The impact of social housing on child development outcomes

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Abstract

This paper uses Millennium Cohort Study data to compare the cognitive, health, emotional, and behavioural development outcomes of children living in social housing compared with those living in private rented housing in England. It builds on work on previous birth cohort studies to examine how the relationship between tenure and outcomes has changed over time, and how, when controlling for a limited set of socioeconomic factors, the children of social housing tenants are no worse off than the children of private renters. This challenges research which has previously found they tend to be worse off, even when controlling for various socioeconomic factors.

Two potential explanations are presented. Firstly, that the "tenure effect" of social housing has changed as the tenure rose and fell during the 20th century, before improving following the Decent Homes Programme[1] and national and local efforts to improve life on social housing estates. Secondly, that the results are influenced by selection bias, as increasingly limited social housing supply resulted first in the residualisation of the tenure to the most disadvantaged, before the rapidly growing private rented sector began to represent a greater proportion of this group, narrowing the gap.

This research helps to build on our understanding of the life experiences and outcomes of children in social housing and how this compares to private renting.

Introduction

Social housing was originally established and developed in the United Kingdom to provide a quality, affordable alternative to slum housing for low-to-middle income families (BBC, 2015). In the words of the Hills Report, it is "a decent home for all at a price within their means" (Hills, 2007). It has often been specifically targeted to families, with the intent of

[1] The Decent Homes Programme, which started in 2001, aimed to improve the quality of homes by requiring social housing providers to ensure all their properties met a certain standard by 2010.

providing a stable and spacious home environment in which to raise children (Houghton, n.d.).

The impact of poverty, unstable home environments, and poor-quality housing on children's development is widely acknowledged (Washbrook, 2010; Sandstrom & Huerta, 2013). As such, social housing was designed to serve a dual purpose of tackling poverty and improving long-term outcomes, including for children.

However, social housing has faced criticism for "trap[ping] tenants in worklessness and 'welfare dependency'" (Fitzpatrick, Watts & Johnsen, 2014, p. 1). This argument has held important political sway in recent years: welfare reforms have included greater use of conditionality and sanctions and the reduction of allowances for working-age claimants. Investment in social housing has been substantially reduced in favour of subsidy for homeownership.

In this context it is important to understand how social housing tenure impacts households. In the case of children, some research has associated social housing with worse child development outcomes, even after controlling for other deprivation-related variables (Hansen & Jones 2009). This raises an important question about whether it is fulfilling its purpose.

The proportion of households in social housing has fallen from 32% in 1981 to just 17% in 2017 (EHS, 2017), as the supply of new social homes has fallen from a peak of over 200,000 homes a year in the 1950s (Shelter, n.d.) to around 30,000 currently (MHCLG, 2017).[2]

Some social renting households moved into homeownership, for instance through the Right to Buy which gives council tenants the right to purchase their home at a discount. However, the growth of the private rented sector has far outpaced the growth of homeownership in the last two decades, especially for low income households who would have been allocated to social housing a few decades ago. Private rents are substantially higher in much of the country (over double as much in London). Additionally, private renters can generally be evicted with two months' notice so lack security of tenure.

[2] Note that this includes both the lower social rents as well as Affordable Rents, which can be up to 80% of market rents (although are typically lower in high-value regions such as the southeast).

Private rented housing has been associated with serious affordability issues and poor conditions (Generation Rent, 2015); which, as noted above, are observed to negatively impact child outcomes. In fact, due to the success of the Decent Homes Programme of the 2000s, private rented housing is now less well maintained on average than social rented housing, as well as costing over twice as much in some areas of the country (EHS, 2017).

A priori, then, assuming that child development outcomes are negatively impacted by housing-related issues such as maintenance and housing cost-induced poverty, we would expect that private rented housing would lead to worse outcomes, or equally poor outcomes, for low income households. Clarifying the long-term impact of social housing is particularly salient as the government has recently changed tack and begun promoting social housing, with the Prime Minister announcing an additional £2bn for building new social rented homes in September 2018.

This study makes use of a major national dataset, the Millennium Cohort Study, to investigate whether living in social housing is statistically associated with negative development outcomes for children, when compared against the realistic alternative for most low-income families: the private rented sector.

Existing literature

The relationship between housing tenure and child outcomes has been frequently considered in academic literature, typically finding that children in social housing tend to have worse developmental outcomes. Internationally, research has found a notable difference between child outcomes in homeownership and renting, and advocated policies to promote homeownership accordingly (Haurin, Parcel & Haurin 2002). Recent British academic studies have also identified social housing as a main risk factor for lower child achievement and the risk of being in the bottom of the distribution for cognitive development (Hansen & Jones, 2009; Lupton et al., 2011). Social housing is associated with an increased risk of many factors that are known to negatively impact child development: overcrowding, poor property condition (relative to homeownership), worse neighbourhoods, and worse school catchment areas (Scottish Government, 2010).

One argument is that these negative outcomes are a result of the tenure itself: in other words, a “tenure effect” argument. This could be due to issues like overcrowding, neighbourhoods, or maintenance issues (which are resolvable by social housing

providers); or it could be due to issues more inherent to social housing (such as the theory that social housing is a “welfare trap”).

However, it is important not to confuse correlation with causation. While children living in social housing may tend to have worse outcomes on a number of measures, this does not necessarily mean those outcomes are *caused* by the housing that they live in. Social housing is allocated on a needs basis, and limited availability of social housing means that it is increasingly restricted to the most in need: for instance those at risk of homelessness, or those with very low incomes. Given the strong relationship between childhood disadvantage and future outcomes (CPAG, n.d.) these children would be expected to have (on average) worse outcomes than usual, regardless of whether or not they had lived in social housing.

As pointed out by McCulloch & Joshi (2002), social housing can in fact be a better indicator of long-term deprivation than income. This is because incomes tend to fluctuate: most households in poverty are only in poverty temporarily. About a third are in “persistent poverty”, or in poverty for at least two of the three proceeding years (JRF 2017). It has been observed that persistent poverty is far more predictive of children’s cognitive development than temporary poverty (Children’s Society, 2013). Because social housing is allocated to those in need, from (typically) long waiting lists, it is more likely to be allocated to those in or at risk of persistent poverty. This means that negative child development outcomes could be explained by the higher incidence of persistent poverty in social housing, rather than caused by social housing itself. This is the “selection effect” argument.

The relationship between social tenure and negative outcomes does not appear to be consistent over time. A number of studies point out that it did not exist in older cohorts, but has evolved more recently (Ketende et al., 2010; Lupton et al., 2009). This could also indicate that the relationship originates from population characteristics: historically, social housing was in higher supply and was therefore available to a broader segment of the population. Since the 1980s this supply has been increasingly restricted to the most in need (Nasim, 2015). A self-selecting group of the most disadvantaged members of society may be expected to have worse outcomes, regardless of their tenure. However, it could also support the tenure effect theory: as social housing was originally built and maintained to higher specifications than private rented housing. However, lack of maintenance, ageing buildings, and lack of new supply meant that estates declined in quality over the late 20th century. This also coincides with social housing becoming more associated with

poorer outcomes. In recent years the Decent Homes programme has reversed this trend of decline quality, and the private rented sector has again fallen behind (EHS, 2017).

Most studies have also compared social renting with homeownership; private renting has been described as an intermediate level between these two tenures (Lupton et al., 2011). However, with declining availability of social housing, lower-income families are increasingly stuck in the private sector, with its associated affordability and quality problems. Given this, it seems possible that child outcomes of low-income social and private renters should not be significantly different. The same factors that are attributed above to poorer outcomes for social tenants should presumably also apply to low-income private renters, and perhaps more so, due to the insecure nature of private tenancies and worse property conditions. Over time, private renting may even become associated with worse outcomes.

Much of the literature compares children living in social housing with children living in owned properties. However this paper proposes that it is more useful to compare with children living in the private rented sector, as this is the realistic alternative for low-income families if social housing is not available. Recently there have been more comparisons between private and social renting (Nasim, 2015), but there are relatively few.

Hypothesis

As the availability of social housing has continued to decline, low-income families are increasingly stuck in the private rented sector: with substantially higher rents, greater insecurity, variable quality of management and regulation, and often worse property conditions than social housing (English Housing Survey 2018). In fact, in London, there are now more children in poverty in the private rented sector than there are in social housing, largely due to the fact that the high rents push households into poverty (House of Commons Library 2018).

This paper hypothesises that as the private rented sector has become more associated with poverty and greater insecurity, the difference in child outcomes between social housing and non-social housing will disappear, or perhaps even tip in the balance of social housing. This is because social housing offers benefits such as low rents (and therefore higher disposable income) and secure tenure (and therefore fewer school moves), which have been associated with better outcomes.

Data

The analysis makes use of the Millennium Cohort Study (MCS), a national longitudinal birth cohort study following the lives of 19,000 children born in the UK in 2000-01. The dataset includes diverse information about the children and their families, including parenting, education, cognitive performance, health, parents' employment and income. This approach firstly allows our analysis to be much more up-to-date, and secondly allows us to consider a broad range on socioeconomic factors in a large national dataset.

The latest available release at the time of analysis measures the outcomes of children at age 14. Only cases from England are used, and cases where the mother was the main parent respondent (the vast majority of cases), for ease of analysis and interpretation.

The outcome variables measured were:

- **Cognitive development:** performance on a 20 word vocabulary test, and the decision-making measure of the Cambridge Gambling Test.
- **Health:** whether the child is overweight and the child's self-reported health, ranked 1-5.
- **Emotional and behavioural development:** the Strengths and Difficulties Questionnaire (SDQ) score, a measure of the number of emotional and behavioural difficulties reported by the parent.
- **Happiness:** the child's self-reported happiness with self, ranked 1-5 and the child's self-reported happiness with their life, ranked 1-5.

These were selected to cover a range of cognitive, health, emotional and behavioural development outcomes and were deemed the most appropriate to address the research hypothesis from the measures available.

Analytical approach

A two-stage approach was used. Firstly, basic bivariate statistical tests were used to compare children in social housing and children in the private rented sector, depending on level of measurement (or type) of data:

- T-tests and Mann-Whitney U tests, which compare the means of two independent groups (in this case, children in social housing and children in the PRS).
- Pearson's Chi-squared tests, which compare binary variables (such as obese/not obese) across two groups and evaluates the probability that any difference between these groups happened by chance.

These tests establish whether there is a baseline difference between the two groups. For example, these tests identify that children in social housing are considerably more likely to be overweight than children in private rented housing.

Next, a set of predictor variables which are also known to be related to child outcomes (based on existing literature as cited above) were introduced. These include household income, the age of the mother at birth, and the child's sex. A full list of these variables can be found in Appendix A.

Multiple linear, logistic and ordered logistic regressions were then applied for each of the outcome variables with the set of predictor variables. Regression analysis is a statistical technique used to evaluate the relationship between a certain outcome (such as performance on the word test) and a set of predictor variables (such as household income).

The output of the regression is a coefficient which explains the expected increase (or decrease) in the outcome variable, which is associated with a one unit increase in the predictor variable. For example, given that children from better off backgrounds tend to perform better in academic tests, for every additional pound of household income per week, how much higher on average is the anticipated result on the word test? This coefficient assumes that all other variables in the model are held equal, so allows us to isolate the relationship between tenure and child outcomes.

Limitations of the approach

This approach faces the typical limitations associated with quantitative methods.

The nature of longitudinal studies means that families often drop out or are unreachable: this is known as attrition. Attrition is non-random, with disadvantaged families in particular more likely to drop out of longitudinal studies. This affects the validity of the data as it skews the sample towards representing the less deprived.

In the case of housing in particular, it is not intuitively evident which way this might distort the data. On the one hand, tenants of social housing are, on average, more disadvantaged than private renters, with disadvantaged people tending to drop out more often. In this case, the outcomes of children in social housing might appear better than they are in reality because the worst cases have dropped out. On the other hand, private renters move more frequently and therefore may be harder for the study to contact, so may drop out at a higher rate. In this case, especially if those dropping out are on the more disadvantaged end, the children of private renters might appear to have better outcomes (comparative to social renters) than they in fact do. It is not possible to make conclusions about this but should be kept in mind that it is a weakness of the method.

Many cases have missing values for one or several of the variables. The standard approach to regressions drops any cases with a value missing for one of the variables. This drops our sample to between 4-5,000 children (out of a possible 19,000). Again, missing values are non-random meaning the results from the analysis may be distorted.

As many relevant control variables as possible are included, but these remain limited both in number (at around 15) and in appropriateness. Household income, for instance, is a snapshot taken at one point in time and is a limited proxy for overall finances/financial wellbeing.

Tenure is also a snapshot at age 14. Due to time constraints length of tenure is not factored into the analysis: those who have lived in social housing since birth are treated the same as those who moved in one day before the survey. Given that the presumed benefits of the tenure include stability, this may mean that some children in social housing *have not yet* reaped the full benefit of it, but are still counting towards social housing's "score". Further analysis may look at the relationship between length of tenure and child outcomes.

The cognitive tests are the outcome of a vocabulary test, and the quality of decision-making as determined by the Cambridge Gambling Test (CGT). The CGT is a short computerised test in which the child is presented with a row of ten boxes. Some are red and some blue; the ratio changes between stages. One box contains a yellow token. The child must select whether they think it more likely that the token is in a red or blue box. They start with 100 points and must select a proportion of the points to "bet" on the decision. The quality of decision-making measure refers to how often they select the

correct colour outcome. These two outcomes (vocabulary, decision-making) are just two measures of cognitive performance and do not represent an overall picture of cognitive or academic ability. However, they are the best available options given the data.

Additionally, some subjective measures are included, such as the child's self-reported health (rated from good to bad) and happiness with their own life. The Strengths and Difficulties Questionnaire (SDQ) is also subjective, as it is reported by the parent. A child may have a higher SDQ score if their parents evaluate their behaviour as more problematic, even if it is within the normal child range.

History of homelessness, long-term deprivation, objective measures of health, household situation, parenting style, and quality of schooling, amongst other important factors, are all omitted from the model and may have a significant impact on the outcomes that were under examination.

For ease of analysis and comparison, only cases where the biological mother was the primary survey respondent were used. While this represents the vast majority of cases, there is a risk that this may also bias the data.

Findings

Below are basic comparisons of the outcome variables for children in social housing and private rented housing. These are bivariate tests, meaning they include no other control variables.

Table 1. Results of preliminary tenure comparison of outcome variables

T-tests, Mann-Whitney U tests, Chi² tests (dependent on level of measurement)

	Average / proportion		
	Social housing	**Private rented housing**	**Standard deviation (across all tenures)**
Vocabulary test	6.4***	6.8***	2.6
Decision-making (CGT)	86%*	87%*	10%
Overweight	52%***	39%***	-

Self-reported health (1-5)[3]	3.2***	3.5***	0.9
Happiness with life (1-7)	5.3	5.4	1.4
Feeling good about self (1-4)	3	3	0.8
Emotional/behavioural difficulties (SDQ)	10.7***	10***	6

* = p<0.05, ** = p<0.01, *** = p<0.001

- **Cognitive ability**: For the vocabulary and decision-making tests, children in private rented housing perform slightly better than those in social housing.
- **Health**: Children in social housing in our sample are significantly more likely to be overweight or obese than children in the PRS (52% vs 39%). They also reported their health as slightly worse, with 38% reporting themselves as "excellent" or "very good" compared to 45% in the private rented sector.
- **Happiness**: There were no significant differences in self-reported happiness or happiness with self.
- **Emotional and behavioural development**: Parents of children in social housing report that their children have more emotional and behavioural difficulties than parents of children in the private rented sector (10.7 vs 10 each).

As observable from the Table 1, children in social housing tend to have worse outcomes on most measures (excepting happiness and self-confidence) than children in private rented housing. However, the difference tends to be relatively limited in scale (a 1 percentage point difference in decision-making ability, with a standard deviation of 10%). This is interesting considering that households living in the private rented sector are still substantially wealthier on average (EHS, 2017).

Next, a set of predictor variables (see Appendix A) is added as controls and we perform regression analyses. This is to isolate the impacts of disadvantage and other socioeconomic characteristics from any tenure effects.

Table 2. Regression outputs

	Social housing

[3] Note that mean averages are shown for the three ordinal variables for ease of interpretation. However for statistical significance Mann-Whitney *U* tests were performed.

	Coefficient	P-value	95% Confidence Interval
Linear regressions			
Vocabulary test	0.05	0.78	-0.28 - 0.37
Decision-making (CGT)	-0.01	0.13	-0.03 - .001
Emotional/behavioural difficulties (SDQ)	0.75	0.08	-0.09 - 1.58
Ordered logistic regressions			
Self-reported health (1-5)[4]	0.00	0.95	-0.12 - 0.12
Happiness with life (1-7)	-0.01	0.91	-0.24 - 0.22
Feeling good about self (1-4)	-0.1	0.47	-0.37 - 0.17
Logistic regressions			
Overweightness	1.01	0.93	0.74 - 1.39

No coefficients reached the standard cut-off point of 0.05 for significance.

Table 2 shows that for all investigated outcome variables, there were no statistically significant differences between children in private rented housing and social rented housing. The coefficient column shows the average difference between social and private renters when other variables (see Appendix A) are held equal.[5] The P-value column shows the statistical significance of any difference between social and private renters: values 0.05 or below are typically considered significant. There are no values below 0.05. The 95% Confidence Interval column shows the range we are 95% sure that the real population value falls within.

For outcome variables where there was an initial difference between the two groups, introducing the set of control variables closed the gap between children in the two tenures. This research failed to find evidence that children in social housing are worse off on our set of outcome variables, compared to the children of private renters.

Implications and conclusion

Given that social housing is allocated to those in need, and typically after an extended period of deprivation, it is perhaps unsurprising that on some baseline measurements, children in social housing have poorer outcomes. It is widely acknowledged and

[4] Note that mean averages are shown for the three ordinal variables for ease of interpretation. However, for statistical significance Mann-Whitney *U* tests were performed.

[5] For the logistic regression only, this refers to the odds ratio. The closer to 1, the less difference between the two groups in the likelihood of being overweight.

documented that poorer children tend to have poorer outcomes. If anything, it is more surprising that the baseline differences are so minor.

The fact that these relationships, where they exist, disappear when a set of control variables are introduced means that there is not any evidence of a negative tenure effect from social housing. In other words, social housing itself does not appear to create worse outcomes. The worse outcomes of children in social housing on some variables can be explained by the fact that they are disproportionately deprived, not because their housing situation negatively impacts on their outcomes. However, there was also no evidence of a positive tenure effect on children, as this paper hypothesised may originate from having lower rents and better security.

This is significant as most existing literature (based on older datasets) typically finds there is still a difference even after other socioeconomic characteristics are controlled for. Previous authors (Lupton et al., 2009) have observed that the correlation between tenure and life outcomes has changed over time, going from no substantial difference in later life outcomes (after controls) for those born in 1946, when social housing in childhood was far more widespread, to more substantial differences in the 1970-born cohort as social housing has been residualised as a safety net for the most in need.

That this paper no longer find evidence for correlations that have been observed in the past could mean one of two things. One possibility, fitting the tenure effect hypothesis, is that the relationship between tenure and outcomes has changed. When social housing was more widespread in the mid-20th century, the housing was of good quality relative to the private sector, meaning no observable negative tenure effects. As the original buildings aged (and were not adequately maintained) near the end of the 20th century, this impacted children growing up there negatively. And as the Decent Homes Programme improved social housing (and indeed pushed it above the quality of private rented housing) in the early 21st century, social housing again sees itself compare favourably to other tenures.

Another possible explanation, fitting the selection effect hypothesis, is that the tenure effect is non-existent, and the changing fortunes of children in social housing relative to other tenures is a result of selection bias. As identified earlier, social housing allocation used to be more widespread and less related to need, meaning the households in social housing were more or less average in their socioeconomic characteristics. They would therefore be expected to be more or less average in child outcomes. As supply dropped

off in the 1980s and 1990s, social housing became a more needs-based tenure, and as a result the people entering social housing were on average of lower socioeconomic status than previously. This may explain the worsened outcomes of children in social housing as compared to other tenures.

Additionally, given the lack of observable relationship between tenure and the set of child developmental outcomes, it is unlikely that tenure is a significant causative or deciding factor influencing these outcomes. This is important to emphasise, as even where statistical studies of this magnitude can highlight interesting statistical differences, it is easy to overestimate the importance of tenure to any one individual. In reality, children's lives and outcomes are impacted by a range of much more substantial and personal issues than whether their parent's landlord is a private individual or a registered social provider.

It is possible that both the tenure effect and the selection effect are at play to some extent (and indeed the data appears to match the historical rationale behind both). It is not possible to come down in favour of one or the other. However, this research has been able to re-assess the observation that children in social housing are worse off relative to their privately renting peers, in the light of more up-to-date data from a major national dataset. That the relationship between tenure and child outcome appears to be historically contingent challenges the notion that social housing is an inherent cause of worse outcomes, and provides impetus to social housing providers to continue their work to improve the quality of the estates and properties they manage.

References

- BBC (2015) 'A history of social housing'. Brian Wheeler.
- Child Poverty Action Group (CPAG) (n.d.) The impact of poverty. Website.
- Children's Society, The (2013) *A good childhood for every child? Child Poverty in the UK.*
- EHS (English Housing Survey) (2017) *Statistical data set: Tenure trends and cross tenure analysis.* Ministry of Housing, Communities and Local Government.
- Feinstein, L. & Duckworth, K. (2006) Development in the early years : Its importance for school performance and adult outcomes [Wider Benefits of Learning Research Report No. 20]. Centre for Research on the Wider Benefits of Learning, Institute of Education, University of London: London

- Feinstein, L. et al. (2008) *The public value of social housing: a longitudinal analysis of the relationship between housing and life chances.* The Smith Institute, London, UK. ISBN 1905370334
- Fitzpatrick, S., Watts, B. & Johnsen, S. (2014) 'Conditionality briefing: social housing'. Welfare Conditionality.
- Generation Rent (2015) *Policy - Generation Rent.* Website. [Accessed 16/01/2018]
- Hansen, K. & Jones, E. (2009) *Age 5 Cognitive Development in England*. Draft. Centre for Longitudinal Studies, Institute of Education, University of London.
- Haurin, D. Parcel, T. & Haurin, R. (2002) '*Does Homeownership Affect Child Outcomes?'* in Real Estate Economics. Volume 30, Issue 4, Winter 2002, pp. 635–666.
- Hills, J. (2007) *Ends and means: The future roles of social housing in England* (also known as the Hills Report). Centre for Analysis of Social Exclusion.
- Houghton, K. (undated) 'Dispossession: The Great Social Housing Swindle'. BEFS.
- Ketende, S., McDonald, J. & Joshi, H. (2010) *Millenium Cohort Study Briefing 7: Neighbourhood and residential mobility.* Centre for Longitudinal Studies, Institute of Education, University of London.
- JRF (Joseph Rowntree Foundation) (2017) *UK Poverty 2017: a comprehensive analysis of poverty trends and figures.*
- *Lupton, R. et al. (2009) Growing up in social housing in Britain: A profile of four generations, 1946 to the present day.* Institute of Education, Centre for Research on the Wider Benefits of Learning, London School of Economics and Political Science: London.
- Lupton, R. et al. (2011). Growing up in social housing in the new millennium: housing, neighbourhoods, and early outcomes for children born in 2000. Institute of Education, Centre for Research on the Wider Benefits of Learning, London School of Economics and Political Science: London.
- May, T. (2017) 'Theresa May's speech to Conservative Party Conference 2017'. *Conservatives.* Website.
- McCulloch, A. and Joshi, H. (2002) *Child Development and Family Resources: Evidence from the Second Generation of the 1958 British Birth Cohort.* Journal of Population Economics, Vol. 15, No. 2, pp. 283-304.
- Ministry for Housing Communities and Local Government (MHCLG) (2017) Affordable Housing Supply: April 2016 to March 201
- Nasim, B. (2015) Changes in the relationship between social housing tenure and child outcomes over time: Comparing the millennium and british cohort studies.

Department of Quantitative Social Science. UCL: Institute of Education. Working Paper No. 15-06.

- Sandstrom, H. & Huerta, S. (2013) 'The Negative Effects of Instability on Child Development: A Research Synthesis'. Low-Income Working Families Discussion Paper 3. Urban Institute.
- Scottish Government (2010) *A thematic review of literature on the relationship between housing, neighbourhoods and schools.* Communities Analytical Series, September 2010.
- Shelter (n.d.) *Housing supply*. Web page.
- Washbrook, E. (2010) *Early Environments and Child Outcomes: An Analysis Commission for the Independent Review on Poverty and Life Chances.* Centre for Market and Public Organization, University of Bristol.

Appendix A: Predictor (control) variables used in regressions

- Tenure: a set of binary dummy variables for homeownership, social housing, private rented housing, and 'other' at age 14.
- Child's sex
- Whether the household is monolingual English-speaking at home
- Number of siblings
- Household income, equivalised for household size using OECD method
- Age of the mother (all children in the dataset were born in 2000-01 so this is equivalent to age of mother at birth of the child)
- Whether the mother is working (at time of survey)
- Mother's self-reported health (ordinal, ranked from 1-5 for good to bad)
- Whether the mother smokes
- Whether the household is in receipt of any state benefits (including Jobseeker's Allowance, Income Support, sickness/disability/incapacity benefits, pension, Child Benefit, Tax Credit, any family-related benefit, Housing Benefit, or others)
- Age the mother left education
- Number of rooms in the house
- Whether the mother suffers from depression
- How safe the area around the home is according to the child (originally ordinal ranked 1-4, but transformed to binary for safe/not safe)
- Ethnicity: a set of binary dummy variables for White, Mixed, Indian, Pakistani/Bangladeshi, Black/Black British, and Other.

- Mother's highest education level (NVQ 1-5, ordinal)[6]

[6] Technical note: Variance Inflation Factor (VIF) tests did not identify the model as suffering from multicollinearity, despite the probable relationship between income/benefits receipt and age mother left education/mother's highest education level. Removing one variable from each of these pairs did not influence the outcome.