	1.13	-.10	.02	.73	1.10	-.10	.02	.74	1.11
Mother's level of education	.03	.01	.94	1.00	-.00	.01	.96	1.00	.01	.01	.95	.99
Neighborhood social advantage at 1yr	-.08	-.01	1.05	1.01	-.10	-.02	1.06	1.02	-.10	-.02	1.05	1.02
Housing Tenure at 1yr												
Public housing	.05	-.03	1.06	.97	.06	-.03	1.08	.97	.06	-.02	1.07	.97
Subsidized rented housing	.18	-.00	3.24	.99	.19	.00	3.58	1.03	.19	.00	3.54	1.02
Market rented housing	.27	-.02	1.06	.97	.26	-.02	3.58	.90	.27	-.02	3.64	.90

Variable	Verbal score at 5yrs (N=6,407)				Externalizing behavior at 5yrs (N=6,265)				Internalizing behavior at 5yrs (N=6,279)			
	Standardized Difference of Means		***Variance Ratio***		***Standardized Difference of Means***		***Variance Ratio***		***Standardized Difference of Means***		***Variance Ratio***	
	Not weighted	*Weighted*	*Not weighted*	*Weighted*	*Not weighted*	*Weighted*	*Not weighted*	*Weighted*	*Not weighted*	*Weighted*	*Not weighted*	*Weighted*
Owned housing	-.35	.03	1.17	.99	-.36	.02	1.19	.99	-.36	.02	1.19	.99
Shared/other types of housing	.24	-.02	2.44	.94	.24	-.01	2.52	.95	.24	-.01	2.51	.95
N Moved (treated group)	2,487	3,214	—	—	2,460	3,139	—	—	2,465	3,146	—	—
N Not moved (control group)	3,920	3,193	—	—	3,805	3,126	—	—	3,814	3,133	—	—
Balance Test[1] χ^2	29				25				24			
Endogeneity Test[2] χ^2	2				3				6			

[1] H_0: covariates are balanced.
[2] H_0: treatment and outcome residuals are uncorrelated.

Supplement 4: Full Tables for Multivariate Analyses

Table S4.1 Verbal Score at 5yrs: OLS Unstandardized Regressions Coefficients (Standard Error in parentheses) in US (N=1,458) and UK (N=7,967)

Variable	Model 1: Mobility		Model 2: Neighborhood		Intermediate Model: Baseline Predictors		Intermediate Model: Baseline+Transitions		Model 3: Baseline + Transitions + IPWs	
	US	***UK***	***US***	***UK***	***US***	***UK***	***US***	***UK***	***US***	***UK***
Moved between 1–5yrs	0.82 (7.07)	-0.63 (1.01)	3.17 (8.58)	0.53 (1.33)	-0.02 (3.36)	-0.38 (1.09)	2.22 (3.20)	-0.28 (1.09)	2.40 (2.52)	-0.43 (1.18)
Lived in bottom 30% neighborhood at 1yr	—	—	0.47 (10.19)	-6.16** (1.92)	6.89 (4.37)	-1.15 (1.60)	8.78 (4.22)	-0.67 (1.57)	9.36* (3.84)	-0.76 (1.68)
Lived in bottom 30% neighborhood at 5yrs	—	—	-21.09** (6.11)	-10.33*** (1.46)	-7.64* (2.86)	-3.05* (1.33)	-6.35* (2.31)	-2.92* (1.29)	-6.85** (2.34)	-3.59** (1.38)
*Lived in bottom 30% neighborhood at 1yr * Moved between 1-5yrs* (interaction)	—	—	-4.36 (6.41)	-3.12 (1.83)	3.28 (4.97)	-1.21 (1.54)	1.75 (5.71)	-1.59 (1.54)	0.84 (5.32)	-1.41 (1.77)
Child's sex is male	1.27 (3.27)	-2.33** (.79)	0.19 (2.39)	-2.34** (.75)	-2.61 (1.34)	-2.27** (.67)	-3.91** (1.12)	-2.23** (.67)	-5.99** (1.44)	-2.40** (.70)
Child's age in months at 5yrs	-0.86 (1.30)	-0.21 (.15)	-0.42 (1.16)	-0.28* (.13)	0.30 (.60)	-0.28** (.11)	0.47 (.60)	-0.27* (.11)	0.85 (.53)	-0.27* (.12)
Mother was single at child's birth					7.01* (2.73)	1.04 (1.13)	—	—	—	—
Household was workless at child's birth					-3.14 (3.92)	-4.77*** (1.20)	—	—	—	—
Family structure change birth–5yrs (*ref. group: Stably coupled*)										
Stably single					—	—	-1.43 (3.61)	0.99 (1.87)	-0.99 (3.91)	1.78 (1.93)

Variable	Model 1: Mobility		Model 2: Neighborhood		Intermediate Model: Baseline Predictors		Intermediate Model: Baseline+Transitions		Model 3: Baseline + Transitions + IPWs	
	US	***UK***	***US***	***UK***	***US***	***UK***	***US***	***UK***	***US***	***UK***
From coupled to new partner					—	—	-8.75 (8.93)	-0.21 (2.74)	-10.75 (10.71)	-1.24 (3.06)
From single to coupled					—	—	3.20 (3.28)	-0.30 (1.68)	2.68 (3.75)	-0.48 (1.85)
From coupled to single					—	—	-4.54 (2.32)	-3.92** (1.20)	-5.65 (3.20)	-3.78** (1.32)
Multiple transitions					—	—	-3.57 (3.89)	-0.96 (1.37)	-3.62 (4.62)	-0.70 (1.69)
Household employment change birth–5yrs (*ref. group: Stably employed*)										
Stably workless					—	—	-3.19 (9.12)	-4.93** (1.70)	6.86 (10.48)	-5.51** (1.78)
From workless to employed					—	—	-4.16 (4.12)	-3.06 (1.88)	-3.72 (3.20)	-3.24 (2.09)
From employed to workless					—	—	-14.73*** (2.28)	1.28 (1.31)	-15.56*** (2.48)	1.10 (1.50)
In and out of work 2 or 3 changes					—	—	-1.00 (2.88)	-1.89 (1.44)	0.35 (2.47)	-2.04 (1.76)
Household size at 1yr					-1.75 (.91)	-1.59*** (.29)	—	—	—	—
Household size at 5yrs					—	—	-2.07* (.97)	-1.59*** (.31)	-1.75 (1.13)	-1.41*** (.32)
LN equivalized income at 1yr					3.05*** (.50)	3.95*** (.78)	—	—	—	—

Variable	Model 1: Mobility		Model 2: Neighborhood		Intermediate Model: Baseline Predictors		Intermediate Model: Baseline+Transitions		Model 3: Baseline + Transitions + IPWs	
	US	***UK***	***US***	***UK***	***US***	***UK***	***US***	***UK***	***US***	***UK***
LN mean equivalized income 1-5yrs					—	—	5.82** (1.70)	5.59*** (.93)	6.84** (1.69)	5.68*** (1.03)
Cohort member was first child					-0.64 (2.91)	4.42*** (.80)	-1.47 (1.73)	4.87*** (.79)	-0.70 (2.27)	5.15*** (.81)
Child was born underweight					-5.99 (2.85)	-1.48 (1.34)	-4.38 (2.67)	-1.44 (1.32)	-6.50* (2.71)	-1.07 (1.36)
Child's general health at 1yr/3yrs					-2.47 (1.42)	-2.98** (.93)	-1.65 (1.72)	-3.04** (.93)	-1.09 (1.50)	-2.60* (1.03)
Mother's age in years					0.64 (.31)	0.35*** (.07)	0.58 (.38)	0.29*** (.07)	0.65 (.44)	0.27** (.09)
Mother's general health at 1yr					3.37** (.83)	0.32 (.60)	2.28** (.66)	0.26 (.61)	2.63** (.69)	0.22 (.66)
Mother depressed at 1yr					-0.87 (4.90)	-0.08 (.90)	-0.77 (3.76)	0.16 (.89)	-0.60 (3.25)	0.18 (1.02)
Race/Ethnicity (*ref. group: White*)										
Black					-25.43*** (3.63)	-15.79*** (1.89)	-22.77*** (4.25)	-15.08*** (1.95)	-22.79*** (4.02)	-14.82*** (2.00)
Hispanic					-24.99*** (3.48)	—	-23.93*** (4.12)	—	-22.45*** (3.58)	—
Indian					—	-6.64** (2.22)	—	-7.10** (2.24)	—	-6.74** (2.58)
Pakistani/Bangladeshi					—	-17.66*** (1.54)	—	-17.78*** (1.55)	—	-17.55*** (1.92)

Variable	Model 1: Mobility		Model 2: Neighborhood		Intermediate Model: Baseline Predictors		Intermediate Model: Baseline+Transitions		Model 3: Baseline + Transitions + IPWs	
	US	***UK***	***US***	***UK***	***US***	***UK***	***US***	***UK***	***US***	***UK***
Other race/ethnicity					-5.69 (7.15)	-14.26*** (1.76)	-2.47 (5.99)	-14.16*** (1.78)	2.10 (6.58)	-13.25*** (2.17)
Mother was not born in US/UK					-6.81* (2.76)	-3.92** (1.25)	-8.24* (2.92)	-3.72** (1.28)	-10.79** (2.57)	-3.37* (1.39)
Mother's level of education					2.10 (1.04)	2.85*** (.24)	1.12 (.94)	2.69*** (.26)	0.13 (1.07	2.45*** (.29)
Constant	104.95 (74.42)	67.49*** (9.38)	85.15 (65.69)	77.07*** (8.30)	3.94 (42.16)	20.81* (10.42)	-25.97 (35.71)	6.14 (11.37)	-61.48 (33.83)	6.93 (12.55)
F-test	0	4*	77***	33***	9435***	141***	4124***	117***	2931***	100***
Adjusted R^2	.00	.00	.12	.08	.45	.24	.48	.24	.49	.23

*p<.05; **p<.01; ***p<.001.

Table S4.2 Externalizing Behavior at 5yrs: OLS Unstandardized Regressions Coefficients (Standard Error in parentheses) in US (N=1,820) and UK (N=7,668)

Variable	Model 1: Mobility		Model 2: Neighborhood		Intermediate Model: Baseline Predictors		Intermediate Model: Baseline+Transitions		Model 3: Baseline + Transitions + IPWs	
	US	***UK***	***US***	***UK***	***US***	***UK***	***US***	***UK***	***US***	***UK***
Moved between 1–5yrs	-3.62 (3.23)	2.78** (.90)	-7.79 (5.51)	1.73 (1.14)	-8.73 (4.17)	1.12 (.99)	-9.09* (4.00)	0.85 (1.01)	-8.91* (3.86)	0.70 (1.08)
Lived in bottom 30% neighborhood at 1yr	—	—	-7.79 (10.15)	6.99** (2.00)	-4.95 (6.83)	4.10* (1.97)	-7.09 (5.85)	4.35* (1.94)	-6.12 (5.57)	3.57 (2.00)
Lived in bottom 30% neighborhood at 5yrs	—	—	6.94 (6.51)	5.16** (1.72)	1.86 (4.68)	-0.61 (1.72)	2.52 (4.60)	-1.06 (1.67)	1.76 (4.05)	-0.77 (1.81)
*Lived in bottom 30% neighborhood at 1yr * Moved between 1-5yrs* (interaction)	—	—	13.21 (8.48)	2.42 (1.94)	9.68 (7.31)	-0.51 (1.82)	11.90 (7.01)	-0.84 (1.81)	11.12 (6.41)	-0.58 (1.95)
Child's sex is male	2.58 (2.26)	7.61*** (.67)	2.86 (1.82)	7.65*** (.64)	4.12* (1.51)	7.64*** (.60)	4.66* (1.76)	7.62*** (.60)	7.20*** (1.56)	7.51*** (.62)
Child's age in months at 5yrs	0.69 (.44)	-0.37** (.14)	0.53 (.42)	-0.32* (.13)	0.39 (.48)	-0.26* (.12)	0.36 (.52)	-0.29* (.13)	0.15 (.54)	-0.23 (.12)
Mother was single at child's birth					7.29* (3.16)	3.39** (1.22)	—	—	—	—
Household was workless at child's birth					-4.68 (4.09)	2.12 (1.34)	—	—	—	—
Family structure change birth–5yrs (*ref. group: Stably coupled*)										
Stably single					—	—	2.36 (5.12)	3.46 (2.14)	1.72 (5.68)	2.98 (2.32)
From coupled to new partner					—	—	-9.12 (5.12)	11.89*** (3.22)	-7.30 (6.01)	10.63** (3.85)
From single to coupled					—	—	7.49* (3.14)	5.98** (1.75)	6.70 (3.32)	6.50** (1.98)

Variable	Model 1: Mobility		Model 2: Neighborhood		Intermediate Model: Baseline Predictors		Intermediate Model: Baseline+Transitions		Model 3: Baseline + Transitions + IPWs	
	US	***UK***	***US***	***UK***	***US***	***UK***	***US***	***UK***	***US***	***UK***
From coupled to single					—	—	2.58 (3.09)	4.36** (1.51)	3.01 (3.74)	4.01** (1.51)
Multiple transitions					—	—	4.99* (2.16)	4.52* (1.85)	6.08* (2.37)	3.69 (2.12)
Household employment change birth–5yrs (*ref. group: Stably employed*)										
Stably workless					—	—	-16.31** (4.28)	3.50 (2.07)	-17.97** (4.43)	6.01** (2.17)
From workless to employed					—	—	-0.61 (2.98)	0.50 (2.14)	0.06 (3.61)	0.84 (2.46)
From employed to workless					—	—	-1.54 (5.20)	2.07 (1.62)	-2.48 (3.55)	2.51 (1.79)
In and out of work 2 or 3 changes					—	—	-0.19 (4.69)	1.13 (1.78)	-1.49 (4.65)	1.02 (1.95)
Household size at 1yr					0.74 (.83)	-0.85* (.38)	—	—	—	—
Household size at 5yrs					—	—	1.12 (.89)	-0.59 (.38)	1.18 (1.08)	-0.57 (.41)
LN equivalized income at 1yr					-0.60 (1.05)	-1.30 (.94)	—	—	—	—
LN mean equivalized income 1-5yrs					—	—	-1.91 (1.57)	-1.50 (1.27)	-0.53 (1.94)	-1.75 (1.37)
Cohort member was first child					-3.30 (3.11)	-0.76 (.94)	-2.67 (3.43)	-0.18 (.87)	-2.34 (3.72)	-0.56 (.92)

Variable	Model 1: Mobility		Model 2: Neighborhood		Intermediate Model: Baseline Predictors		Intermediate Model: Baseline+Transitions		Model 3: Baseline + Transitions + IPWs	
	US	***UK***	***US***	***UK***	***US***	***UK***	***US***	***UK***	***US***	***UK***
Child was born underweight					0.51 (5.47)	3.72** (1.18)	0.71 (5.73)	3.54** (1.18)	4.89 (6.12)	3.80** (1.39)
Child's general health at 1yr/3yrs					-0.56 (1.53)	2.76** (1.04)	-0.39 (1.43)	2.72* (1.05)	-0.26 (1.69)	2.75* (1.08)
Mother's age in years					-0.65* (.30)	-0.40*** (.09)	-0.68 (.33)	-0.34*** (.09)	-0.81* (.32)	-0.34** (.10)
Mother's general health at 1yr					-3.22** (.81)	-4.09*** (.57)	-3.25** (.95)	-3.92*** (.57)	-3.67*** (.80)	-4.13*** (.62)
Mother depressed at 1yr					6.81 (7.29)	2.93** (.88)	6.38 (7.70)	2.52** (.88)	7.31 (7.91)	1.92* (.92)
Race/Ethnicity (*ref. group: White*)										
Black					0.52 (3.29)	-0.22 (1.96)	-0.31 (3.45)	-0.82 (1.95)	-0.45 (3.40)	-1.52 (2.16)
Hispanic					-3.51 (9.29)	—	-3.93 (8.26)	—	-2.27 (8.09)	—
Indian					—	1.38 (2.10)	—	1.63 (2.15)	—	0.62 (3.07)
Pakistani/Bangladeshi					—	3.19 (2.22)	—	3.35 (2.20)	—	3.47 (2.37)
Other race/ethnicity					10.12 (5.54)	0.49 (2.12)	10.06 (5.82)	0.09 (2.16)	7.91 (6.29)	0.16 (2.22)
Mother was not born in US/UK					0.65 (2.48)	-2.15 (1.42)	1.04 (2.13)	-1.97 (1.41)	2.86 (2.71)	-2.40 (1.72)

Variable	Model 1: Mobility		Model 2: Neighborhood		Intermediate Model: Baseline Predictors		Intermediate Model: Baseline+Transitions		Model 3: Baseline + Transitions + IPWs	
	US	***UK***	***US***	***UK***	***US***	***UK***	***US***	***UK***	***US***	***UK***
Mother's level of education					-0.14 (1.12)	-2.76*** (.31)	-0.05 (1.29)	-2.55*** (.32)	-0.06 (1.44)	-2.49*** (.37)
Constant	6.29 (26.72)	62.70*** (8.60)	15.75 (25.61)	55.99*** (8.34)	60.58* (28.35)	101.39** (10.81)	73.87* (29.75)	100.52** (12.60)	74.04* (32.78)	99.32** (12.61)
F-test	2	56***	19***	68***	227***	60***	412***	52***	299***	52***
Adjusted R^2	.01	.02	.03	.06	.09	.12	.11	.13	.11	.13

*p<.05; **p<.01; ***p<.001.

Table S4.3 Internalizing Behavior at 5yrs: OLS Unstandardized Regressions Coefficients (Standard Error in parentheses) in US (N=1,820) and UK (N=7,668)

Variable	Model 1: Mobility		Model 2: Neighborhood		Intermediate Model: Baseline Predictors		Intermediate Model: Baseline+Transitions		Model 3: Baseline + Transitions + IPWs	
	US	***UK***	***US***	***UK***	***US***	***UK***	***US***	***UK***	***US***	***UK***
Moved between 1–5yrs	0.39 (4.04)	1.78* (9.87)	-2.42 (6.71)	0.61 (.99)	-2.25 (5.80)	-0.07 (.92)	-2.71 (5.14)	-0.05 (.90)	-2.20 (4.89)	0.14 (.90)
Lived in bottom 30% neighborhood at 1yr	—	—	-6.56 (12.09)	5.91** (1.93)	-6.03 (8.92)	3.06 (1.90)	-7.52 (7.84)	2.88 (1.88)	-7.97 (7.97)	1.71 (1.93)
Lived in bottom 30% neighborhood at 5yrs	—	—	8.09 (10.33)	6.47*** (1.60)	6.06 (7.88)	1.58 (1.69)	5.45 (7.77)	0.85 (1.66)	5.00 (7.64)	1.60 (1.93)
*Lived in bottom 30% neighborhood at 1yr * Moved between 1-5yrs* (interaction)	—	—	8.97 (10.32)	2.88 (1.77)	6.20 (8.93)	0.84 (1.68)	7.30 (8.08)	0.73 (1.67)	6.56 (7.98)	1.66 (1.67)
Child's sex is male	-1.13 (2.77)	0.63 (.75)	-0.78 (3.24)	0.67 (.73)	1.58 (3.17)	0.72 (.72)	1.89 (2.75)	0.65 (.73)	4.93 (3.33)	0.72 (.79)
Child's age in months at 5yrs	1.93* (.69)	-0.22 (.16)	1.80* (.65)	-0.17 (.16)	2.05** (.55)	-0.11 (.15)	1.90** (.49)	-0.12 (.15)	1.78** (.51)	-0.08 (.16)
Mother was single at child's birth					1.05 (2.07)	-0.83 (1.48)	—	—	—	—
Household was workless at child's birth					1.99 (3.13)	2.04 (1.55)	—	—	—	—
Family structure change birth–5yrs (*ref. group: Stably coupled*)										
Stably single					—	—	-0.46 (7.77)	1.46 (2.32)	1.10 (7.43)	1.04 (2.48)
From coupled to new partner					—	—	-0.47 (8.55)	-1.29 (3.38)	1.74 (9.05)	-1.48 (3.95)
From single to coupled					—	—	1.57 (2.53)	-2.77 (1.84)	1.30 (3.35)	-2.49 (2.01)

Variable	Model 1: Mobility		Model 2: Neighborhood		Intermediate Model: Baseline Predictors		Intermediate Model: Baseline+Transitions		Model 3: Baseline + Transitions + IPWs	
	US	***UK***	***US***	***UK***	***US***	***UK***	***US***	***UK***	***US***	***UK***
From coupled to single					—	—	1.73 (4.35)	1.36 (1.59)	2.60 (4.44)	1.74 (1.70)
Multiple transitions					—	—	3.08 (5.92)	1.22 (1.81)	4.84 (6.38)	0.92 (2.12)
Household employment change birth–5yrs (*ref. group: Stably employed*)										
Stably workless					—	—	-7.05 (6.57)	2.10 (2.21)	-5.59 (6.20)	3.01 (2.35)
From workless to employed					—	—	0.28 (3.72)	0.26 (2.21)	-0.41 (5.12)	0.30 (2.68)
From employed to workless					—	—	-1.75 (3.89)	0.30 (1.69)	-0.93 (2.67)	-0.78 (1.90)
In and out of work 2 or 3 changes					—	—	-0.77 (3.46)	1.37 (1.96)	0.24 (3.96)	1.84 (2.26)
Household size at 1yr					0.14 (.87)	0.31 (.41)	—	—	—	—
Household size at 5yrs					—	—	0.48 (1.07)	0.36 (.42)	0.91 (1.02	0.64 (.48)
LN equivalized income at 1yr					-1.15 (1.08)	-3.47*** (.80)	—	—	—	—
LN mean equivalized income 1-5yrs					—	—	-5.21* (1.94)	-6.00*** (1.26)	-3.28 (2.32)	-6.28*** (1.36)
Cohort member was first child					1.57 (1.39)	5.80*** (.92)	3.12 (1.80)	5.91*** (.84)	3.40 (2.23)	6.27*** (.87)

Variable	Model 1: Mobility		Model 2: Neighborhood		Intermediate Model: Baseline Predictors		Intermediate Model: Baseline+Transitions		Model 3: Baseline + Transitions + IPWs	
	US	***UK***	***US***	***UK***	***US***	***UK***	***US***	***UK***	***US***	***UK***
Child was born underweight					1.45 (4.68)	2.23 (1.44)	1.25 (5.07)	2.21 (1.41)	4.14 (5.33)	1.82 (1.62)
Child's general health at 1yr/3yrs					-0.18 (1.41)	2.79* (1.23)	0.05 (1.44)	2.75* (1.25)	0.15 (1.19)	2.82* (1.40)
Mother's age in years					0.10 (.19)	-0.03 (.09)	0.13 (.20)	0.04 (.08)	0.09 (.16)	0.11 (.09)
Mother's general health at 1yr					-5.66** (1.52)	-4.65*** (.56)	-5.10* (1.82)	-4.45*** (.56)	-4.98** (1.62)	-4.22*** (.62)
Mother depressed at 1yr					4.43 (6.73)	3.87*** (.99)	4.63 (6.46)	3.56*** (.99)	5.02 (6.88)	3.66** (1.13)
Race/Ethnicity (*ref. group: White*)										
Black					-4.85 (2.33)	5.50** (1.80)	-6.47* (2.75)	4.13* (1.80)	-5.50 (3.16)	3.29 (1.85)
Hispanic					-2.89 (7.67)	—	-4.02 (7.56)	—	-2.95 (6.97)	—
Indian					—	4.25 (2.72)	—	4.39 (2.73)	—	3.75 (2.69)
Pakistani/Bangladeshi					—	10.98*** (2.02)	—	10.47*** (2.01)	—	11.07*** (2.37)
Other race/ethnicity					-4.19 (8.97)	8.60*** (2.27)	-3.17 (9.19)	8.06*** (2.24)	-7.47 (9.01)	9.16*** (2.36)
Mother was not born in US/UK					5.35 (5.87)	-0.27 (1.25)	5.03 (6.10)	-0.21 (1.25)	7.25 (5.84)	-0.33 (1.48)

Variable	Model 1: Mobility		Model 2: Neighborhood		Intermediate Model: Baseline Predictors		Intermediate Model: Baseline+Transitions		Model 3: Baseline + Transitions + IPWs	
	US	***UK***	***US***	***UK***	***US***	***UK***	***US***	***UK***	***US***	***UK***
Mother's level of education					-1.31 (1.19)	-2.14*** (.28)	-0.54 (1.33)	-1.79*** (.30)	-1.11 (1.55)	-1.93*** (.30)
Constant	-69.65 (43.41)	53.31*** (9.87)	-62.40 (40.95)	46.37*** (9.77)	-43.59 (36.34)	92.45*** (12.89)	-0.90 (34.47)	114.05** (17.03)	-16.12 (41.01)	110.33** (19.27)
F-test	5**	2	20***	29***	968***	52***	1475***	40***	809***	38***
Adjusted R^2	.02	.00	.03	.04	.10	.10	.11	.10	.11	.11

*p<.05; **p<.01; ***p<.001.

Supplement 5: Sensitivity Analyses

Table S5.1 Comparison of OLS Unstandardized Regressions Coefficients (Standard Errors in parentheses) in US and UK for Outcome Variables in their Percentile and Original Metric - Selection of Parameters from "Intermediate Model: Baseline + Transitions"

Variable	US						UK					
	Verbal Score at 5yrs		Externalizing behavior at 5yrs		Internalizing behavior at 5yrs		Verbal Score at 5yrs		Externalizing behavior at 5yrs		Internalizing behavior at 5yrs	
	Percentile	*Original*	*Percentile*	*Original*	*Percentile*	*Original*	*Percentile*	*Original*	*Percentile*	*Original*	*Percentile*	*Original*
Moved between 1–5yrs	2.22 (3.20)	0.01 (1.95)	-9.09* (4.00)	-0.08* (.03)	-2.71 (5.14)	-0.03 (.03)	-0.28 (1.09)	-0.25 (.40)	0.85 (1.01)	0.08 (.11)	-0.05 (.90)	0.02 (.06)
Living in bottom **30%** neighborhood at 1yr	8.78 (4.22)	4.48 (3.15)	-7.09 (5.85)	-0.07 (.05)	-7.52 (7.84)	-0.04 (.05)	-0.67 (1.57)	-0.06 (.61)	4.35* (1.94)	0.52* (.22)	2.88 (1.88)	0.28 (.16)
Living in bottom 30% neighborhood at 5yrs	-6.35* (2.31)	-1.78 (1.48)	2.52 (4.60)	0.04 (.05)	5.45 (7.77)	0.03 (.04)	-2.92* (1.29)	-1.14* (.51)	-1.06 (1.67)	-0.09 (.19)	0.85 (1.66)	0.06 (.14)
*Living in bottom 30% neighborhood at 1yr * Moved between 1-5yrs* (interaction)	1.75 (5.71)	1.01 (3.65)	11.90 (7.01)	0.11 (.06)	7.30 (8.08)	0.06 (.05)	-1.59 (1.54)	-0.51 (.58)	-0.84 (1.81)	-0.04 (.21)	0.73 (1.67)	0.07 (.14)
Constant	-25.97 (35.71)	37.01 (30.23)	73.87* (29.75)	0.66* (.25)	-0.90 (34.47)	-0.06 (.23)	6.14 (11.37)	39.13*** (4.50)	100.52** (12.60)	10.30*** (1.46)	114.05** (17.03)	7.27*** (1.20)
F-test	4124***	3387***	412***	963***	1475***	986***	117***	106***	52***	45***	40***	30***
Adjusted R^2	.48	.47	.11	.12	.11	.10	.24	.26	.13	.14	.10	.10

*p<.05; **p<.01; ***p<.001.

Table S5.2 Comparison of OLS Unstandardized Regressions Coefficients (Standard Errors in parentheses) in US and UK Across Different Cutoffs on "Living in bottom … neighborhood at …" Dichotomies - Selection of Parameters from "Intermediate Model: Baseline + Transitions"

Variable	Verbal Score at 5yrs						Externalizing Behavior at 5yrs						Internalizing Behavior at 5yrs					
	US N=1,458			UK N=7,967			US N=1,820			UK N=7,668			US N=1,820			UK N=7,668		
	20%	*30%*	*40%*	*20%*	*30%*	*40%*	*20%*	*30%*	*40%*	*20%*	*30%*	*40%*	*20%*	*30%*	*40%*	*20%*	*30%*	*40%*
Moved between 1–5yrs	4.07 (3.20)	2.22 (3.20)	-0.76 (3.60)	-0.16 (1.03)	-0.28 (1.09)	-0.55 (1.19)	-8.55* (3.04)	-9.09* (4.00)	-10.16* (4.53)	0.48 (.86)	0.85 (1.01)	0.90 (1.15)	-2.95 (4.16)	-2.71 (5.14)	-0.93 (5.91)	-0.22 (.85)	-0.05 (.90)	-0.25 (1.00)
Living in bottom **…** neighborhood at 1yr	10.16* (3.73)	8.78 (4.22)	-3.07 (4.73)	-1.66 (1.77)	-0.67 (1.57)	-1.22 (1.63)	-12.72* (5.12)	-7.09 (5.85)	-2.02 (5.03)	2.47 (1.98)	4.35* (1.94)	3.74 (2.12)	-9.21 (6.08)	-7.52 (7.84)	2.88 (7.89)	1.80 (1.77)	2.88 (1.88)	3.94* (1.72)
Living in bottom **…** neighborhood at 5yrs	-10.48*** (1.95)	-6.35* (2.31)	-4.29 (2.18)	-2.08 (1.50)	-2.92* (1.29)	-3.47** (1.22)	6.68 (4.09)	2.52 (4.60)	2.76 (4.90)	-0.00 (1.81)	-1.06 (1.67)	-0.41 (1.78)	9.07 (4.37)	5.45 (7.77)	2.25 (7.63)	0.69 (1.80)	0.85 (1.66)	-0.44 (1.66)
*Living in bottom … neighborhood at 1yr * Moved between 1-5yrs* (interaction)	-6.11 (5.00)	1.75 (5.71)	9.21 (6.58)	-2.33 (1.78)	-1.59 (1.54)	-0.66 (1.47)	16.04** (5.51)	11.90 (7.01)	11.75 (6.72)	0.48 (1.80)	-0.84 (1.81)	-0.74 (1.97)	12.33 (6.67)	7.30 (8.08)	0.97 (8.98)	1.56 (1.57)	0.73 (1.67)	-.88 (1.61)
Constant	-25.93 (36.40)	-25.97 (35.71)	-22.26 (34.41)	28.41* (10.15)	6.14 (11.37)	35.14** (10.70)	77.32* (29.80)	73.87* (29.75)	68.51* (29.27)	100.67** (11.51)	100.52** (12.60)	96.03** (12.00)	1.02 (34.83)	-0.90 (34.47)	-3.70 (33.92)	102.01** (15.13)	114.05** (17.03)	96.08** (15.32)
F-test	5573***	4124***	3922***	114***	117***	113***	565***	412***	848***	52***	52***	50***	1604***	1475***	1687***	40***	40***	39***
Adjusted R^2	.48	.48	.48	.24	.24	.24	.11	.11	.12	.13	.13	.13	.12	.10	.11	.10	.10	.10

*p<.05; **p<.01; ***p<.001.

Table S5.3 Selection of OLS Unstandardized Regressions Coefficients (Standard Errors in parentheses) from "Model 3: Baseline + Transitions + IPWs" in US and UK Across Dependent Variables Controlling for "Number of Additional Moves 1-5yrs"

Variable	Verbal Score at 5yrs		Externalizing Behavior at 5yrs		Internalizing Behavior at 5yrs	
	US N=1,458	**UK N=7,967**	**US N=1,820**	**UK N=7,668**	**US N=1,820**	**UK N=7,668**
Moved between 1–5yrs	3.61 (3.76)	-0.56 (1.12)	-7.15* (3.22)	0.80 (1.15)	-0.94 (5.19)	0.64 (.93)
Living in bottom 30% neighborhood at 1yr	9.47* (3.80)	-0.75 (1.69)	-5.71 (5.43)	5.56 (1.99)	-7.68 (7.67)	1.65 (1.92)
Living in bottom 30% neighborhood at 5yrs	-7.11* (2.47)	-3.60** (1.37)	1.14 (3.82)	-0.77 (1.80)	4.55 (6.96)	1.61 (1.92)
*Lived in bottom 30% neighborhood at 1yr * Moved between 1-5yrs* (interaction)	0.91 (5.21)	-1.42 (1.78)	11.08 (6.28)	-0.57 (1.95)	6.52 (7.96)	1.70 (1.68)
Number of Additional Moves 1-5yrs	-1.72 (2.02)	0.33 (.76)	-2.43 (2.99)	-0.26 (.75)	-1.74 (3.66)	-1.30 (.75)
Constant	-64.43 (35.82)	7.22 (12.60)	72.49 (35.17)	99.08*** (12.69)	-17.23 (44.03)	109.13** (19.10)
F-test	2899***	97***	298***	51***	756***	38***
Adjusted R^2	.49	.23	.12	.13	.11	.11

*p<.05; **p<.01; ***p<.001.

Table S5.4 Verbal Score at 5yrs: Selection of OLS Unstandardized Regressions Coefficients (Standard Error in parentheses) in US (N=1,458) and UK (N=7,967) Including "Timing of Residential Moves"

Variable	Model 1: Mobility		Model 2: Neighborhood		Intermediate Model: Baseline Predictors		Intermediate Model: Baseline + Transitions	
	US	***UK***	***US***	***UK***	***US***	***UK***	***US***	***UK***
Mobility Status 1–5yrs (*ref. group: Never Moved*)								
Moved between 1-3yrs only	0.73 (8.14)	-0.33 (1.10)	2.36 (7.95)	-0.24 (.97)	0.98 (4.34)	-0.54 (.89)	1.80 (4.50)	-0.64 (.90)
Moved between 3-5yrs only	2.37 (7.20)	-1.45 (1.32)	1.21 (7.42)	-1.18 (1.23)	-0.48 (2.83)	-1.15 (1.08)	1.77 (2.56)	-1.03 (1.09)
Moved between both 1-3yrs and 3-5yrs	-0.70 (7.65)	-0.12 (2.66)	1.68 (7.39)	-0.01 (2.40)	3.02 (4.81)	-1.09 (1.98)	5.12 (3.92)	-0.98 (1.97)
Lived in bottom 30% neighborhood at 1yr	—	—	-2.82 (5.99)	-8.41*** (1.48)	9.25* (4.30)	-2.06 (1.23)	9.82* (4.37)	-1.85 (1.20)
Lived in bottom 30% neighborhood at 5yrs	—	—	-20.30** (5.43)	-9.12*** (1.34)	-8.45* (3.13)	-2.52* (1.23)	-6.58* (2.83)	-2.24 (1.20)
Constant	104.67 (74.64)	67.33*** (9.30)	85.93 (66.61)	77.38*** (8.22)	1.23 (42.10)	20.64* (10.41)	-27.59 (35.10)	5.26 (11.40)
F-test	0	2*	49***	27***	13616***	142***	4638***	120***
Adjusted R^2	.00	.00	.12	.08	.45	.24	.48	.24

*p<.05; **p<.01; ***p<.001.

Table S5.5 Externalizing Behavior at 5yrs: Selection of OLS Unstandardized Regressions Coefficients (Standard Error in parentheses) in US (N=1,820) and UK (N=7,668) Including "Timing of Residential Moves"

Variable	Model 1: Mobility		Model 2: Neighborhood		Intermediate Model: Baseline Predictors		Intermediate Model: Baseline + Transitions	
	US	***UK***	***US***	***UK***	***US***	***UK***	***US***	***UK***
Mobility Status 1–5yrs (*ref. group: Never Moved*)								
Moved between 1-3yrs only	1.18 (2.96)	2.35* (.93)	1.18 (2.95)	2.15* (.86)	-0.53 (3.36)	0.71 (.82)	-0.25 (3.38)	0.49 (.82)
Moved between 3-5yrs only	-8.24 (6.75)	3.93** (1.40)	-8.02 (6.39)	3.53** (1.35)	-7.91 (4.34)	1.99 (1.22)	-8.09 (4.66)	1.46 (1.28)
Moved between both 1-3yrs and 3-5yrs	-3.58 (5.68)	2.66 (2.03)	-4.15 (5.56)	2.22 (1.90)	-8.83 (4.75)	-0.27 (1.78)	-8.77 (4.91)	-1.35 (1.79)
Lived in bottom 30% neighborhood at 1yr	—	—	3.85 (2.75)	8.63*** (1.34)	3.88 (2.41)	3.75** (1.34)	3.51 (2.05)	3.80** (1.33)
Lived in bottom 30% neighborhood at 5yrs	—	—	2.76 (3.97)	4.34** (1.42)	-1.91 (2.54)	-0.42 (1.43)	-1.85 (2.57)	-0.77 (1.42)
Constant	0.38 (28.21)	62.85*** (8.66)	4.26 (25.98)	55.70*** (8.43)	56.33 (26.96)	101.17*** (10.82)	70.74* (25.60)	99.92*** (12.61)
F-test	4**	35***	4**	59***	444***	63***	442***	60***
Adjusted R^2	.02	.02	.03	.06	.10	.12	.11	.13

*p<.05; **p<.01; ***p<.001.

Table S5.6 Internalizing Behavior at 5yrs: Selection of OLS Unstandardized Regressions Coefficients (Standard Error in parentheses) in US (N=1,820) and UK (N=7,668) Including "Timing of Residential Moves"

Variable	Model 1: Mobility		Model 2: Neighborhood		Intermediate Model: Baseline Predictors		Intermediate Model: Baseline + Transitions	
	US	***UK***	***US***	***UK***	***US***	***UK***	***US***	***UK***
Mobility Status 1–5yrs (*ref. group: Never Moved*)								
Moved between 1-3yrs only	1.72 (5.10)	0.87 (.99)	1.50 (5.00)	0.69 (.97)	1.56 (5.04)	-0.61 (.92)	1.64 (4.71)	-0.60 (.90)
Moved between 3-5yrs only	-2.19 (8.50)	2.43 (1.28)	-1.78 (8.09)	2.08 (1.18)	-1.09 (6.31)	0.83 (1.07)	-1.33 (6.28)	0.79 (1.07)
Moved between both 1-3yrs and 3-5yrs	1.71 (3.99)	6.25** (2.08)	1.37 (3.77)	5.90** (2.06)	-1.51 (3.91)	4.19* (2.06)	-2.11 (3.59)	4.28* (2.04)
Lived in bottom 30% neighborhood at 1yr	—	—	0.78 (4.24)	7.76*** (1.40)	-0.70 (2.93)	3.52** (1.32)	-1.21 (2.82)	3.26* (1.33)
Lived in bottom 30% neighborhood at 5yrs	—	—	5.76 (4.71)	5.59*** (1.43)	4.05 (5.17)	1.41 (1.49)	3.07 (5.30)	0.72 (1.48)
Constant	-71.45 (44.70)	54.73*** (10.09)	-67.81 (42.14)	47.29*** (10.05)	-45.92 (38.42)	93.34*** (13.12)	-2.30 (34.70)	115.94** (17.41)
F-test	9**	3*	13***	27***	1453***	51***	1224***	39***
Adjusted R^2	.02	.00	.03	.04	.10	.10	.11	.10

*p<.05; **p<.01; ***p<.001.