

Written evidence submitted on behalf of the Centre for Longitudinal Studies, UCL Institute of Education

We are delighted to provide written evidence to the Education Committee on the impact that early years education and social policy have on determining children's life chances, including the role of quality early years education in determining life chances and promoting social justice; the importance of support for parents and families, and integration with other services, in prevention and early intervention; and the importance of communication skills and language development.

Executive Summary

- I. The British cohort studies allow us to examine the impacts of different types of early years education across successive generations which have experienced substantial policy changes. The available evidence shows consistent impacts of early years education on cognitive development, and points to an important role for the quality of the environment that children experience in the early years.
- II. Work based on the cohort studies highlights the importance of supporting parents in creating an environment that promotes child development and health.
- III. Socio-economic gaps in language attainment emerge early and persist over time. Early language development is highly consequential for later outcomes. Research suggests that families and schools should be supported to promote reading for pleasure as a key tool for language growth.
- IV. **Introduction and terms of reference.** The Centre for Longitudinal Studies (CLS) at the University College London (UCL) Institute of Education (IoE) runs four of Britain's internationally-renowned cohort studies:
 - [1958 National Child Development Study \(NCDS\)](#)
 - [1970 British Cohort Study \(BCS70\)](#)
 - [Millennium Cohort Study \(MCS\)](#)
 - [Next Steps](#) (previously known as Longitudinal Study of Young People in England)
- V. Cohort studies follow the same group of people throughout their lives, charting social change and untangling the reasons behind it. They are invaluable in studying the effects of early life experiences throughout the life course and the impacts of policies and interventions occurring at different ages, both because they follow individuals throughout their lives, and because they contain a wealth of information which is used to account for other differences across individuals which could confound the association between the exposures and the outcomes of interest. Hence, in this document we focus on studies which have used the British cohorts

hosted at the Centre for Longitudinal Studies. Given the vastness of the literature, we focus on selected key studies which either use more robust methodologies or provide more recent and pertinent evidence.

1. The role of quality early years education in determining life chances and promoting social justice

- 1.1 Work based on the 1958 National Child Development Study has studied the short- and long-term effects of pre-compulsory education (defined as preschool or school entry before age 5, as compared to starting school at age 5 without having had any form of preschool).¹ It has shown that pre-compulsory education yields large improvements in cognitive tests at age 7, which persist throughout the school years, increases the probability of obtaining educational qualifications and of being employed and earning higher wages in early 30s. A more recent study based on the same cohort has examined long-term health outcomes and found no clear evidence for an association of either attendance at nursery or primary school before the age of 5 years and health outcomes around four decades later.²
- 1.2 Important work based on the 1970 British Cohort Study was one of the first studies to show the importance of early education. In particular, this work examined the effects of different types of early education (hence of different quality), and has shown that nurseries are generally good for educational attainment at 5 and 10 years of age, with private nurseries and playgroups being particularly effective.³
- 1.3 More recent work based on the Longitudinal Study of Young People in England (LSYPE) also finds evidence that pre-school childcare moderately improves results in cognitive tests at age 11 and 14, and 16, especially for girls and children from disadvantaged socio-economic backgrounds. However, no significant effects are found on psychological well-being, petty crime involvement, or on a variety of health behaviours.⁴
- 1.4 Studies using the Millennium Cohort Study (MCS) find a mixed picture of the impact of early education on cognitive outcomes. For instance, (a) a study examining the impact of childcare OfSTED ratings on a range of cognitive test scores found that OfSTED ratings are not associated with subsequent test scores.⁵ However, the study notes that OfSTED inspections have limitations in their ability to capture "process quality" e.g. the nature

¹ Goodman, A. and Sianesi, B., (2005). Early education and children's outcomes: how long do the impacts last? *Fiscal Studies*, 26(4), 513 to 548.

² Batty, G. D., Ploubidis, G. B., Goodman, A., & Bann, D. (2018). Association of nursery and early school attendance with later health behaviours, biomedical risk factors, and mortality: evidence from four decades of follow-up of participants in the 1958 birth cohort study. *J Epidemiol Community Health*, jech-2018.

³ Osborn, A.F. and Millbank, J.E. (1987) *The Effects of Early Education*, Oxford: Clarendon Press.

⁴ Apps, P., Mendolia, S., & Walker, I. (2013). The impact of pre-school on adolescents' outcomes: Evidence from a recent English cohort. *Economics of education review*, 37, 183-199.

⁵ Hopkin R, Stokes L and D. Wilkinson (2010). Quality, outcomes and costs in early years education. National Institute of Economic and Social Research.

of the activities and relationships that children engage in in their settings. (b) A comprehensive study using three validated observational instruments reported that the quality of provision offered by the sample settings in the MCS varied widely, with some offering excellent provision and others less than adequate quality. The maintained settings were providing the highest quality provision overall, particularly with regard to the 'learning' aspects of provision. However, comparing the MCS and EPPE (Effective Provision of Pre-School Education) data shows that, whilst all sectors have made improvements since the late 1990s, the largest gains have been seen in the voluntary sector.⁶ (c) Another study found no differences in Key Stage 1 attainment between children who did and did not attend early education.⁷

1.5 This is in contrast to much of the evidence of the impact of early education in England based on EPPE data, where one of the key messages was that that longer-term outcomes from early education only occur when children attended high-quality early education settings. However the context has changed dramatically since then, and with near universal take-up of early education the study argues that the evidence base needs to be refreshed. (d) A very recent paper⁸ compares childcare with grandparental care. It finds that children looked after by their grandparents at the age of 18 months appear to have better grasp of vocabulary, a result which is potentially related to the more stable relationships and one-on-one interactions with an adult provided by the grandparents.

1.6 However, children looked after by their grandparents perform worse on other cognitive tests than children in formal childcare (school readiness and non-verbal reasoning). In addition, children who attended early formal childcare perform better in mathematical concepts. Lastly, there are important differences by socioeconomic status, the positive effects of grandparental care being stronger for households with higher incomes, while the negative ones for those with lower incomes.

2. The importance of support for parents and families, and integration with other services, in prevention and early intervention.

2.1 Interventions aimed at enhancing the quantity and quality of the time that parents spend with children and the way they parent are important means to reduce the effects of being born in conditions of disadvantage. Evidence from the Millennium Cohort Study⁹ shows that the activities that parents carry out with children at home have a significant association with children's development. Another paper also

⁶ Mathers, S., Sylva, K., Joshi, H., Hansen, K., Plewis, I., Johnson, J., ... & Grabbe, Y. (2007). Quality of childcare settings in the Millennium Cohort Study.

⁷ George A, Stokes L and D Wilkinson. (2012). Does Early Education Influence Key Stage 1 Attainment? Evidence for England from the Millennium Cohort Study, National Institute of Economic and Social Research.

⁸ Del Boca, D., Piazzalunga, D., & Pronzato, C. (2018). The role of grandparenting in early childcare and child outcomes. *Review of Economics of the Household*, 16(2), 477-512.

⁹ Hernández-Alava, M., & Popli, G. (2017). Children's Development and Parental Input: Evidence From the UK Millennium Cohort Study. *Demography*, 54(2), 485-511.

based on the MCS has found that the educational time mothers spend with their children – reading to the child, helping with homework and engaging with school activities – has a positive impact on child cognitive and socioemotional development between the ages of 3 and 7.

- 2.2 In particular, the time mothers spend with their children is more important at younger ages than at older ages. Lastly, a parenting style based on routine and discipline is positively associated with child development, especially with verbal skills. The Millennium Cohort Study has also been used in an important piece of work examining the effects of the Sure Start Local Programs (SSLPs) on 3-year old children and their families living in England.¹⁰
- 2.3 The main aim of SSLPs was to improve the health and wellbeing of young children living in disadvantaged neighbourhoods by breaking the transmission of disadvantage across generations. The authors found that, after controlling for differences in background characteristics, children in the SSLP areas showed better social development than those in non-SSLP areas, with more positive social behaviour and greater independence. Families in SSLP areas showed less negative parenting, provided a better home-learning environment, and used more services for supporting child development.
- 2.4 While parental behaviours are important, nevertheless, research using MCS consistently shows that the majority of the socio-economic gap in children's cognitive and educational attainment cannot be explained via measures of parental behaviour¹¹¹²¹³.
- 2.5 The importance of parental involvement in child's education has been highlighted. There are two relevant studies based on the National Child Development Study. One found that maternal and paternal involvement at age 7 both independently predict educational attainment by age 20.¹⁴ Another¹⁵ found that that parental involvement does matter, but it depends on when involvement and economic hardship are measured, as well as the type of involvement and parent sex. Fathers' interest in education reduces the impact of economic hardship on

¹⁰ Melhuish, E., Belsky, J., Leyland, A. H., Barnes, J., & National Evaluation of Sure Start Research Team. (2008). Effects of fully-established Sure Start Local Programmes on 3-year-old children and their families living in England: a quasi-experimental observational study. *The Lancet*, 372(9650), 1641-1647.

¹¹ Sullivan, A., Ketende, S., & Joshi, H. (2013). Social class and inequalities in early cognitive scores. *Sociology*, 47(6), 1187-1206.

¹² Ermisch, J. (2008). Origins of social immobility and inequality: parenting and early child development. *National Institute Economic Review*, 205(1), 62-71.

¹³ Kiernan, K. E., & Mensah, F. K. (2011). Poverty, family resources and children's early educational attainment: the mediating role of parenting. *British Educational Research Journal*, 37(2), 317-336.

¹⁴ Flouri, E., & Buchanan, A. (2004). Early father's and mother's involvement and child's later educational outcomes. *British Journal of Educational Psychology*, 74(2), 141-153.

¹⁵ Hango, D. (2007). Parental investment in childhood and educational qualifications: Can greater parental involvement mediate the effects of socioeconomic disadvantage?. *Social science research*, 36(4), 1371-1390.

education the most, especially at age 11, and both father and mother's interest in school at age 16 positively predict educational attainment.

2.6 However, parental interest in the child's education is reported by the teacher not the parent, and teacher-parent contact for this generation was limited (often to an annual parent-teacher meeting, and it would not have been unusual for fathers in particular not even to attend this). Teacher perceptions of parental interest were therefore likely to be most influenced by their perception of the child. Therefore, findings using this variable must be treated with caution. Outings with both the mother and father were also positive. Another study¹⁶ based on the 1970 British Cohort Study has also found that teachers' perceptions of mothers' and fathers' interest in their children's education were significant predictors of educational attainment, especially in daughters. However, the same proviso regarding interpretation of this variable applies as above.

2.7 Another strand of work has studied in greater details the effects of maternal employment on healthy practices. One study¹⁷ based on the Millennium Cohort Study found that women employed full-time were less likely to initiate breast feeding than mothers who were not employed/students; and that among employed mothers, those who returned to work within 4 months postpartum were less likely to start breast feeding than women who returned at 5 or 6 months. Another study¹⁸ also based on the MCS found that children whose mothers worked full-time or part-time were more likely to engage in unhealthier behaviours (such as drinking sweetened beverages between meals) than children whose mothers have never been employed.

3. The importance of communication skills and language development

Longitudinal studies are a uniquely rich resource for understanding the process of language development from early life, and its consequences throughout life. They have provided robust evidence on the following areas.

Language knowledge is an important prerequisite for school learning and socialisation:

3.1 The Save the Children 2014 Report 'Read on Get on', using data from the Millennium Cohort Study, shows that one child in three (37%) struggled with language skills at age five; and there was a high degree of persistence

¹⁶ Flouri, E. (2006). Parental interest in children's education, children's self-esteem and locus of control, and later educational attainment: Twenty-six year follow-up of the 1970 British Birth Cohort. *British journal of Educational psychology*, 76(1), 41-55.

¹⁷ Hawkins, S. S., Griffiths, L. J., Dezateux, C., Law, C., & Millennium Cohort Study Child Health Group. (2007). Maternal employment and breast-feeding initiation: findings from the Millennium Cohort Study. *Paediatric and Perinatal Epidemiology*, 21(3), 242-247.

¹⁸ Hawkins, S. S., Cole, T. J., & Law, C. (2009). Examining the relationship between maternal employment and health behaviours in 5-year-old British children. *Journal of Epidemiology & Community Health*, 63(12), 999-1004.

in outcomes – for instance, one in four children (23%) who struggled with language at age five did not reach the expected standard in English at age 11.

3.2 There is evidence from the Millennium Cohort Study that early parental time investments in children are very important, and are more productive than later time investments, particularly for verbal skills; moreover the study reinforces the finding that early outcomes are very persistent over time.¹⁹

3.3 Children’s early ability to effectively express themselves with others may help in building better social relationships by entry into formal schooling.²⁰ On foot of this evidence from the Millennium Cohort Study, the study recommendation is that programming efforts that are tailored towards enhancing positive behavioural growth and social skills in the toddler years are likely to be effective when expressive language is also a targeted component of the toddler’s skill development. Early language skills have been linked to a range of outcomes in the long-term:

3.4 Using data from the 1970 British Cohort Study, language difficulties at age 5 are shown to predict adult literacy difficulties, and low employment as an adult (both measured at age 34).²¹

3.5 Evidence from 1970 British birth cohort study has studied the long-term effects of early childhood development.²² It has shown that improvements in childhood development (by age 10) have long-lasting effects on several adult outcomes. Child cognitive development has an important role in determining educational choices and labour market outcomes. Development of key non-cognitive dimensions such as the ability of the child to self-regulate and her physical health are particularly important determinants of adult health outcomes, such as the probability of being a smoker and of being obese at age 30. Complementary evidence from the 1958 National Child Development Study has shown that improving child behavioural development and fostering personality traits such as motivation is just as important as her cognitive development for both educational attainment and healthy behaviours in adulthood.²³

¹⁹ Del Bono, E, Francesconi, M and Y Kelly (2016) Early maternal time investment and early child outcomes, *Economic Journal* - Oct 2016.

²⁰ Girard, L-C, Pingault, J-B, Doyle, O, Falissard, B and Tremblay, R. (2017) Expressive language and prosocial behaviour in early childhood: Longitudinal associations in the UK Millennium Cohort Study. *European Journal of Developmental Psychology*, 14(4), 381-398.

²¹ Law, J. Rush, R, Parsons, S. & Schoon, I. (2009) Modelling developmental language difficulties from school entry into adulthood: Literacy, mental health and employment outcomes. *Journal of Speech, Language and Hearing Research* 52, 1401-1416

²² Conti, G., Heckman, J., & Urzua, S. (2010). The education-health gradient. *The American economic review*, 100(2), 234. Conti, G., & Heckman, J. J. (2010). Understanding the early origins of the education–health gradient: a framework that can also be applied to analyze gene–environment interactions. *Perspectives on Psychological Science*, 5(5), 585-605.

²³ Conti, G., & Hansman, C. (2013). Personality and the education–health gradient: A

3.6 Socio-economic differentials in both verbal and general cognitive attainment emerge early in life, are persistent, and widen during the pre-school and school years:

Hart and Risley's (1995) highly influential study of 42 families in one US college town found strong social class and black-white differences in the range of vocabulary used by parents when talking to their children. Their headline finding that 'upper class' children had been exposed to 30 million more words than 'welfare children' had by age three (Hart and Risley 2003) has been enormously influential, despite the drawback of a small and unrepresentative sample. Numerous subsequent studies have supported Hart and Risley's broad conclusions about the importance of the way that parents talk to children and the potential impact that this can have on language.

3.7 A [recent study](#) using data from the Millennium Cohort Study confirms the large SES vocabulary gap among parents.²⁴ This is primarily driven by parental educational level, rather than income or occupation. Mothers in households where either parent held a university undergraduate degree were able to correctly identify twice as many words on a multiple choice test (scoring 70%) compared to mothers in households with no qualifications (scoring 35%). Among their 14-year-old offspring however, the SES gaps were more modest. Adolescents with a graduate parent scored 40% compared to 30% for those in 'unqualified' households. Moreover, around half the vocabulary gap between teenagers in high education and low education households is explained by the parents' vocabulary.

3.8 There is consistent evidence across generations that reading matters for language development: from the above study we know that parents reading to their children and having many books at home are associated with superior language scores. In addition, teenagers who read for pleasure every day understood 26% more words than those who never read in their spare time. [Research](#) using the 1970 British Cohort Study shows that reading for pleasure is a more important predictor of vocabulary development even than parental education.²⁵

3.9 Social class differentials in vocabulary continue to grow during adolescence and even into mid-life.²⁶

We would be happy to give oral evidence on this submission.

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note on "Understanding differences in health behaviors by education". *Journal of health economics*, 32(2), 480-485.

²⁴ Sullivan A, Moulton V and E. Fitzsimons. 2017. "The intergenerational transmission of vocabulary." CLS Working Paper 2017/14.

²⁵ Sullivan A and M Brown. 2015a. "Reading for pleasure and children's progress in vocabulary and mathematics." *British Educational Research Journal* 41(6):971-91.

²⁶ Sullivan A and M Brown. 2015b. "Vocabulary from adolescence to middle age." *Longitudinal and Life Course Studies* 6(2):173-89.