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Effective Pre-school and Primary Education  
3-11 Project (EPPE 3-11)  
A longitudinal study funded by the DfES  
(2003 – 2008)

Promoting Equality in the Early Years  
Report to The Equalities Review

**THE EQUALITIES REVIEW**





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## Promoting Equality in the Early Years

### Report to The Equalities Review

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The views expressed in this report are those of the authors, not necessarily those of the Equalities Review.

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## Background

In March 2006 the Effective Pre-school and Primary Education Project (EPPE 3-11) team were asked to give evidence on 'Associations between the Pre-School, Home Learning Environment (HLE), Family SES, Ethnicity, Gender and SEN status of children and their attainment at age 7 years' to The Equalities Review team to help inform the consultation paper being prepared for the Cabinet Office. The EPPE team were subsequently commissioned to provide further evidence on equality and inequality in early years education and care.

This report to The Equalities Review Team provides an evidential base for practical recommendations that can enhance the life chances and academic success of children who fare poorly at school and are at risk of social exclusion. This commissioned study from the Equalities Review Team brings together important strands of social inequality relevant to the early years phase of education and focuses specifically on the impact of pre-school and the importance of child, family and HLE characteristics on children's development during their early years. It is targeted specifically to inform 'practical action points', i.e. those services or institutions that can be changed in the interest of children from ethnic minorities, from impoverished backgrounds, disadvantaged boys and children with English as an additional language (EAL).

## The Research Topics and Questions

An over-arching aim of EPPE's work for the Equalities Review is to identify differences in children's cognitive and social/behavioural development associated with ethnicity, gender and socio-economic status (SES). The report sheds new light on the important question of why some children and families succeed 'beyond the odds' and how understanding such resilience can lead to transformed policies and services. For a full list of research questions see Appendix 1.

## The Report

The report is in five parts.

It begins with an Executive Summary which summarises the key findings.

Part One looks at the influences on children's cognitive attainment and progress and social/behavioural development in primary school.

Part Two considers the importance of the HLE with quantitative analyses for different family background characteristics.

Part Three provides qualitative case study evidence on families who succeed against the odds.

Part Four reports on differences and similarities in children (and their families) who had pre-school and those who did not.

Part Five is a summary and reflection on the way forward.

## Background to EPPE 3-11

EPPE 3-11 is Europe largest pre-school effectiveness study and the first in the UK to adopt a 'school effectiveness' research design to pre-schooling. It combines both quantitative and qualitative research methodologies. EPPE holds unique datasets on 3,000 children and their families and is well placed to answer the research questions generated by the Equalities Review Team. For details of the EPPE research (including sample, methodology and findings over the pre-school period and to the end of Key Stage 1) see the Technical Papers and final report listed in Appendix 2.

## Executive Summary

This report begins with a description of achievement 'gaps' for young children from a range of ethnic and social backgrounds. Part 1 describes the contribution of child factors, family influences and pre-school and primary education to children's achievement. Part 2 looks closely at the influence of families, especially the ways they foster children's academic and social/behavioural development. It then shows that disadvantaged families can support the development of resilience in their children, leading to greater academic success and to more positive Self-regulation. Part 3 provides qualitative case studies of children who have 'achieved above expectation'. It charts the positive influences that families living in poverty have brought to bear on their children. It also highlights the important role of grandparents, siblings and the community in promoting skills and aspirations. Part 4 is a discussion of which children attend, and do not attend pre-school and the reasons for this divide. The final part explores the policy recommendations with practical suggestions for 'closing the gap'.

## Part 1 Different trajectories of development

The EPPE research documents children's cognitive and social/behavioural development from age 3 to 7 years. It pointed to important differences in attainment related to child, family and early years HLE characteristics. It also identified significant pre-school effects. These were most marked at entry to primary school where it was shown that pre-school (particularly high quality and longer duration) gave children a better start to school (Sylva et al., 2004). However, benefits also remained evident during Key stage 1 in 'follow ups' of child outcomes at ages 6 and 7 years, although the pre-school influence was less strong. In addition the research pointed to the benefits of pre-school in reducing the 'risk' of SEN (Sammons et al., 2003a). A summary of evidence from the original EPPE research has already been submitted to the Equalities Review and informed its Interim Report for Consultation (<http://www.theequalitiesreview.org.uk/>).

Additional analyses have been conducted using data collected at age 10 years. These analyses provide new evidence on the size of the attainment gap in Reading and Mathematics for different groups of children. In addition, we identify important differences in social behaviour in relation to 'Self-regulation' and 'Hyperactivity'.

The analyses present 'raw' results (in terms of differences in average scores in these outcomes by gender, ethnic group, family SES and so on), and also net effect sizes of different factors (e.g. ethnic differences in attainment) after controlling for child, family and home learning environment (HLE) influences. This is important, because much of the raw difference in attainment associated with ethnicity reflects the impact of other socio-economic (SES) and demographic factors (e.g. birth weight, income, language, family SES, parents' qualification levels and HLE). Such findings can inform thinking on appropriate policy and practical strategies to reduce the achievement gap and enhance outcomes for vulnerable groups.

Differential patterns of development between ages 6 and 10 years reveal the groups of children for whom the gap has widened or reduced during Key Stage 2 and the factors associated with better or poorer progress.

The findings draw attention to the importance of the early years HLE on longer term educational outcomes, both academic and social/behavioural. A detailed exploration of the HLE forms the focus of Part 2 of this report and investigates interactions between early years HLE and other child and family characteristics.

The importance of educational experiences in shaping outcomes at age 10 years is highlighted in Part 1. Pre-school influences remain evident. However, at this stage just '*attending a pre-school*' is not sufficient to ensure better outcomes. It is the quality and effectiveness of the pre-school attended that predicts better outcomes. Poor quality pre-school does not improve outcomes at age 10 years, whereas medium and especially high quality pre-school experience provides benefits. There are indications that attending poor quality pre-school may adversely affect social behaviour.

Pre-school influences are somewhat stronger for Mathematics and Self-regulation than for Reading.

The results also demonstrate that the academic effectiveness of the primary school attended (measured independently using National assessment data sets and value added approaches) has a significant impact on attainment at age 10 years. For 'home' children (who did not attend pre-school provision) in particular, the effectiveness of the primary school attended helps to close the attainment gap (for those who attend a high effective primary school there is a particular boost to Mathematics attainment). By contrast, attending high quality or more effective pre-school acts as a protective factor for children who attend a less effective primary school.

### **Key findings on the effectiveness of pre-school, primary school and the early years HLE**

The attainment gap at age 10 years remains significant and has widened for some groups (in relation to measures of socio-economic disadvantage for example) although in some cases the attainment gap has changed (boys and those of Indian ethnic background are now doing better in Mathematics in contrast to findings at younger ages).

The strongest net effects on outcomes at age 10 are for measures of early years HLE and parents' qualification levels, followed by low birth weight, need for EAL support, early health or developmental problems and family SES. Much of the difference in attainment between ethnic groups is related to differences in influential demographic factors such as these, although there are still some (relatively) low and high attaining groups. Multiple disadvantage remains an important predictor of educational outcomes.

Good pre-school still matters. There is new evidence of continuing net pre-school effects for attainment in Reading and especially in Mathematics as well as better social/behavioural development (increased Self-regulation and reduced Hyperactivity). It is differences in the quality and effectiveness of pre-school that contribute to better outcomes in the longer term, rather than just attending or not attending a pre-school setting.

Although 'home' children have begun to catch up from a much lower starting point, an attainment gap remains. However, those who attended low quality pre-school no longer show benefits and poor quality pre-school is associated with poorer social/behavioural development. Primary school academic effectiveness (measured by value added in National assessments) is a significant net influence. Those who attended more academically effective primary schools show better cognitive attainment and better social/behavioural development at age 10.

The research provides new evidence concerning the *combined* effects of pre-school and primary school in shaping educational outcomes. It is important to raise the quality and effectiveness of both.

We can conclude that no one factor is the key to raising achievement – it is the combination of experiences over time that matters. The child who has a better HLE, and goes to a high quality effective pre-school setting and who then goes on to attend a more effective primary school has a combination of 'protective' experiences that reduce the risk of low attainment and also benefit social/behavioural development.

The results provide no evidence to support the idea that pre-schools or primary schools that foster better academic outcomes are less successful at fostering social/behavioural development. Rather the evidence indicates that the two are associated. High quality and more effective pre-schools support better outcomes in both cognitive and social/behavioural domains. Likewise, we also find that a higher quality early years HLE benefits both cognitive and social/behavioural development throughout pre-school and primary school. Moreover, children with a high early years HLE may gain extra benefits in terms of Reading outcomes from high quality pre-school (presumably because the HLE and pre-school influences support and reinforce one another).

The implication of these findings is that policy development should seek to promote strategies to support improvements in HLE especially for vulnerable groups and also work to improve the quality and effectiveness of pre-school provision. Such pre-schools are well placed to identify children who may need extra support if they do not experience a high quality HLE and could be guided to work with parents to improve HLE. Ways to improve the provision in poorer quality pre-schools need to be given a priority, since poor quality provision does not offer long term benefits in improved child outcomes.

In addition, the research indicates that the primary school attended also plays an important role. Improving the academic effectiveness of primary schools is particularly important for disadvantaged groups of pupils, since we find that school effects matter more for this group. The finding that both social/behavioural development and Reading and Mathematics attainment is boosted by academically effective primary schools has important messages for the achievement of the Every Child Matters agenda; it shows that the promotion of better academic outcomes is not at variance with the development of better social/behavioural development. The finding that primary school effectiveness is a more significant influence for disadvantaged pupils (especially those who didn't go to pre-school) is of particular importance.

In order to help reduce the achievement gap for multiply disadvantaged groups, actions to improve the HLE, pre-school and primary school experiences will be needed, since improvements to any one in isolation would be insufficient to boost outcomes on its own. In addition, it is likely that specially targeted interventions for children who are identified as particularly behind their peers in cognitive or social/behavioural development at the start of primary school will also be necessary to prevent a widening of the gap during Key Stage 1 and 2.

## **Part 2 What predicts the level of the HLE?**

The HLE is strongly associated with better cognitive and social/behavioural development, including Self-regulation. The effects associated with the HLE upon children's development are stronger than for other traditional measures of disadvantage such as parental SES, education or income.

The HLE varies between boys and girls similarly across all samples, with girls having higher HLE scores than boys.

Parents' education level has similar effects upon HLE scores for all the groups with a higher level parental education level (particularly mother's) being associated with higher HLE. For the White UK low SES group the effect of father's education disappears, possibly because of limited variation in father's education for this sub-group.

The HLE varies between ethnic groups and, where the home language is not English, HLE scores are markedly lower, and this raises the question of whether the HLE is a culturally (see p.67) appropriate measure. However, the HLE is associated with differences in child and family characteristics and when these are taken into account only the Black African and Pakistani groups still have significantly lower HLE than the White UK group. When the low SES sample is considered separately, and allowing for background factors, ethnic differences are largely reduced and often insignificant, while Indian and Bangladeshi groups show higher HLE scores than the White UK group. Also when examining the impact of HLE upon children's resilience in Literacy and Numeracy the effects of the HLE are strong across most ethnic groups with some ethnic groups showing HLE effects stronger than the White UK group. This clearly indicates that the HLE is important for these ethnic groups in understanding how children reach different levels of attainment.

Where a child has more than 3 siblings (as measure of large family size) this also depresses the HLE score, as does the presence of early developmental problems for the child, and these influences upon the HLE are stronger for boys than for girls.

Where children attended a pre-school, the composition of the pre-school was associated with differences in the HLE for all groups. Where more of the other mothers using the pre-school had a degree then the HLE was higher. This suggests that opportunities for mixing with parents who are better educated may have some benefits for parenting, i.e. the possibility of a peer group learning effect amongst mothers or parents. This pre-school influence appears somewhat stronger for girls than boys.

Also where children lived in more deprived areas their HLE was depressed, and this effect was stronger for boys than girls.

### **Resilience and what predicts it**

There are marked differences between ethnic groups in attainment but the great majority of differences in attainment between ethnic groups results from their demographic and background characteristics with relatively little variation being due to specific ethnic group factors.

There are some ethnic group differences in resilience. At the start of school (age 5) White UK, Pakistani and Mixed ethnicity groups are all achieving as predicted by their demographic characteristics (little or no difference between predicted and measured scores). These results are repeated at age 10 in Literacy and Numeracy scores for these groups, with the exception that Pakistani children do slightly worse than expected in Numeracy.

At age 5 years both the Black Caribbean and the Black African ethnic groups, on average, attain higher Literacy scores than expected, but do worse than expected for Numeracy. By age 10 years both Black groups are doing worse than expected for Literacy but the Black Caribbean group shows slightly better than expected attainment for Numeracy.

At age 5 years, the Indian, Bangladeshi and Other ethnic groups achieve better than expected scores for Literacy and Numeracy and therefore appear to be more resilient than other ethnic groups. At age 10 years the Indian group continues to attain better than expected for Literacy and Numeracy. However, the Bangladeshi group are now attaining lower scores than expected for Literacy and Numeracy. The Other ethnicity group at 10 years are attaining slightly worse than expected for Literacy and slightly better for Numeracy. The marked decline from age 5 to age 10 for the Bangladeshi group, indicates that primary schooling is not benefiting this group as much as other ethnic groups.

The strongest effect on children's resilience (better than expected attainment) at age 5 and 10 is their level of Self-regulation (Independence and Concentration) at the start of school. Being female, higher parental education and income, quality of HLE, quality of pre-school and amount of time in pre-school all are associated with increases in Self-regulation, whilst lower birth weight, eligibility for free school meals (FSM), developmental and behavioural problems are associated with decreases in Self-regulation.

The HLE also has a strong, independent effect on resilience at ages 5 and 10, with higher HLE being associated with higher resilience; the effects being strongest at age 5 and also stronger for Literacy than Numeracy.

Girls show more resilience in Literacy at age 5 and 10 although the effect is stronger at age 5. By age 10 boys show a clear advantage for Numeracy. The relative better resilience for girls differs amongst ethnic groups with the advantage of being female being greater in the Black Caribbean, Black African, Indian, Bangladeshi and Other ethnic groups than for the White UK group at age 5. By age 10 the situation looks very different with the advantage of being female being reduced. For Black Caribbean and Black African ethnic groups the situation is reversed with boys now being associated with better resilience.

## Discussion of the HLE

The evidence indicates the importance of the early HLE. While other family factors such as parents' education and SES are also important, the extent of home learning activities exerts a greater and independent influence on educational attainment (at different ages), and this occurs for almost all ethnic groups. It is rare for a large scale study, longitudinal or not, to include process variables indicative of family interaction processes or patterns of experience in the home other than the standard structural demographic variables such as SES or parental education. The strength of the effect of this variable could well be informative to projects and social policies targeted on improving the home environment of children with regard to reducing social exclusion e.g. Sure Start. The components of the variable HLE provide a starting point for consideration of which aspects of family life may be involved in efforts to produce measurable beneficial effects upon children's development.

1 Resilience is where a child's observed attainment is above the child's expected attainment controlling for a range of background factors. A child attaining above the expected level can be regarded as showing positive resilience.

There are strong effects of the pre-school HLE at age 5, 7 and 10 years but the influence of the HLE becomes somewhat reduced as the children get older. Two reasons suggest themselves for this finding; (a) over time, earlier experiences become less influential, losing their developmental significance, or (b) perhaps new sources of influence, especially schooling, affect children's development? The results of EPPE analyses clearly indicate that primary school influences are moderate to strong by age 10.

Possibly the continuing effects at age 10 of the early HLE, measured approximately 6 years previously, is to be expected from continuity over time in the relative standing of homes on developmentally enhancing activities, i.e. it is concurrent effects of the HLE rather than earlier experience producing longer term effects upon development. However the interpretation that earlier home experience matters is supported by NICHD study evidence (Belsky et al., in 2006) indicating that parenting sensitivity at 4-5 years predicts cognitive development at age 10 with current parenting controlled. Developmental versus environmental continuity issues pervade longitudinal research and require ongoing attention.

It is quite possible that the strong relationship between HLE and cognitive scores is mediated by some intervening unmeasured factor. Those parents, who answer the questions in a way leading to a high score, may have other characteristics that lead their children to have higher cognitive scores. Even if this were so, the HLE would still be an efficient proxy measure of such unmeasured factors. Additionally it is possible that a feedback loop is operating whereby parents are influenced by the child's level of attainment, and this would lead to children with higher ability possibly receiving more parental stimulation.

Whatever the mechanisms, the influences of parenting upon child development are pervasive. Research involving 0-3 year olds from the evaluation of the Early Head Start (EHS) programme, which provided combinations of home visits and centre childcare intervention for disadvantaged families, found that the intervention increased both the quantity and quality of parents' interaction with children, as well as children's social and cognitive development (Love et al., 2005). A review of early interventions concluded that, to gain the most impact, interventions should include both parent and child together with a focus on enhancing interactions (Barnes & Freude-Lagevardi, 2003). Such work indicates that parenting behaviours are learnable, and changes in parenting are associated with improved child development. Similar conclusions were shown in a study by Hannon, Nutbrown & Morgan (2005) in the UK, where children showed better Literacy progress when parents were involved in a programme on ways to improve child Literacy during the pre-school period.



Such research findings suggest that, for parents in disadvantaged communities, policies that encourage active parenting strategies, and also pre-school education, can help to promote young children's Literacy and Numeracy and facilitate later academic achievement. A measure such as the HLE could be a good starting point for a project concerned with improving home environments and consequently children's development. However, responsibility should not be placed solely on parents. The provision of (good quality) pre-school education from 3 years of age is likely to produce further benefits, particularly when the centre works closely with parents, as many pre-schools do. Studies of successful pre-schools by Siraj-Blatchford et al., (2003) indicate that pre-schools that promote activities for parents and children to engage in together are likely to be most beneficial for young children.

Overall, this study indicates that support for parents to develop stimulating home environments, and the provision of good quality pre-school, should help all children. This has implications for policies designed to help children from disadvantaged backgrounds start school with more academic skills, and to maintain their achievement through the primary school years. Sylva and Pugh (2005) have described how such research has affected public policy in the UK.

## Part 3 Case studies

The focus of the case studies is on low SES families from five ethnic groups: White UK, Pakistani, Black Caribbean, Black African and Bangladeshi. Interviews were carried out with 21 individual children and their parent/s with moderate or relatively high HLEs and attainment and relatively low SES from the range of diverse backgrounds; 7 of these are boys. We also identified a further 3 children, from different ethnic groups with a 'typical' low HLE and attainment making the total sample 24. The case studies explored how and why some low SES families provide a higher quality HLE, which has been shown to reduce the adverse impact of poverty or minority status.

As both Sammons (1995) and Siraj-Blatchford (1995) observed, while prior research has provided us with quite a lot of information about the factors associated with underachievement, we know rather less about the factors associated with high achievement. To some extent this small study may be seen to contribute to that end.

### ***How does the HLE affect children's experience of the transition between home and pre-school?***

Our quantitative analyses also show that combining a good HLE with attendance at a high quality pre-school promotes better attainment at age 10 years. But our findings at age 10 suggest that for disadvantaged children attending a medium or high quality pre-school, or having a medium to good HLE on its own may not be enough. They really require both.

While the qualitative analysis of case studies was unable to identify any differences in aims, values, philosophy, approaches etc. some possible tensions were revealed. We have argued that any concerns related to the different approaches to early Literacy used by families and pre-schools may be misguided. However, different perceptions of children's needs related to individual support and behaviour management may be apparent at times. These suggest the need for improved communication and collaboration between families and schools.

***Where a particular group is characterised by relatively low HLE are there any common factors?***

In the report common factors were identified through quantitative analysis of the EPPE database conducted for the Equalities Review. They were as follows: Poor mother's education; Larger families; Early developmental problems; Area of higher deprivation and if going to pre-school going to one that is homogeneous for low mother's qualifications.

The qualitative analysis provides answers to many of the other questions posed by the Equalities Review team:

***Family constructions of the parental role***

We were asked to investigate what parents did practically to support the HLE, how parents and children saw the quality of HLE affecting their pre-school experience, and how this varied according to individual characteristics.

Our findings suggest that the minority ethnic and social groups that we studied have a good deal more in common than they have differences in the ways in which they supported their children in the home. We also found that a very wide range of family members provide support for children's learning. All of the families from each of the high HLE, low SES groups studied, provided their children with a good deal of structure; they read to their children in their early years and went on to listen to them read at an early age. Numerous other educational stimulus and activities were also provided. The children themselves were active in maintaining these practices. We found that our respondents from each of the target communities possessed a fairly broad understanding of education and a strong desire to benefit from the services available.

For parents with English as an additional language (EAL) the opportunities offered by a pre-school in supporting their children in learning English were clearly significant. Given the almost universal use of pre-school services by the case study families we were unable to provide any insight into the question raised in the Equality Review Seminar regarding the low take up of pre-school and early years services by Pakistani and Bangladeshi families. No clear view has therefore been reached in this study as to whether this is down to inadequate service provision, discriminatory practices or cultural preference.

Several of the parents paid for private home tutorial support when a particular educational weakness was identified and in one case in preparation for an 11+ selection test. It was also clear from the data that the positive HLEs that we identified were provided as an alternative to other culturally appropriate educational provisions, community language or religious instructions. In some cases they clearly complement these provisions strongly (e.g. in African Caribbean Supplementary Schools).

We asked the parents what they felt the barriers were to providing a positive HLE but the only reasons that they could give us were related to the time available and their personal circumstances, such as health. Other family pressures made it very difficult for some families to provide support and even in the most diligent of households, the HLE provisions made for individual children sometimes changed when home circumstances changed (e.g. with the birth of an additional child).

For most parents any dip in the child's attainment was met with a new strategy, but for a few the problems that they were facing proved too difficult to overcome. In such cases there was a need for further support to be provided through family services.

### ***The family's sense of efficacy in supporting their children's learning***

A variety of reasons were given for parents supporting the education of their children at home but all of the parent responses showed that they had a very clear idea of the major benefits. Both the parents and the children from high HLEs were found to believe that the reason some children did better in school was because they were more attentive in the classroom and making more of an effort. For those families where there was a poor HLE, or where the children's progress was disappointing (for a variety of reasons) despite their positive beginnings, the reason for children's success was put down more to innate ability. When we asked what they considered the benefits of schooling and pre-schooling to be, most of the parents and the children demonstrated highly instrumental attitudes towards schooling. These may be seen to be closely in tune with the *Every Child Matters* agenda. The most frequent references were made to achieving economic independence, and to either specific or more general employment opportunities.

The parents' expectations for their children are extremely high with all of the higher HLE parents suggesting their children should attend higher education and then go on to professional careers. Many of the parents also referred to their own educational ambitions. To a large extent the children's aspirations mirrored these and were similarly instrumental (or performance) based – although they were more likely to suggest an alternative interest as well (e.g. becoming a sportsman/sportswoman, pop star, actor etc).

Family members become involved in the education of their children when they come to believe that their own (and the child's) efforts will be rewarded. If they consider the child's educational success to be dependent less upon effort and more upon the child's (or their own) innate ability, then they are less likely to become involved. We explicitly asked the parents why they thought some children did better at school than others, and most told us that they thought that it was the result of being more attentive in the classroom and making more of an effort. The children's responses were very similar with the most capable children in the sample who had benefited from better HLEs showing 'masterful learning' orientations. The responses of children with lower HLEs and attainment suggested 'learned helplessness'.

### ***The active encouragement of parent participation by schools***

We found little evidence of any support being provided to parents apart from the application of Reading schemes. For many parents, the anticipation of, and preparation for, secondary transfer was especially stressful and daunting. The case study evidence suggests that as Crozier and Davies (2005) also found, schools need to be doing more to encourage the involvement of the wider family in children's education. It may be that early childhood settings and schools expect parents to intervene in their children's education, to be proactive and demanding. Research has shown that middle class parents intervene in their children's education, and they do this because they don't trust the educational and care establishments. Much of the same attitude was evident in some of our parent responses.

While the EPPE study has shown that some pre-schools (particularly Integrated Centres and Nursery Schools) provide sustained support for parents in their development of an effective HLE, little evidence of this was found in these case studies.

We found that some of the parents had spent some time 'helping out' in the pre-schools. For most this was not sustained into primary school. The parents also reported on the feedback that they received, which was usually either in response to specific (e.g. behavioural) problems or provided on an annual or termly basis providing a summary of their child's progress. None of the parents provided positive examples of feedback that might inform them in their efforts to provide additional support at home during the pre-school years.

Some minority ethnic and working class parents put their trust entirely in the professionals, believing the experts know best, and that they are acting in the best interests of their children. Tragically, some parents may even lower their own expectations of their children's capabilities according to a pre-school, or school report on their child's progress.

### ***Social capital and the development of reciprocal partnerships***

In terms of broad definition, we consider our perspective on family partnership to be generally in line with that recently adopted by the Welsh Assembly Government. This is an account that recognises participation is a good deal more than simply providing information or consultation. It also recognises that different levels of participation exist, and that the highest level is not always the most appropriate level to begin in any particular initiative.

Community focused supplementary schools and classes would seem therefore to provide important educational resources, and every effort should be made to involve them fully in any future HLE support initiative.

We were asked to identify the social capital possessed by the higher than average HLE families. Our case study analysis provides support for Reynolds (2006a & b) who has been documenting the ways in which Caribbean young people in the UK construct their ethnic identity, and the ways in which they apply transnational family and kinship networks and relationships as social and material resources. Extended family support and role modelling was found to be evident in all the communities studied. Given the difficulty of providing such resources externally this evidence would lend support to initiatives involving some element of mentoring. A substantial role might be played in this through the new 'Common Assessment Framework' (CAF) and through 'mainstreaming' Learning Mentorship initiatives.

Many of our respondents could be seen to be acting as cultural brokers who saw no particular problem in reconciling their cultural, religious and academic aspirations.

## **Key findings from the case studies**

### ***Family constructions of the parental role***

A very wide range of family members (i.e. not just parents) provide support for children's learning and the children themselves were active in maintaining these practices.

For parents with English as an additional language (EAL) the opportunities offered by a pre-school in supporting their children in learning English were clearly significant.

The positive HLE respondents attended a range of other culturally appropriate educational provisions. In some cases they complemented the HLE strongly (e.g. in supplementary schools and community classes).

Family pressures sometimes made it very difficult for families to provide support and the HLE provisions made for individual children sometimes changed when home circumstances changed.

Where families require additional support the provision of a positive HLE may not be sufficient in providing for the child's needs. In such circumstances home learning activities might however be promoted in the direct support of families developing more constructive relationships with each other.

### ***The family's sense of efficacy***

Both the parents and the children from high HLEs were found to believe that the reason some children did better in school was because they were more attentive in the classroom and making more of an effort.

Both the parents and the children held highly instrumental attitudes towards schooling that may be seen to be closely in tune with the *Every Child Matters* agenda. Frequent references were made to the achievement of economic independence, and to either specific or more general employment opportunities.

The parents' expectations for their children are extremely high with all of the higher HLE parents suggesting their children should attend higher education and then go on to professional careers.

### ***The active encouragement of parent participation by schools***

Apart from the single case of an inner city Nursery School, little evidence was found of support being provided to the parents in developing the HLE apart from the application of reading schemes.

Schools and pre-schools need to be doing more to encourage the involvement of parents and the wider family, particularly in the education of disadvantaged children.

### ***Social capital and the development of reciprocal partnerships***

Our evidence lends support to initiatives involving some element of family and/or child mentoring.

Further application of the 'Common Assessment Framework' (CAF) and the mainstreaming of Learning Mentorship initiatives may have strong roles to play in supporting the development of social capital.

Community focused supplementary schools and classes provide important educational resources, and every effort should be made to involve them fully in future HLE support initiatives.

Schools and pre-schools require further support in the development of family participation and reciprocal partnership.

## **Part 4 Who attends pre-school?**

Comparisons between the children who had pre-school experience and those who did not (the 'home' group) indicates that 'home' children were more likely to be girls, with Pakistani families making up the largest minority ethnic group. The 'home' group also had a higher proportion of children for whom English is an additional language.

There were a number of differences between the two groups in terms of SES. The largest SES group in the 'home' sample was the skilled manual, and the group as a whole had a higher proportion of children from non-working households and larger families. A third of the sample was in receipt of free school meals (FSM). 'Home' children were also more likely to have mothers with no formal qualification, although these children tended to be in stable families with parents who remained together during their early years.

## **What were the barriers to pre-school enrolment?**

Availability of provision (and of a place) was the most frequently cited barrier to using pre-school. Other frequently cited reasons were that parents were unhappy with their local provision and their child didn't want to go. However, the move to increasing provision through the Sure Start and Children's Centre agenda coupled with improving quality may go some way to ameliorating these difficulties.

Although the 'home' group tended to be geographically clustered and have a higher proportion of disadvantaged families, EPPE analyses control for child, family and HLE background characteristics. After controlling for the impact of child, parent and HLE characteristics, the attainment gap between 'home' children and pre-school children remains. This gap is not merely accountable in terms of differences in background characteristics. In particular, for the outcomes Pre-reading, Early number concepts and Language skills, pre-school experience is shown to confer a significant cognitive advantage with attendance at *any* pre-school provision showing a positive impact in terms of children's cognitive development at entry to school. Similarly for the social/behavioural measures, those children who went to pre-school were showing advantages over the 'home' children at entry to school.

# **Part 1: Influences on children's attainment, progress and social/behavioural development in primary school**

Authors: Pam Sammons, Yvonne Grabbe, Sofka Barreau, Kathy Sylva, Edward Melhuish, Iram Siraj-Blatchford, Brenda Taggart, Wesley Welcomme and Stephen Hunt

This first part of the report investigates the way different child and family characteristics influence children's cognitive and social/behavioural development in Key Stage 2. It also explores the continued influence of pre-school and the effects of primary school. The results are presented separately for cognitive and social/behavioural development but the analyses conducted are comparable.

## **1.A: Children's Reading and Mathematics Outcomes in Year 5**

The analysis of children's cognitive attainments is divided into two sections that address the following questions in the Equalities Review proposal:

- How well do children progress in primary education?
- What are the characteristics of children who do well and those who fail to keep up with the average?
- How does the HLE during the pre-school period affect children's further progress in primary school?
- How do characteristics of pre-school education affect children's academic attainment and progress?
- How do characteristics of primary education affect children's academic attainment and progress?

The first section will investigate the attainment gap at age 10 and will explore differences in patterns of attainment at the end of Year 5 for different groups of children (e.g. in terms of characteristics such as gender, ethnicity, having English as an additional language (EAL), special educational needs (SEN) etc). This provides a summary picture of the size of the overall equity gap for sub-groups of interest to the Review. After showing the patterns in terms of raw differences in average attainment levels, the 'net' impact of different child, family factors and early years home learning environment (HLE) characteristics on cognitive attainment is investigated. For example, this allows the identification and separation of effects attributable to family socio-economic status (SES), income, and parents' qualification levels from those related to language and ethnicity. In addition, analyses explore the net impact of pre- and primary school on children's attainment at age 10 to establish how educational influences shape achievement.



The EPPE 3-11 study collected data on children's cognitive attainment in Reading and Mathematics at different time points following children from age three years plus to the end of Key Stage 2 (see Appendix 7 for definitions of cognitive domains). This enables the research to investigate in detail the extent of the attainment gap at different ages and any changes in the size of the gap for different groups of children over the course of their pre-school and primary school careers. Detailed evidence covering children's attainments from pre-school entry to the end of Key Stage 1 (age 7 years) has been submitted to the Equalities Review already (in March 2006). The most recent data available are results of standardized Reading and Mathematics tests at the age of 10 years (Year 5). These data have been used to explore patterns of attainment and progress and their relationship with EPPE children's individual, family and HLE influences and also the influence of pre-school and primary school attended.

Earlier psychometric assessments of attainment in Reading and Mathematics were undertaken at the age of 6 years (end of Year 1). The second part of this section will analyse the net impact of child, family factors and early years HLE characteristics on cognitive attainment at age 6 compared to age 10. The change in impact of different factors provides insight into whether certain groups are falling behind or catch up (closing the gap). For example, we can establish whether the impact of socio-economic status (SES) is stronger or weaker at age 10 compared to age 6.

A different methodological approach is used to answer the question of differential progress. This involves the use of *value added* analyses, where the impact of earlier attainment at age 6 is taken into account as a possible influencing factor on future attainment, along with the other relevant predictors. Value added analyses are used to explore progress rates for different groups of children. It enables us to quantify further the net impact of background and family factors on progress and provides more precise indicators of which groups are falling behind or moving ahead during Key Stage 2. Results are presented in the third section of this part 1.A.2.

## **1.A.1 Investigating the impact of different child, family, HLE factors, pre-school and primary school on attainment at age 10 years**

### **1.A.1.1 Sources of data and sample**

The cognitive outcomes reported here are standardised children's test scores in Reading and Mathematics assessments administered by teachers. These data were internally age-standardized and normalized before being used in further analyses. For the whole sample the average Reading and Mathematics score is 100 with a standard deviation of 15<sup>2</sup>.

2 Appendix 4 contains a section that deals with the reliability and validity of current measures of progress in primary education. Details on standardisation and normalisation procedures are also described.

The following measures have been used in the analyses as potentially influencing factors:

- Child factors (e.g. gender, birth weight, number of siblings, early developmental problems, early behavioural problems, EAL, ethnicity);
- Family factors (e.g. SES, parent's qualification, family income);
- Early years HLE (age 3 – 4 years);
- Pre-school experience and pre-school characteristics (e.g. type, duration, quality, effectiveness);
- Primary school effectiveness (derived from value added analyses of pupil progress National assessment data sets over three years) and
- Prior attainments in Reading and Mathematics.

Currently 2,556 children of the EPPE 3-11 sample have valid Year 5 cognitive data (Reading, Mathematics or both). Fifty per cent of these children are male, fifty per cent are female. With regard to the ethnic background, three quarters were White UK heritage, whereas a quarter have another ethnic background. Nine per cent speak English as an additional language. The socio-economic status (SES) can be characterized as high (professional) for thirty-five per cent of the children, medium SES (skilled manual or skilled non-manual) for thirty-eight per cent and a quarter have low SES. In all, nineteen per cent of the sample were on low incomes (were eligible for free school meals (FSM) in Year 5 or at an earlier time point in primary school).

### **1.A.1.2 The achievement gap: Differences in average attainment for different groups of children at age 10**

Examining 'raw' scores, we find that there are large and statistically significant differences in cognitive attainment related to a number of factors. It is important to stress that the reported differences do not control for the influence of any other variables. This means, for example, if we are looking at the size of differences between individual ethnic groups, these differences could also be due, partly, to socio-economic and language differences between the ethnic groups. We will report the net effect sizes in a later sub-section.

#### **Gender**

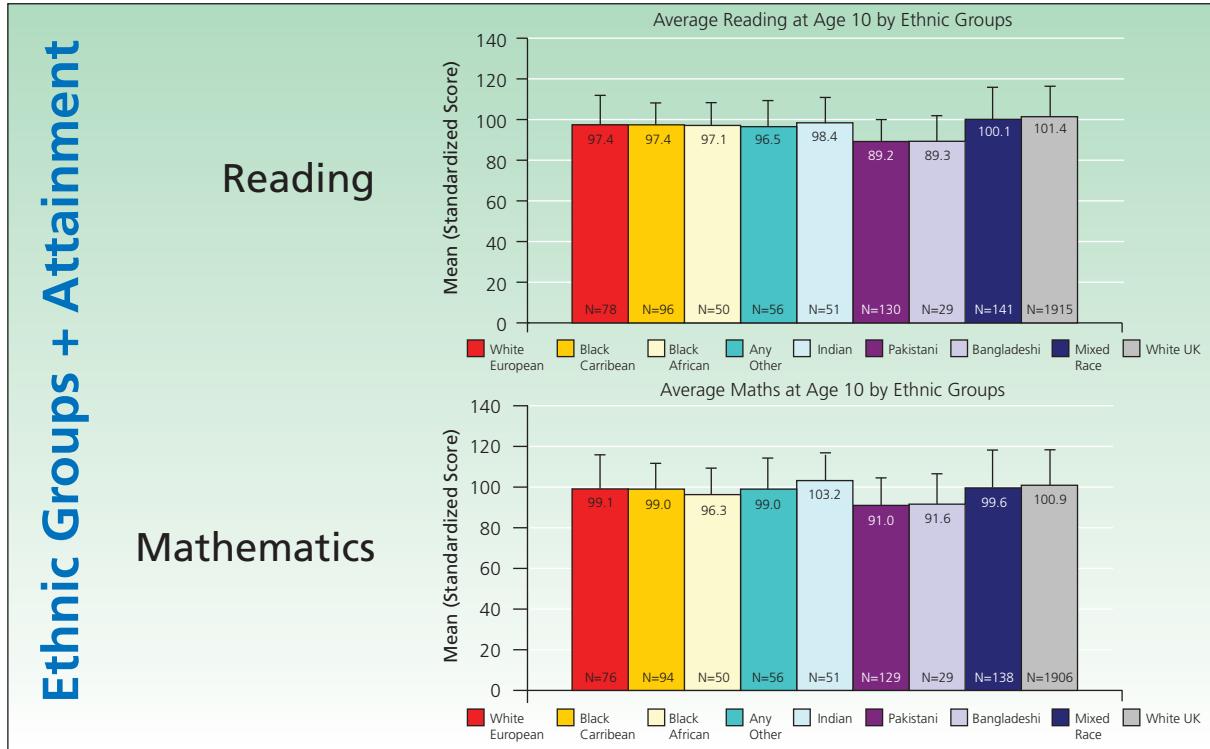
For Reading we find that girls ( $M = 101.0$ ) show higher average 'raw' attainment than boys ( $M = 99.1$ ), but in Mathematics boys ( $M = 100.3$ ) have higher scores on average than girls ( $M = 99.6$ ).

#### **Ethnic Groups**

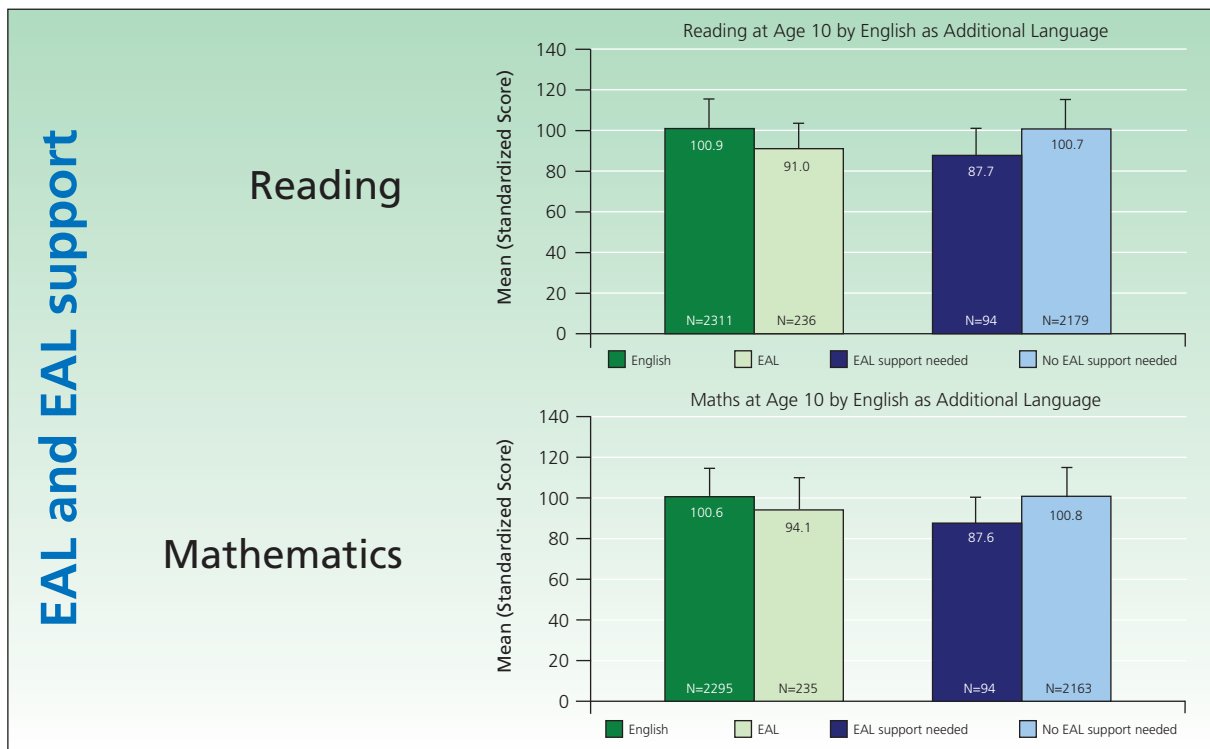
There are large differences in average 'raw' attainment in Reading and Mathematics related to ethnic origin. In Reading, White UK children have the highest scores, Pakistani and Bangladeshi children show particularly low attainment, but also other minority ethnic groups have significantly lower attainment scores than White UK children.

For Mathematics we find a different pattern of results: Indian children have the highest average attainment, followed by White UK children. Pakistani, Bangladeshi and Black African children are the ethnic groups with the lowest attainment in Mathematics at age 10 (see Figure 1.A.1).

**Figure 1.A.1: Cognitive attainment at age 10 by ethnic groups**



**Figure 1.A.2: Cognitive attainment at age 10 by EAL**



## English as an additional language (EAL)

As might be expected, children’s ‘raw’ attainment in Reading differs strongly by mother tongue, with EAL children still attaining lower scores on average (M= 91.0) than non-EAL children (M = 100.9). But at age 10 the need for EAL support distinguishes most clearly between lower and higher attainers: children who need such support at the age of 10 have an average Reading score off 87.7, children without need of such support have an average of 100.7 in line with the average for all children.

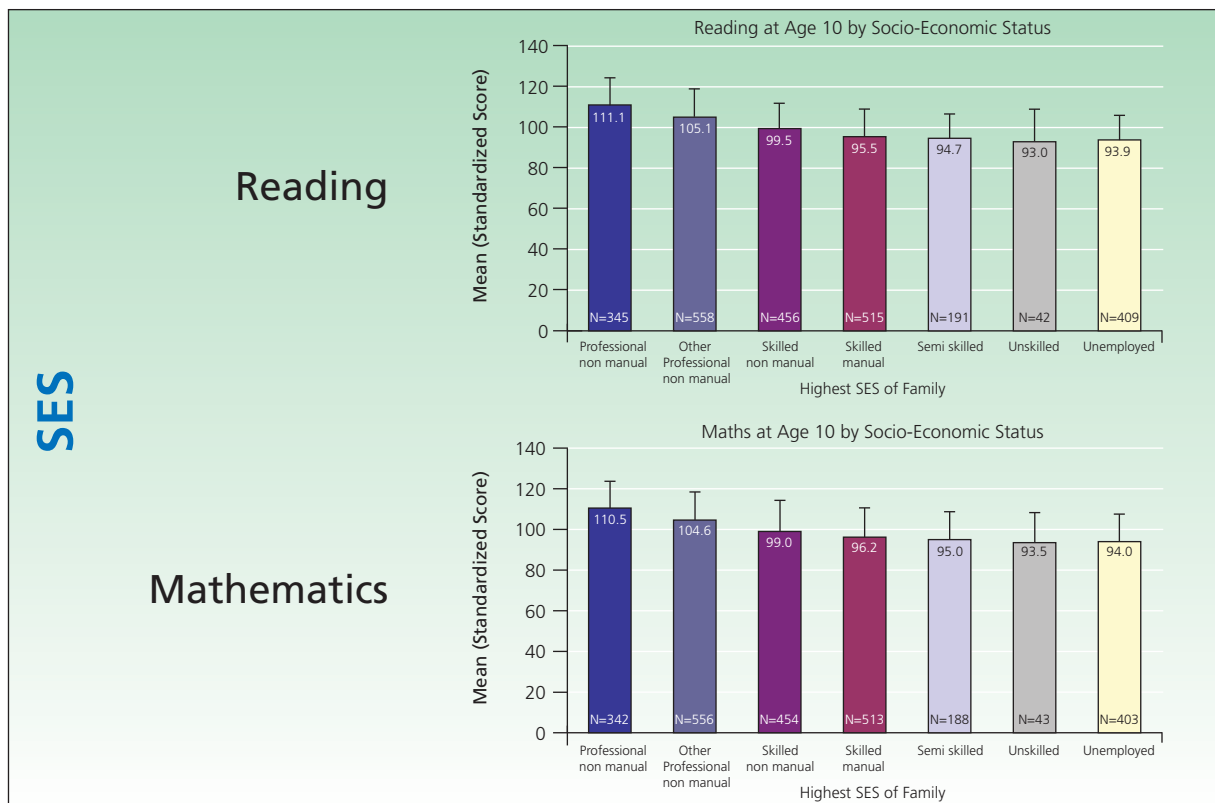
Children also show a very similar pattern of ‘raw’ attainment in Mathematics related to the mother tongue, and the attainment gap is almost as strong as for Reading (Means: EAL = 94.1, non EAL = 100.6, EAL support needed = 87.6, No EAL support needed = 100.8).

The differences in average attainment are illustrated in Figure 1.A.2

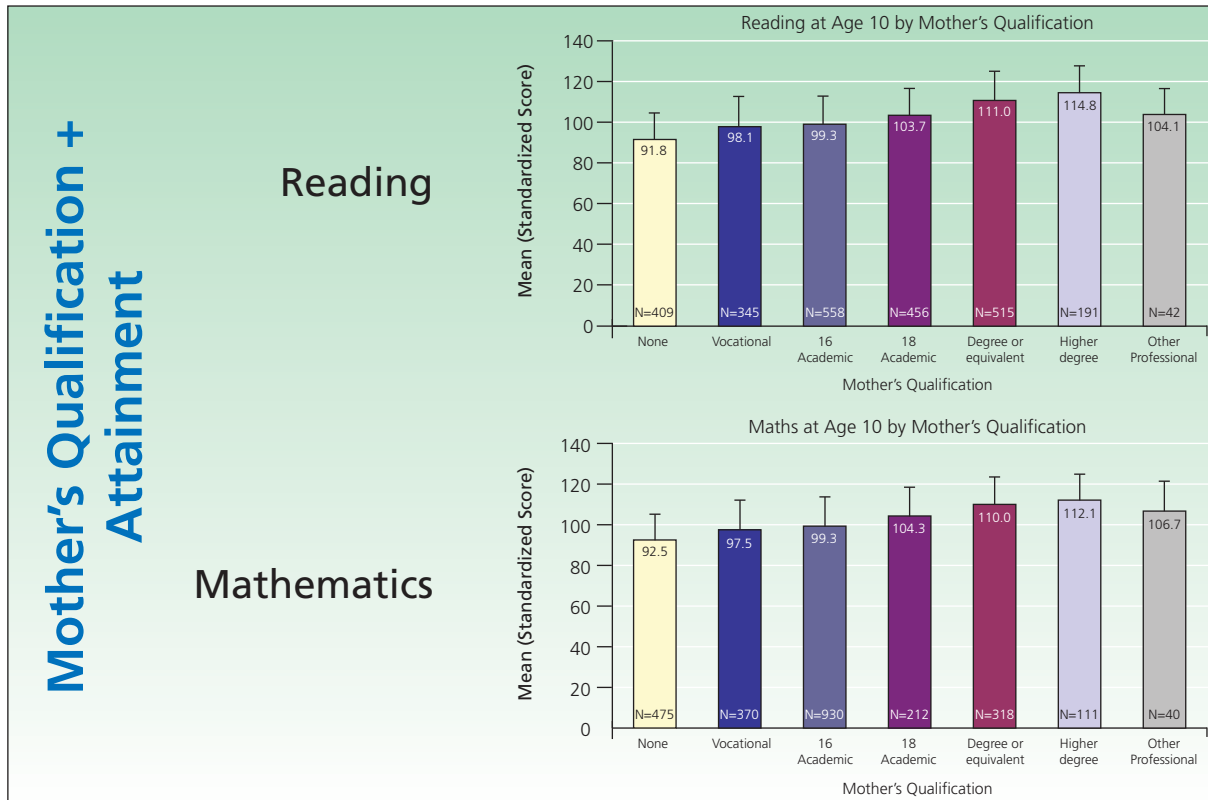
## Socio-economic status (SES)

Large attainment differences occur in Reading and Mathematics related to the socio-economic status of the family. Children whose parents are in high SES (professional) employment having the highest average scores, while children whose parents are unemployed or unskilled have the lowest scores (see Figure 1.A.3). Again these differences do not control for any other factors (e.g. qualification level of the parents).

**Figure 1.A.3: Cognitive attainment at age 10 by Family SES**



**Figure 1.A.4: Cognitive attainment at age 10 by mother’s qualification**



**Parent’s qualification**

We also find large ‘raw’ attainment gaps related to mother’s and father’s education. Children whose mothers have a higher degree show an average Reading score of 114.8 and an average Mathematics score of 112.1. Children of mothers with a degree are also far above average (Reading = 111.0, Mathematics = 110.0). The lowest attainment is seen for children whose mothers have no qualification (Means: Reading = 91.8, Mathematics = 92.5). The analysis of ‘raw’ attainment by father’s qualification produces the same pattern of results, although the pattern is slightly less distinct. Figure 1.A.4 shows cognitive attainment by mother’s qualification.

**Free school meals (FSM)**

A child’s eligibility for free school meals (FSM) in Year 5 was used as an income indicator. There is a marked difference in average attainment (‘raw’) scores according to whether children were or were not eligible for FSM. The mean of FSM children is 91.6 in Reading and 92.4 in Mathematics. The means of children who are not eligible for FSM are 102.0 (Reading) and 101.8 (Mathematics).

**Special educational needs (SEN)**

As might be expected, children identified by schools as having at least one SEN in Year 5 or earlier show significantly lower average attainment in Reading (M = 89.2 versus 104.2) and Mathematics (M = 89.3 versus 104.1).

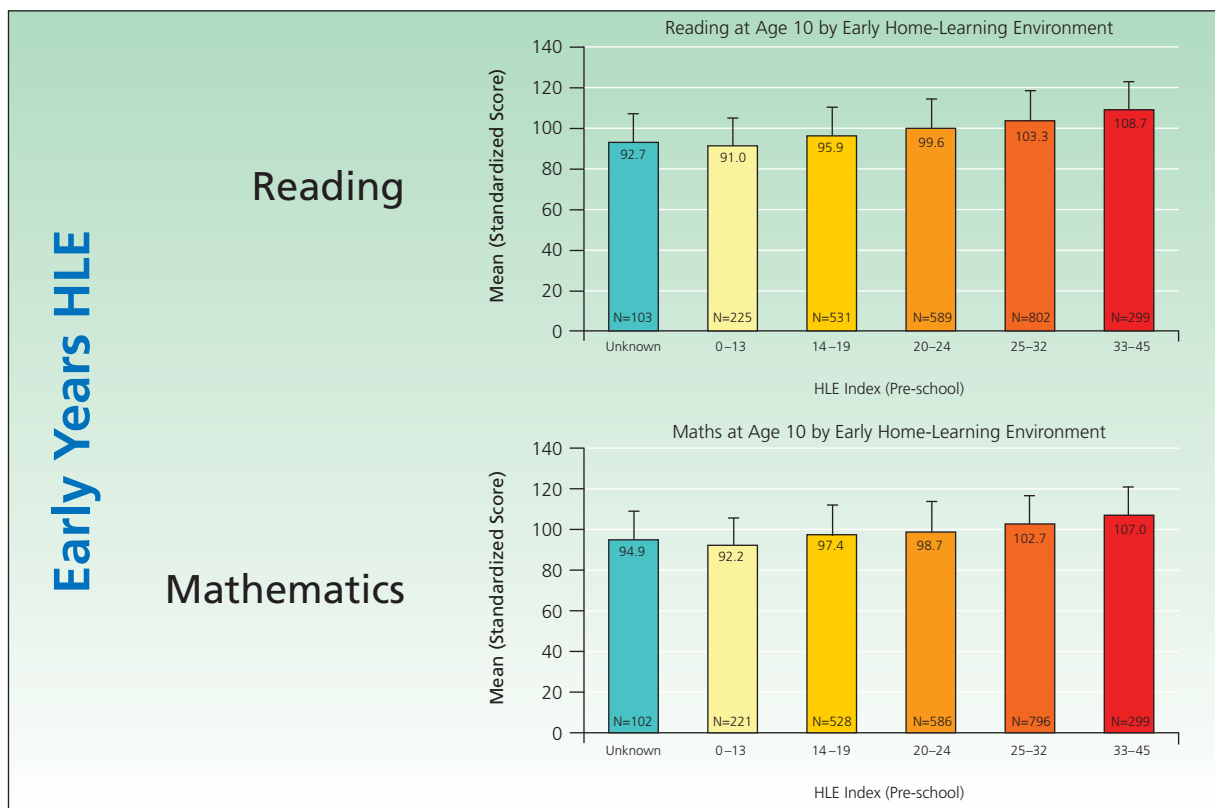
## Multiple Disadvantage

Multiple disadvantage (measured by an index combining poor child, family and HLE characteristics outlined in Appendix 3) shows a strong relationship with average cognitive attainment. Children with no disadvantage had average scores of 105.2 (Reading) and 105.6 (Mathematics). In contrast children with four or more disadvantages had average scores of 90.2 (Reading) and 91.7 (Mathematics).

## Early years home learning environment (HLE)

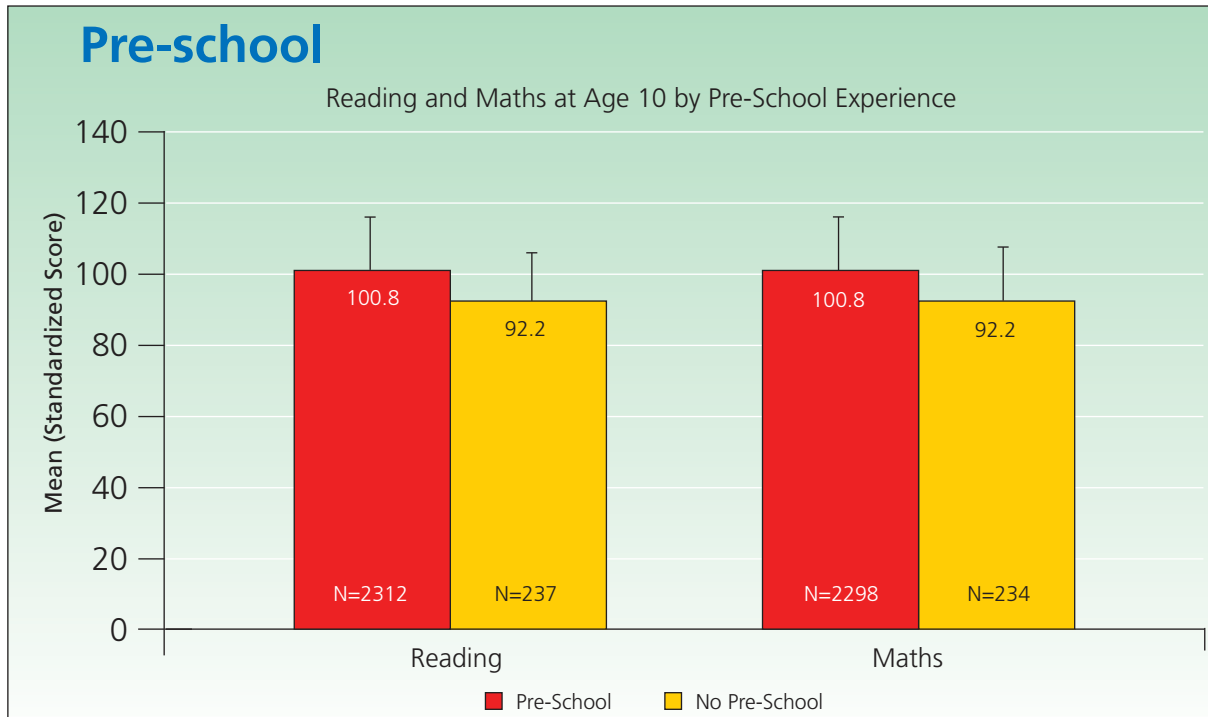
The early years HLE index still shows a strong linear relationship with cognitive attainment, even in Year 5. The better the HLE during the early years, the better the 'raw' attainment at age 10 years (see Figure 1.A.5).

**Figure 1.A.5: Cognitive attainment at age 10 by early home learning environment (HLE)**



## Pre-school

Children who attended pre-school have significantly higher scores than children who did not, in Reading as well as in Mathematics (see Figure 1.A.6). The 'raw' benefit of pre-school appears to be higher for children who have no disadvantage (according to the multiple disadvantage index) than those with a number of disadvantages. Due to the different characteristics of the 'home' group (who did not attend pre-school) further analyses are required to separate pre-school effects, as discussed in the next sub section.

**Figure 1.A.6: Average cognitive attainment at age 10 by pre-school attendance**

So far, differences in attainment at the age of 10 years have been considered regardless of other factors. We used multilevel modeling to quantify the 'net' effects of relevant child, family factors, and HLE as well as pre- and primary school on cognitive attainments. Results are presented as effect sizes (ES) which are comparable over different models (in contrast to significance levels which are highly dependent on sample and sub-group sizes). The larger the ES, the stronger is the influence on attainment. The 'net' effects provide a much better guide to the influence and importance of different factors. They are necessary to identify the unique contribution of pre-school and the extent to which key demographic factors account for attainment differences between particular groups (e.g. the ethnic differences in attainment, illustrated earlier in this section, are attributable to the influence of differences in SES, income or parent education).

### 1.A.1.3 The net impact of child, family factors and HLE characteristics on cognitive attainment

For attainment in Reading and Mathematics a number of child, family factors and home learning environment (HLE) characteristics remain statistically significant even after controlling for the effect of all the other predictors. Some of the predictors (like SES or FSM) are relevant for both outcomes whereas some predictors have a significant net impact on Reading but not on Mathematics and vice versa.

#### Reading at age 10: Factors with significant 'net' effect

Examining the child factors, we find that gender, birth weight, ethnicity, the number of siblings, the need of EAL support and early developmental problems remain in the model.

- Girls are doing better than boys (ES = 0.10).

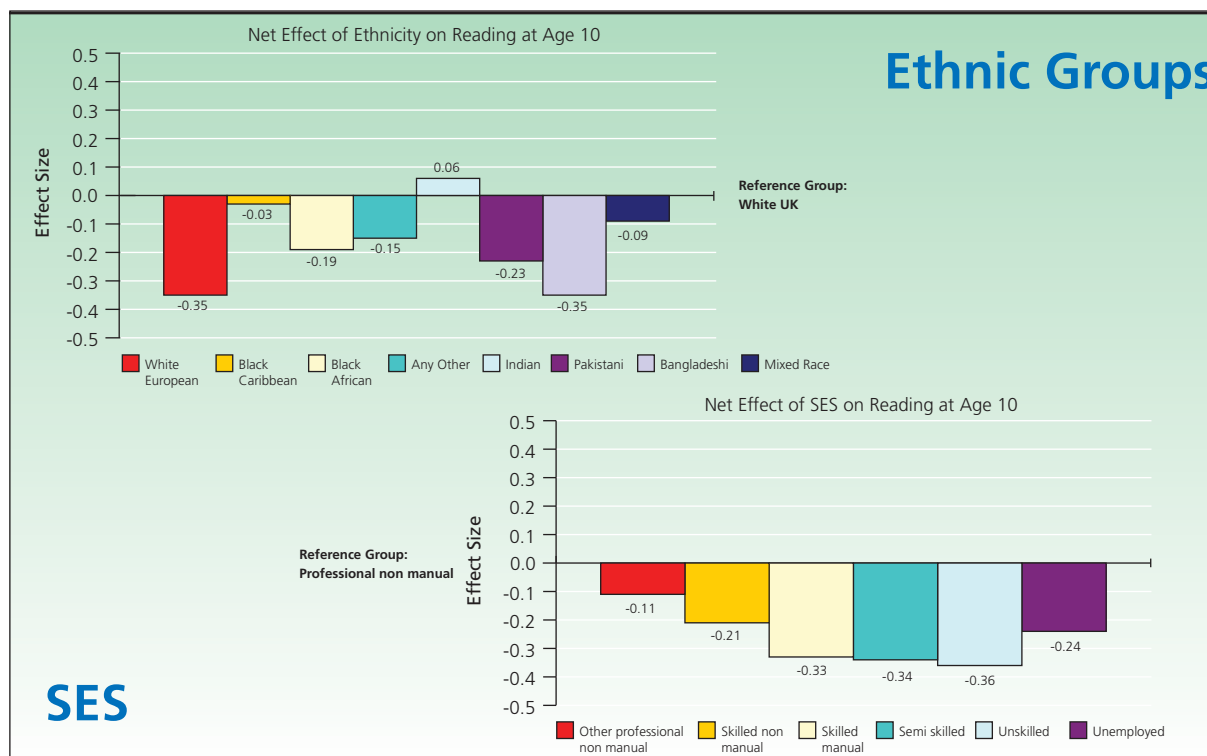
- Children with normal birth weight show better attainment than children with very low birth weight (ES = 0.40).
- White UK children have higher attainment than some minority groups (ES = -0.35 for Bangladeshi and White European children, see Figure 1.A.7 for further effect sizes).
- Children with three or more siblings show lower attainment than singletons (ES = -0.21).
- Children who need EAL support at the age of 10 have lower attainment than those who do not need EAL support (ES = -0.37).
- Children who had early developmental problems have lower scores than those who had none (one developmental problem: ES = -0.17, more than one developmental problem: ES = -0.42).

The following family factors have a significant net effect on Reading attainment: socio-economic status (SES), parents' qualifications, eligibility for FSM and family's salary.

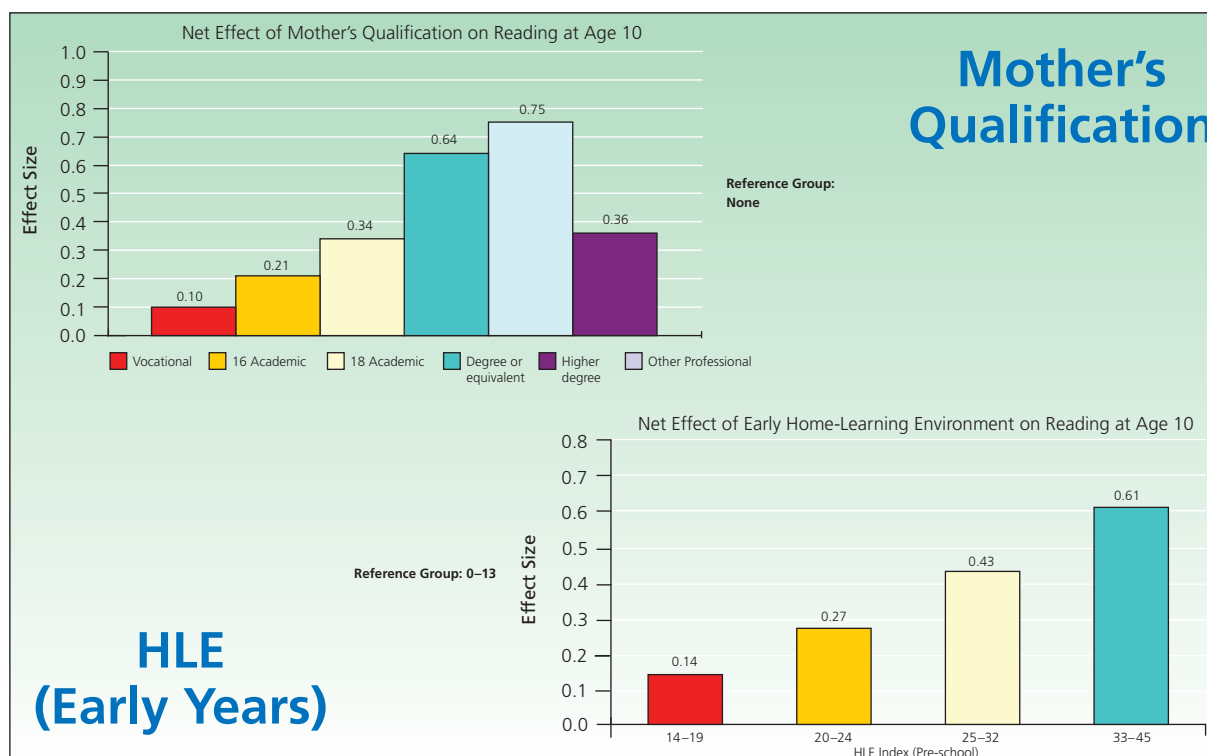
- Children of families with lower SES are doing worse than children of high SES families (ES = -0.36 for *unskilled* compared to *professional non manual*, see Figure 1.A.7 for details on other SES groups).
- Children of better qualified parents are showing better Reading attainment than children of parents with no qualification (ES = 0.64 for *degree* versus *no qualification*, see Figure 1.A.8 for details on other qualification levels). Note that mother's qualification has a stronger effect than father's qualification.
- Children who are eligible for FSM at age 10 are doing worse than children not eligible for FSM (ES = -0.27).
- Children whose parents earn more than £67, 000 per annum have better scores than children whose parents have no salary (ES = 0.27).
- The early years HLE has an additional strong positive effect on Reading outcomes at age 10 (ES = 0.61 for highest HLE category compared with the lowest, further effect sizes can be found in Figure 1.A.8).



**Figure 1.A.7: Net effect of Ethnicity and SES on Reading outcomes at age 10**



**Figure 1.A.8: Net effect of mother’s qualification and early years HLE on Reading outcomes at age 10**



## Mathematics at age 10: Factors with significant 'net' effect

Several child characteristics have a significant net effect on attainment in Mathematics at age 10: birth weight, ethnicity, the need of EAL support and early health problems<sup>3</sup>.

- Children with normal birth weight show better attainment than children with very low birth weight (ES = 0.42).
- Indian children are doing better than White UK children (ES = 0.39), other minority groups show slightly lower scores (see Figure 1.A.9 for effect sizes).
- Children who need EAL support at the age of 10 are showing lower performance than those who do not need EAL support (ES = - 0.51). It is particularly interesting that the net effect of EAL support is stronger for outcomes in Mathematics than for outcomes in Reading. This may be because EAL support is targeted at Reading but less often at Mathematics.
- Children who had three or more early health problems have lower scores than those who had none (ES = -0.45).

Looking at the family factors we find the same key factors have a significant net effect on attainment in Mathematics: socio-economic status (SES), parents' qualifications, eligibility for FSM and family's salary.

- Children of families with lower SES are doing worse than children of high SES families (ES = -0.27 for "unskilled" compared to "Professional non manual", see Figure 1.A.9 for further details)
- Children of better qualified parents are showing higher attainment in Mathematics than children of parents with no qualification (ES = 0.54 for mother's qualification = *degree* versus *no qualification*, see Figure 1.A.10 for details on effect sizes for other qualification levels). Mother's qualification also has a stronger effect than father's qualification for Mathematics.
- Children who are eligible for FSM at Year 5 have lower scores than children not eligible for FSM (ES = -0.22).
- Children whose parents have higher salaries have better scores than children whose parents have no salary. Effect sizes are in the range between 0.20 and 0.30 for different salary groups between £17,500 and more than £67,500.
- The early years HLE again has an additional strong positive effect on attainment in Mathematics at age 10 (ES = 0.57 for the highest versus the lowest HLE-category). Figure 1.A.10 shows details on the effect sizes for other HLE levels.

3 Gender is not found to be a significant predictor of Mathematics at age 10 years after controlling for the frequency the child is involved in computing activities. The gender effect appears to be mediated by greater involvement in computing activities at home during Key Stage 1 as boys are showing higher attainment scores but are also doing more computing. It is not possible to say with certainty that greater use of computers (reported by parents in a questionnaire survey) leads to improved Mathematics results for boys but the significant difference in computer use deserves further investigation.

Figure 1.A.9: Net effect of Ethnicity and SES on Mathematics outcomes at age 10

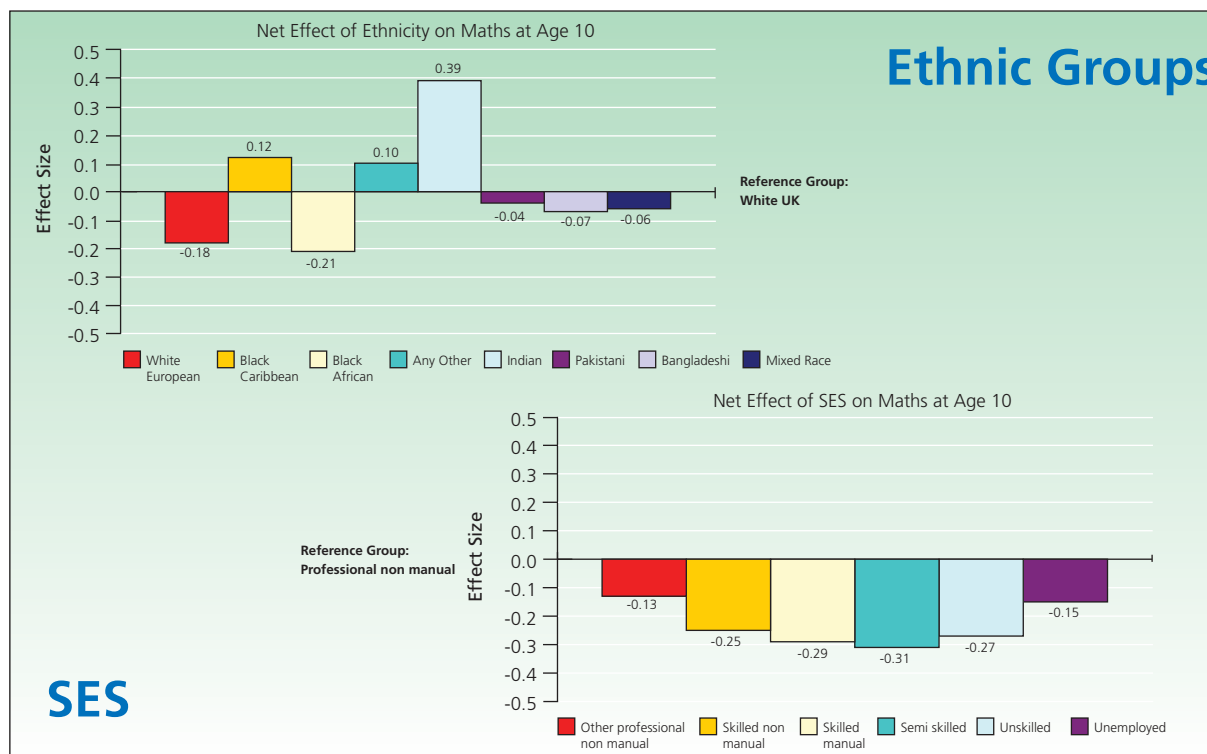
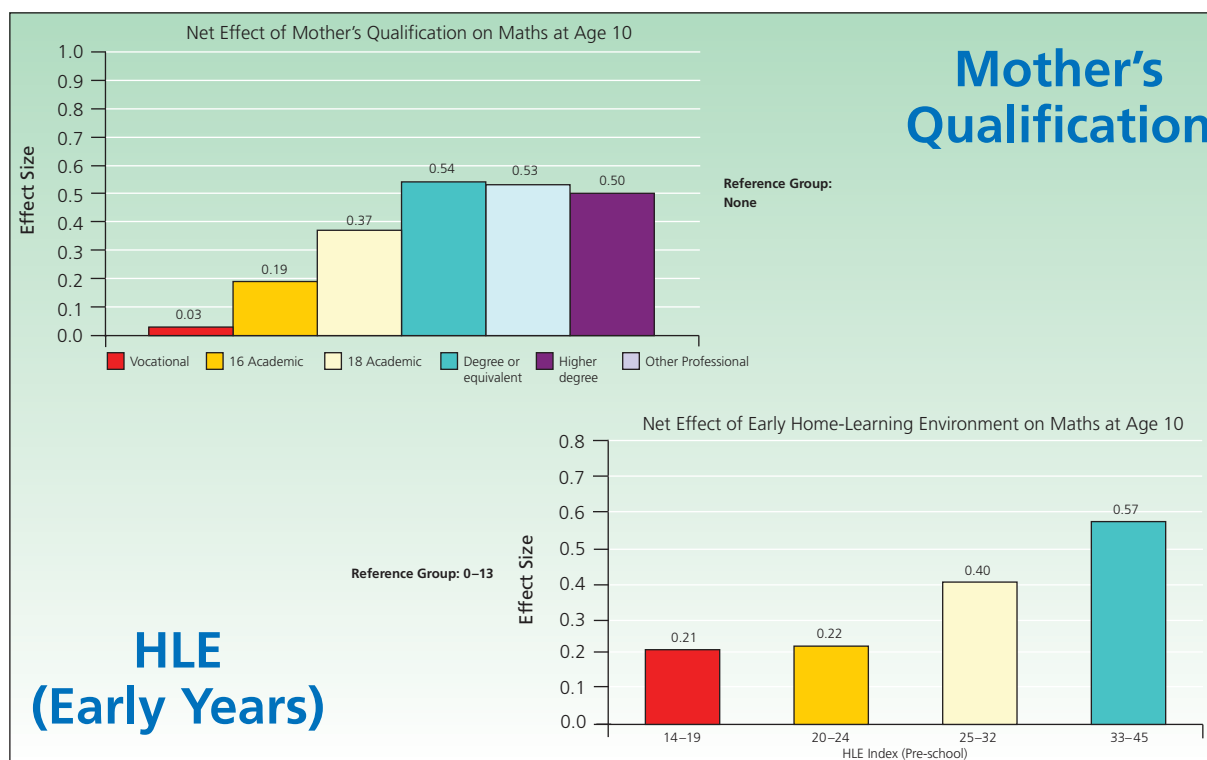


Figure 1.A.10: Net effect of mother’s qualification and early years HLE on Mathematics outcomes at age 10



### 1.A.1.4 The net impact of pre- and primary school on cognitive outcomes

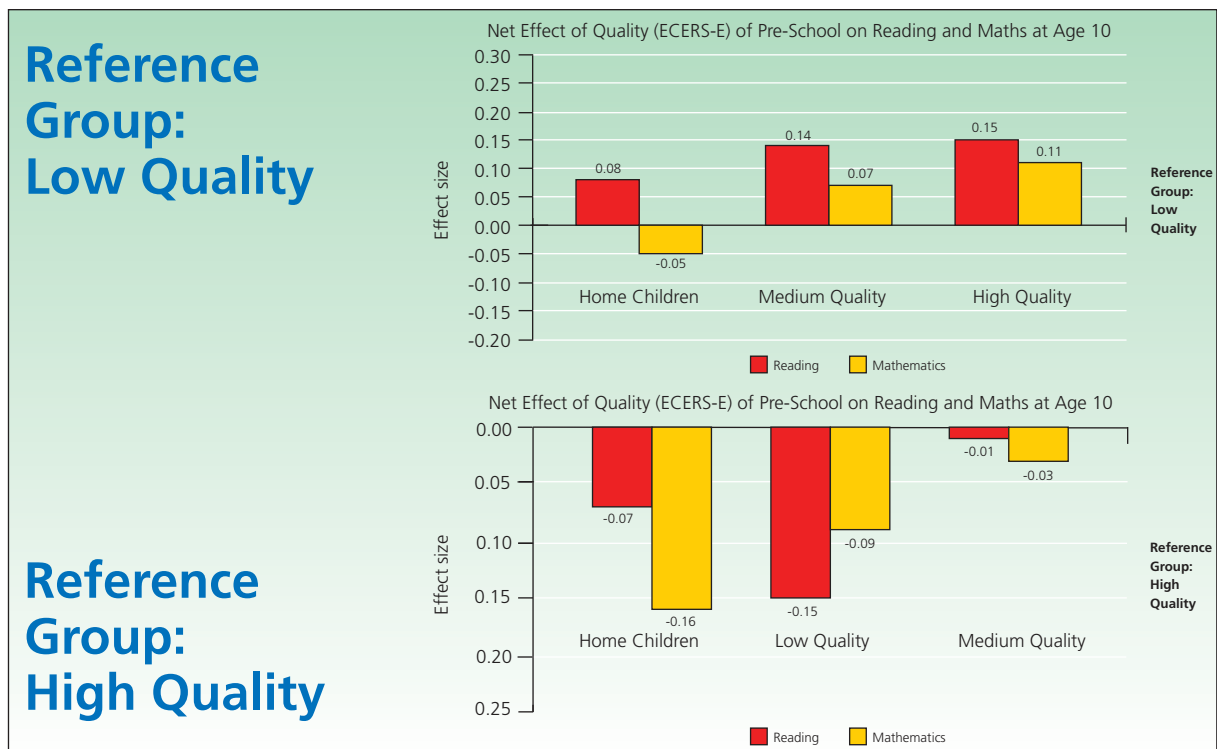
After controlling for the impact of child, family and HLE characteristics in the statistical models, pre- and primary school characteristics were considered as potential influencing factors on attainment. It should be noted that in earlier analyses pre-school was shown to have a significant positive impact on both cognitive attainment and social/behavioural development, with the strongest effects evident when children start school and the combination of high quality and longer duration of pre-school being particularly positive. These analyses therefore sought to establish whether pre-school still shows any continued impact on children’s attainment at age 10, after five years full time in primary school.

#### The effect of pre-school

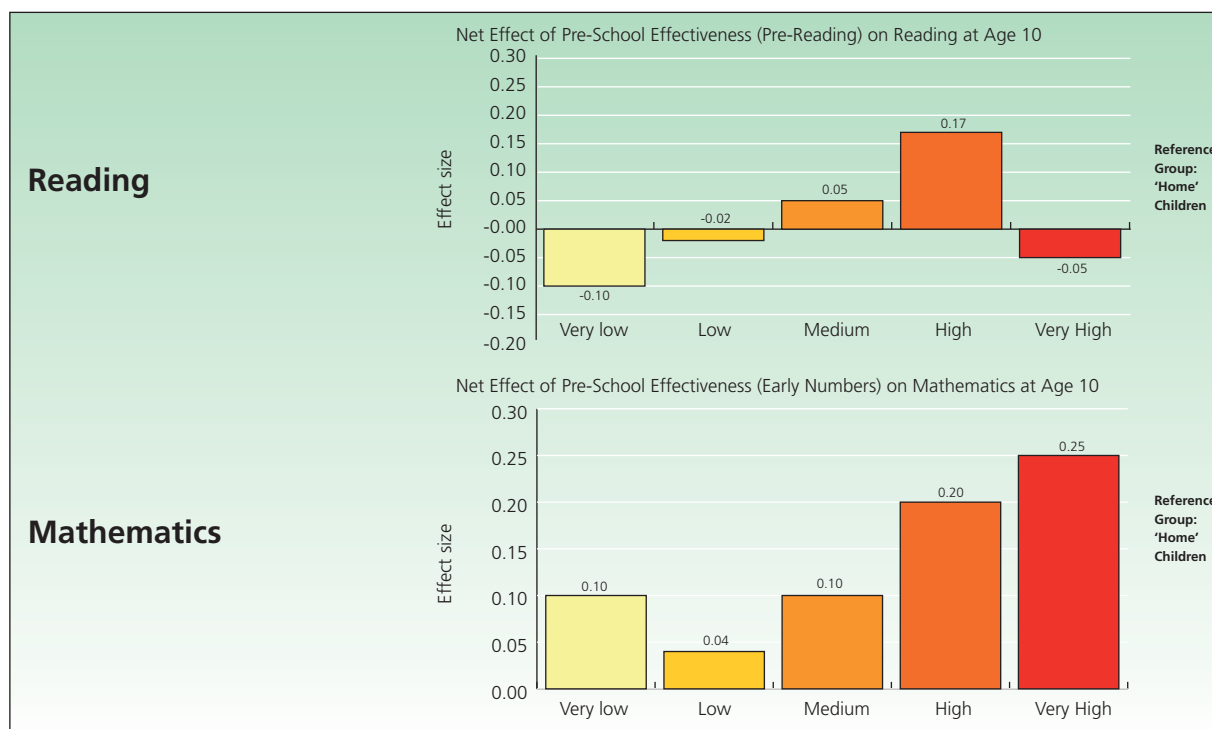
At age 10, there are no longer significant net effects on attainment in Reading and Mathematics for the most basic indicator: attendance at a pre-school centre compared to no pre-school. In addition, no significant differences were found in relation to type of pre-school attended or duration (in months of attendance) of pre-school.

With respect to the simple comparison of children who attended a pre-school to those who did not (regardless of duration, type or quality) effect sizes of 0.05 for Reading and 0.12 for Mathematics are found. However, it should be noted that the effect with a size of 0.12 would probably be statistically significant with a larger sample size (bearing in mind the relatively small number of children who did not go to pre-school).

Figure 1.A.11: The impact of quality of pre-schools on cognitive outcomes at age 10



**Figure 1.A.12: The impact of pre-school effectiveness on cognitive outcomes at age 10**



**The impact of pre-school quality and pre-school effectiveness**

Significant effects are still found for indicators of both the quality and effectiveness of pre-school (see Figures 1.A.11 and 1.A.12). Children who had attended a pre-school setting of high quality (assessed by ECERS-E) showed better attainment than children who attended a low quality pre-school. Children who attended a more effective pre-school setting (effectiveness is a derived measure from multilevel value added models of progress) also show significantly better attainment than children who had attended no or only a low effective pre-school setting.

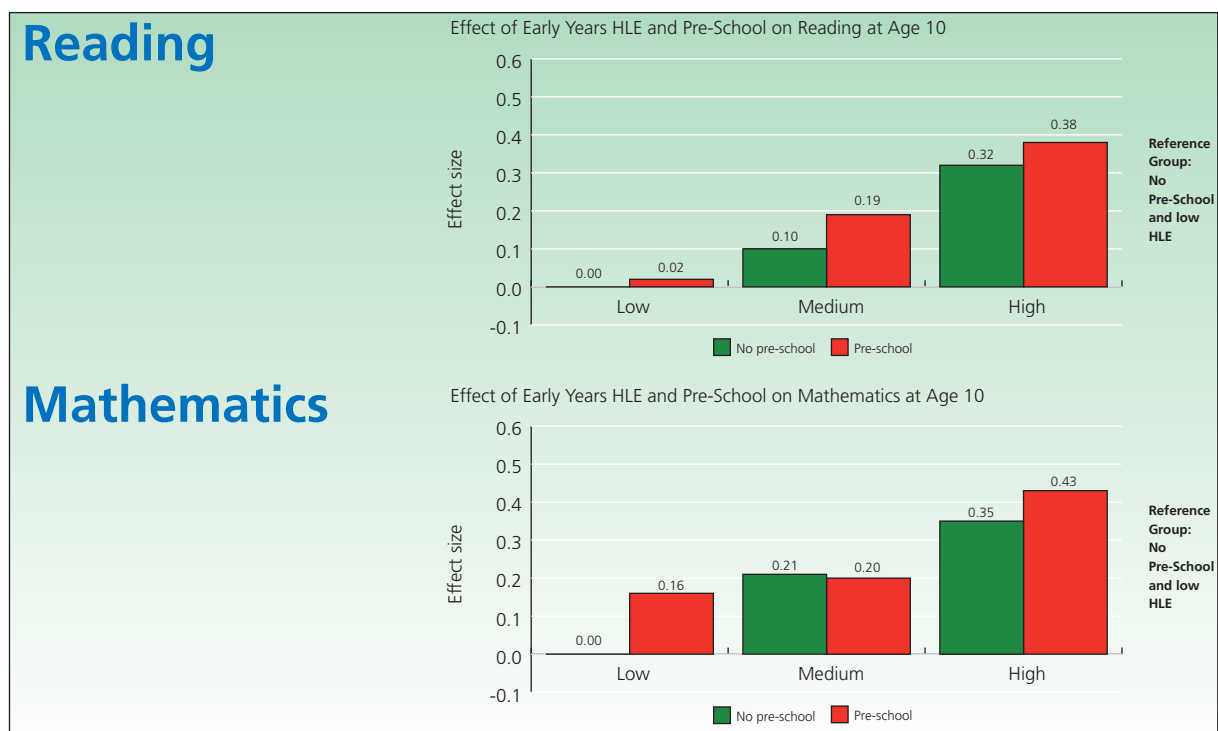
Effects are stronger for Mathematics than for Reading. For Mathematics, even medium effective medium quality pre-schools give a child a certain boost to attainment at age 10, whereas for Reading pre-schools had to be highly effective or of high quality to show a continued effect. The relationships between the effectiveness of pre-school attended and later Reading attainment is not completely consistent because there is no significant effect for the most effective pre-schools (as measured by their earlier influence of Pre-reading) as can be seen in Figure 1.A.12. Further analyses suggest that this is likely to be due to the fact, that high early years HLE is under-represented in the group of children who went to the most effective pre-schools and there is an interaction between the impact of early years HLE and the impact of pre-school effectiveness on attainment in Reading that will be explored further in the next section.

### The combined impact of pre-school and early years home learning environment (HLE)

The early years HLE has been shown to have a strong and long lasting effect on children’s later cognitive attainments in primary school. In addition, high quality pre-school has also been found to have a long lasting effect on children’s later cognitive outcomes. The following analysis investigates the combined effect of the early years HLE and pre-school. For this analysis the HLE index was re-grouped into three categories representing low, medium and high HLE.

Figure 1.A.13 shows the combined effect of early years HLE and pre-school attendance (yes/no). The green columns represent the ‘home’ children, the reference group for these analyses is “no pre-school and low HLE”. The increase in effect sizes in the green columns therefore shows the positive effect of a good early years HLE for the ‘home’ children. We further see for Reading, that children with medium and high HLE tend to benefit from attending any pre-school, whereas children with low HLE do not show the same benefit. For Mathematics early years HLE has a strong impact on attainment, however in this case children with low early years HLE get the strongest boost from attending pre-school (ES = 0.16). For children with medium early years HLE, pre-school attendance does not seem to make any difference (ES = 0.20 versus 0.21), but high early years HLE children not only get a boost through HLE, but also an additional effect from pre-school.

**Figure 1.A.13: The combined impact of early years HLE and pre-school**



Further analyses were conducted investigating not just pre-school attendance but also the quality of the pre-school centre attended. This gives further insight into the way early years HLE and pre-school interact in influencing children’s cognitive attainments in the longer term (see Figure 1.A.14). The reference group in these analyses is again the “no pre-school and low HLE” group.

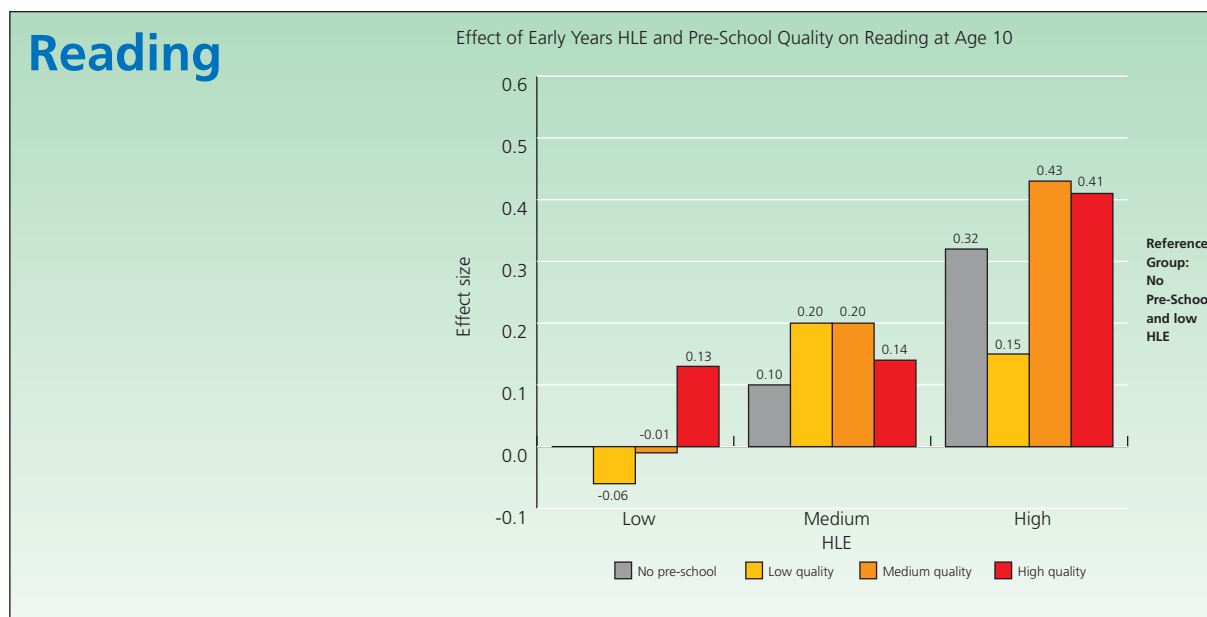
Figure 1.A.14 shows the chart for Reading and illustrates that children with low early years HLE gain an extra advantage from a *high quality* pre-school (ES = 0.13), but not from *low* and *medium quality* pre-schools. Children with medium early years HLE tend to have an additional benefit of attending pre-school, though the effect for the *high quality* group is smaller than for the low and *medium quality*. (This might be due to the small sample size in this group).

Children who have high early years HLE and went to a medium or high quality pre-school are found to have the strongest positive long term benefit in Reading at age 10. 'Home' children also benefit particularly from high early years HLE and interestingly, they show higher Reading attainment than high HLE children who went to low quality pre-schools (note however that children who went to low quality pre-school with high early years HLE are still doing better than children who went to low quality pre-school and have low or medium HLE). These findings underline again the importance of the quality of the pre-school for Reading.

For Mathematics the pattern of results is not as consistent but is still encouraging. We find, that children with low early years HLE are doing best at age 10 if they attended a high quality pre-school (ES = 0.28 compared to *low HLE and no pre-school*). Children with high early years HLE benefit from medium and high quality pre-school. Children with medium HLE show only a small long term effect of pre-school irrespective of the quality. But high HLE children show greater benefit from both medium quality and high quality pre-school.

These results support the view that only medium and high quality pre-school shows sustained benefits on attainment at age 10 years. Moreover, the benefits of pre-school are mediated by the quality of early years HLE experienced by children.

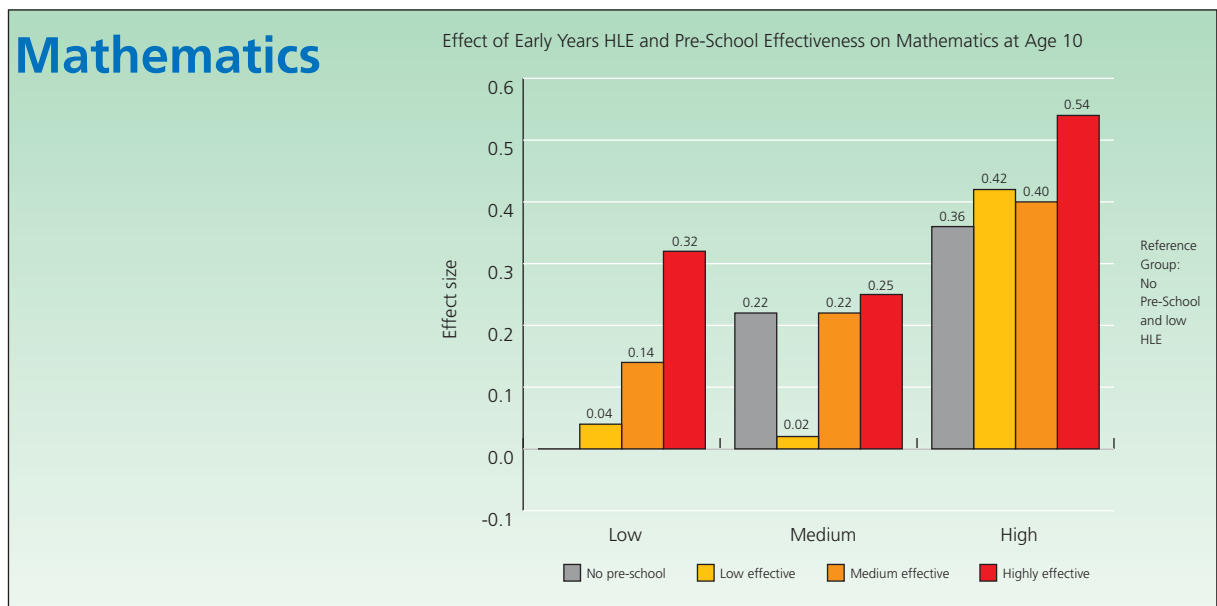
**Figure 1.A.14: The combined impact of early years HLE and quality of pre-school**



We also investigated the issue of differential pre-school effects by early years HLE and pre-school effectiveness. The results show the strongest and most consistent pattern for Mathematics and are illustrated in Figure 1.A.15. Children with a low early years HLE obtain most advantage from attending pre-schools that were highly effective in promoting earlier progress in Early number concepts (ES = 0.32 for highly effective pre-schools, ES = 0.14 for medium effective pre-schools). For children with medium early years HLE it seems that a medium or highly effective pre-school does not make much difference compared with staying at home, but children who went to a low quality pre-school have similar attainments as children who did not go to pre-school and had low early years HLE. The children who show the best attainment are those children who had high early years HLE and went to highly effective pre-schools. These children not only benefit from their own high HLE but get an additional strong boost from attending a more effective pre-school.

For Reading, results are not as distinct but still a fascinating interaction effect was found: children with low early years HLE do not show substantial long term benefit from pre-school irrespective of the effectiveness of their pre-school. By contrast, children with medium early years HLE show a long lasting positive effect from attending both medium and highly effective pre-schools. High HLE (early years) children who went to highly effective pre-schools are doing best and show a substantial long term effect of pre-school on Reading at age 10 years.

**Figure 1.A.15: The combined impact of early years HLE and effectiveness of pre-school**



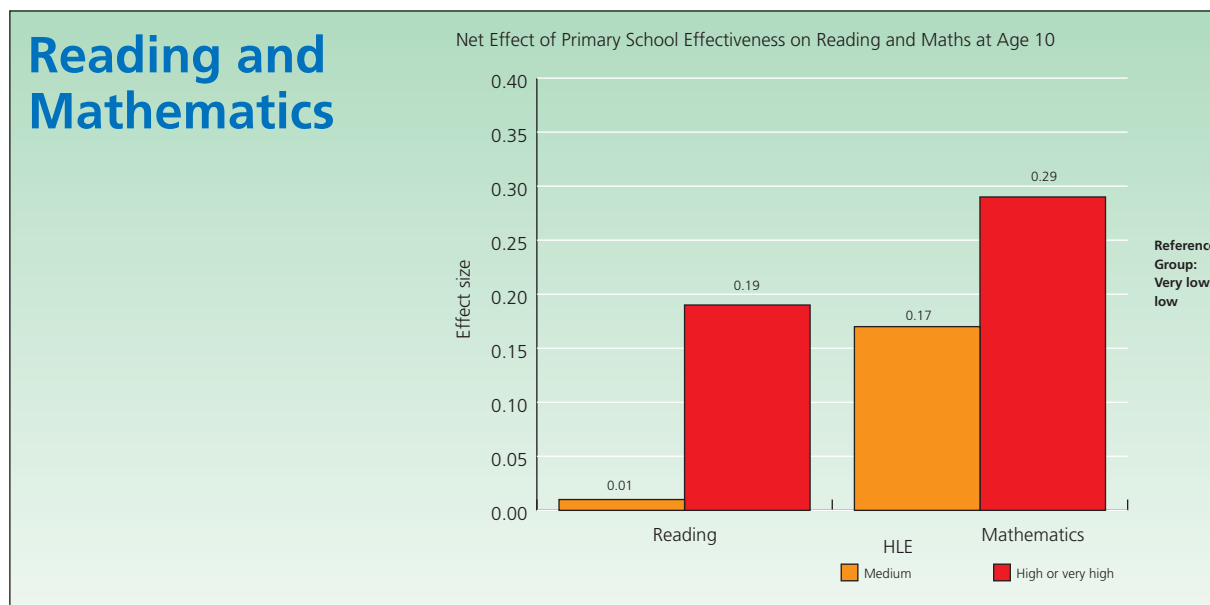


## The Influence of Primary School Effectiveness

The analyses to investigate the net impact of primary school effectiveness on cognitive outcomes were conducted in the first instance without taking into account any characteristics of pre-school experience (but all the other relevant background, home learning and child characteristics). The value added effectiveness measures for primary schools were calculated using National assessment data sets for all primary schools in England linking KS1 and KS2 results, and separate indicators were calculated for the different core curriculum subjects English, Mathematics and Science (Melhuish et al., 2006a). These measures are thus independently derived and provide a measure of the success of the primary school in promoting its pupils' academic progress. The school's value added effectiveness in English was modelled as a potential predictor for children's Reading outcomes, in Year 5, and the school's value added effectiveness in Mathematics as a potential predictor for outcomes in Mathematics. From these analyses we conclude that the academic effectiveness of the primary school matters for longer term cognitive development (see Figure 1.A.16). It makes an identifiable and separate contribution to later attainment at age 10, after controlling for child, family and HLE influences.

- Children who attend a very highly, highly or medium effective primary school in Mathematics have significantly better attainment in Mathematics assessments than children who attend a low effective primary school (net effects).
- Children who attend a very highly or highly effective primary school in Reading have better Reading attainment at the age of 10 than children who attend a low effective primary school (net effects).

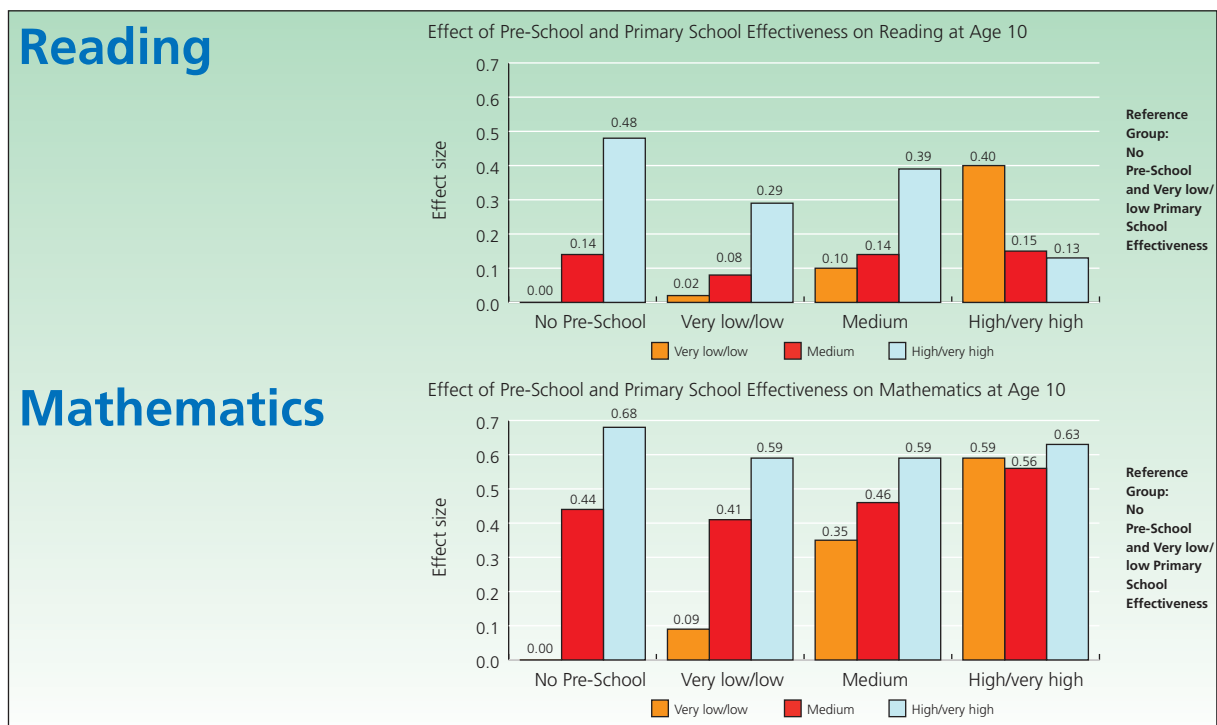
**Figure 1.A.16: The impact of primary school effectiveness on cognitive outcomes at age 10**



## The combined impact of separate pre-school and primary school effectiveness

In addition to the analyses of the impact of pre- and primary school academic effectiveness, these two measures were incorporated in the same model so that the combined effects could be studied. We sought to establish whether going to a more effective pre-school had a protective impact if a child went on to a less effective primary school, and whether ‘home’ children or those who went to a less effective pre-school did better later if they went to a more effective primary school. Results for Reading and Mathematics are presented in Figure 1.A.17. The reference group for these analyses are children with no pre-school experience who attended a low effective primary school.

**Figure 1.A.17: The combined impact of pre- and primary school effectiveness on cognitive outcomes at age 10.**



In Figure 1.A.17 for Reading we show that:

- Children who did not attend pre-school benefit especially if they go to a highly effective primary school.
- Children who attended a very low, low or medium effective pre-school benefit a lot from the effectiveness of the primary school in English, but there is an additive effect, e.g. children who attended a highly effective primary school and a medium effective pre-school are still showing higher attainment than children who attended a highly effective primary school and a low effective pre-school.
- For the group of children who attended a highly effective pre-school the additional impact of primary school effectiveness seems to be odd, because the “low” group shows the highest attainment but this result may reflect small group numbers.

In Figure 1.A.17 for Mathematics we see stronger effects and the pattern is clearer and more consistent:

- Children who attended no pre-school, a low or medium effective pre-school, benefit especially from the effectiveness of the primary school in Mathematics.
- But children who already attended a highly effective pre-school, show high attainment (compared to children who stayed at home and went to a low effective primary school) almost no matter what the effectiveness of the primary school is. This shows clearly the preventive effect of attending a highly effective pre-school.

The patterns in Figure 1.A.17 are particularly important for the medium effective primary school group (as this can be viewed as more typically representative for the majority of children). In all cases the reference group is no pre-school experience and low effective primary school.

### **The combined impact of pre-school quality and primary school effectiveness**

We also analysed simultaneously the effects of pre-school quality (ECERS-E scores) and primary school effectiveness to explore whether going to a higher quality pre-school had a protective function if a child went to a less effective primary school later on. In addition to the analyses described in the previous section we sought to establish whether children who did not go to pre-school or went to a low quality pre-school benefited more from the effectiveness of the primary school. Results for Reading and Mathematics are shown in Figure 1.A.18. Due to smaller numbers, medium and highly effective primary schools were grouped together. In both cases (Reading and Mathematics) the reference group is no-pre-school and low effective primary school.

In Figure 1.A.18 for Reading we see:

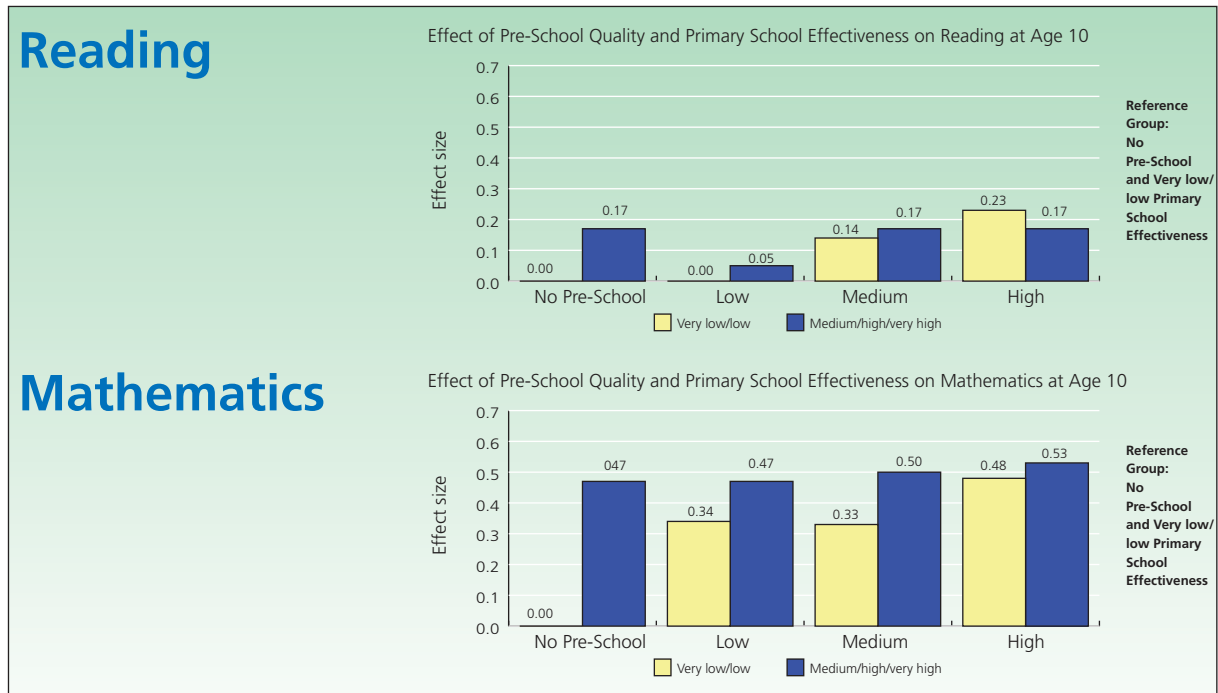
- Children who did not attend pre-school benefit especially if they go to a medium/highly effective primary school.
- Children who attended a low quality pre-school show only a small benefit from a medium or highly effective primary school.
- For the children who attended a medium or high quality pre-school and a medium/highly effective primary school, we see that, not only are they benefiting from the effectiveness of the primary school, but that the quality of the pre-school also had a positive effect (compared with low quality pre-school, this effect is most distinct).

In Figure 1.A.18 for Mathematics we see stronger effects, in line with earlier findings:

- Children who did not go to pre-school show a particularly strong benefit from attending a more academically effective primary school (compared to the other 'home' children who went to a low effective primary school).
- Children who went to a low or medium quality pre-school and a low effective primary school later on are still doing better than those children who did not go to pre-school and went to a low effective primary school.

- Children who went to a high quality pre-school are doing particularly well, even if they went to a low quality primary school later on (indicative of a protective effect).
- For children who went to a high quality pre-school and a medium/high effective primary school, we find an additive effect. These children are doing best controlling for the impact of all other background factors.

**Figure 1.A.18: The combined impact of pre-school quality and primary school effectiveness on cognitive outcomes at age 10**



## 1.A.2: The changing influence of child, family factors and HLE characteristics on attainment from aged 6 to aged 10 years

The same predictors were tested as potential influencing factors on cognitive outcomes at age 6 and age 10. Exploring the change of effect sizes at age 6 compared to age 10 helps to identify which groups of children have further improved or fallen behind in terms of their attainment during Key Stage 2 (compared to the average) between Year 1 and Year 5 of primary school. (Please see Appendix 4 for important issues on the measurement of academic progress in education).

Figures 1.A.19 and 1.A.20 summarize the extent of any change in effects. The presented effects are net effects. The results indicate that, for Reading more than Mathematics, the attainment gap related to qualifications, socio-economic status (SES) and income (measured by FSM) has further increased.

**Figure 1.A.19: The impact of child, family factors and early years HLE on Reading attainment at age 10 compared to age 6**

<b>Reading: Effect Sizes – Age 10 compared to Age 6</b>		
	<b>Effect is now ...</b>	<b>Description</b>
<b>Gender</b>	same	Girls show higher attainment in both years.
<b>Birthweight</b>	weaker	Effect of birthweight has decreased.
<b>Ethnic groups</b>	stronger	Some minority groups have fallen further behind.
<b>Number of siblings</b>	slightly weaker	Effect of number of siblings has slightly decreased.
<b>Need of EAL support</b>	weaker	Effect of need of EAL support has decreased.
<b>Developmental problems</b>	stronger	Effect of early developmental problems has increased.
<b>Parents qualification</b>	stronger	Children of less well educated parents have fallen further behind.
<b>SES</b>	slightly stronger	Gap between children of families with different SES has slightly further increased.
<b>FSM</b>	stronger	Gap between children eligible for FSM and not eligible for FSM has increased.
<b>Early years HLE</b>	same	The Early Years HLE shows a continuing strong positive effect on attainment.

**Figure 1.A.20: The impact of child, family factors and early years HLE on Mathematics attainment at age 10 compared to age 6**

<b>Maths: Effect Sizes – Age 10 compared to Age 6</b>		
	<b>Effect is now ...</b>	<b>Description</b>
<b>Gender</b>	reversed	Boys show higher attainment than girls now.
<b>Birthweight</b>	weaker	Effect of birthweight has decreased.
<b>Ethnic groups</b>	pattern changed	Some minority groups have fallen further behind, Indians have strongly increased.
<b>Early health problems</b>	slightly weaker	Effect of early health problems has slightly decreased.
<b>Need of EAL support</b>	same	Children who don't need EAL support have still higher scores than those with need.
<b>Developmental problems</b>	slightly weaker	Effect of early developmental problems has slightly decreased.
<b>Parents qualification</b>	stronger	Children of less well educated parents have fallen further behind.
<b>SES</b>	slightly weaker	Gap between children of families with different SES has slightly decreased.
<b>FSM</b>	slightly stronger	Gap between children eligible for FSM and not eligible for FSM has slightly increased.
<b>Early years HLE</b>	slightly weaker	The Early Years HLE still shows a strong positive effect on attainment, but slightly weaker than at Year 1.

## Which children make better cognitive progress? – Results of value added analyses

We conducted additional value added multilevel analyses to investigate which groups of children make greater progress (relative to the sample) between Year 1 and Year 5 of primary school. The findings are generally in line with those reported above in relation to changes in the attainment 'gap'.

All the reported effects in this section are net effects controlling for all other tested background influences.

### Reading

For Reading we find that children

- who are not eligible for FSM,
  - who have high qualified mothers,
  - who had a good HLE in their early years,
  - who go to highly effective primary schools
- made significantly better progress.

There are also indications that children who went to highly effective pre-schools made better progress than children who did not go to pre-school, although this just fails to reach statistical significance (between age 6 and 10 years) ( $p = 0.06$ ). We find also a weak tendency that children who attended a high quality pre-school made better progress over these four years than those who went to a low quality pre-school ( $p = 0.08$ ).

By contrast, children

- who had early developmental problems,
- who grow up in low SES families

show significantly less progress in Reading between Year 1 and 5 of primary school.

### Mathematics

For Mathematics the results indicate that children

- who are male,
  - who are Indian,
  - who have more highly qualified mothers and fathers,
  - who had a good HLE in their early years,
  - who go to highly effective primary schools
- made significantly better progress.

By contrast, children

- who still need EAL support at the age of 10 years,

- who grow up in low SES families made significantly less progress.

These findings are highly relevant to the focus of the Equalities Review because they indicate which sub-groups of children are most at risk of poor attainment and poor progress during their time in primary school.

## **1.B: Children's Social/Behavioural Outcomes in Year 5**

Data on the social/behavioural development of children in the EPPE sample were collected at the same time points as the cognitive measures, following children from age three years plus to the end of Key Stage 2. Previous EPPE Technical Papers have examined patterns of social/behavioural development from pre-school entry to the end of Key Stage 1 (age 7 years). Work on children's social/behavioural development during Key stage 2 is still in progress and a full report at the age of 10 years (Year 5) is due to be completed in Spring 2007. However, in this paper we will be presenting a number of select key findings relevant to the Equalities Review to provide a more complete picture of children's development during Key Stage 2.

Overall the social/behavioural analyses will address the following questions:

- How do child and family characteristics influence social/behavioural development at age 10?
- How does the early years HLE influence children's social behaviour at age 10?
- Is there evidence of a continuing effect of pre-school on children's social/behavioural development in primary school?
- How do pre-school and primary school influences affect social/behavioural development?
- Does pre-school attendance have a differential effect on particular sub-groups of children e.g. advantaged/disadvantaged?

The first section provides a brief description of the sample, the data and the method used to derive the social/behavioural measures. The second section presents differences in patterns of social/behavioural development at the end of Year 5 for different groups of children (e.g. in terms of characteristics such as gender, ethnicity, FSM status, etc). Absolute differences in average social/behavioural development levels will be presented alongside differences in 'net' impact (effect sizes) of different child and family predictors, showing the unique contribution of a predictor to a child's outcome once all other predictors are taken into account.

The third section examines the impact of pre- and primary school on children's social/behavioural development at age 10. In this section the net effects of pre-school effectiveness, pre-school quality and primary school effectiveness are first examined individually. We then look at the combined impact of pre-school quality and primary school effectiveness to establish the nature and pattern of educational influences on children's social/behavioural development at age 10.

The last section explores the differential effects of pre-school on different sub-groups of children. In particular, the differential effects of pre-school examined in relation to gender, FSM eligibility and early years HLE will be presented.

### **1.B2.1 Sources of data and sample**

In Years 5 class teachers completed an extended version of the Strengths and Difficulties Questionnaire (Goodman, 1997). This instrument consists of a wide range of items (56) rated on a 3-point scale: (1 = not true, 2 = somewhat true, 3 = certainly true)<sup>4</sup>.

Seven underlying factors were identified. Each of the seven factors derived represents an individual social/behavioural measure. In this report we will be focusing on two of the seven factors – Self-regulation and Hyperactivity. The factor scores produced by the analysis were normalized and used in further analyses. For the whole sample the average factor score is 100 with a standard deviation of 15 (see also Appendix 4 for details on normalization procedures, and Appendix 5 for more detailed description of the methodology).

Overall, higher mean scores indicate better behaviour for the factor Self-regulation. By contrast, lower mean scores indicate better behaviour (in terms of lower incidence reported by teacher ratings) for Hyperactivity. It should be noted that scores on all social/behavioural measures are skewed towards the more desirable end of the scale. This is especially important for Hyperactivity where raised scores indicating potential maladaptive hyperactive behaviour (using the cut-off point suggested by Goodman) are only evident for a small minority of children (6.1%).

As potential predictors the following measures are available and have been used in the multilevel models predicting Self-regulation and Hyperactivity:

- Child factors (e.g. gender, birth weight, number of siblings, early developmental problems, early behavioural problems, EAL, ethnicity)
- Family factors (e.g. SES, parent's qualification, family income, marital status)
- HLE in the early years before starting primary school
- Pre-school experience and pre-school characteristics (e.g. type, duration, quality, effectiveness)
- Primary school effectiveness (derived from value added analyses of pupil progress using National assessment data sets over three years).

4 A number of data reduction methods were applied to the data, and structural equation modelling was used to compare the different models derived. The best fitting model was a 7 factor solution with Promac rotation (RMSEA=0.6; CMIN=14635.647 with 1463 df).



Overall, 2,520 children of the EPPE 3-11 sample have valid Year 5 data for Self-regulation and Hyperactivity. Within this sample 51 per cent of children are male, 49 per cent are female; three quarters are of White UK heritage whereas a quarter are of other ethnic origins; ten per cent speak English as an additional language, but only 40 per cent of those (or only 4% in the total sample) require EAL support. Low SES is seen in 17 per cent of the sample, 47 per cent belong to the medium (skilled manual or skilled non manual) SES group and 36 per cent are of the high (professional) SES group.

In the next section we will be presenting differences in Self-regulating and Hyperactive behaviour for different groups of children. We shall examine the differences in 'raw' scores alongside differences in 'net' impact (effect sizes)<sup>5</sup>, showing the unique contribution of a given predictor to a child's outcome once all other predictors are taken into account. As we shall see due to the interrelationship between the different predictors some raw differences between sub-groups of children disappear and some become accentuated once the influences of other factors are partialled out.

## 1.B.2.2 The impact of different child and family characteristics on Self-regulation and Hyperactivity

### Gender

Table 1.B.1 provides descriptive statistics comparing boys and girls on social/behavioural development. There are marked 'raw' gender differences on both measures of social/behavioural development. Boys tend to show more Hyperactive behaviour (M = 104.7) than girls (M = 95.1) and girls tend to show more self-regulating behaviour (M = 101.8) than boys (M = 98.3). Differences between the genders are greater on the Hyperactivity scale.

Net differences between the genders reflect the same pattern as that observed in the 'raw' scores with differences between boys and girls being considerably larger for Hyperactivity.

Table 1.B.1: Gender differences in measures of social behaviour at the end of Year 5								
Gender	Self-regulation				Hyperactivity			
	N	Mean	Sd	Net Effects*	N	Mean	Sd	Net Effects*
Boys	1289	98.29	15.13	-0.19	1289	104.70	16.50	0.68
Girls	1231	101.79	14.65	0	1231	95.08	11.32	0
Total	2520	100	15		2520	100	15	

\* 'Girls' as the comparison category

5 Effect sizes – derived from multilevel models incorporating all other child and family predictors.

## Low income

The FSM indicator of poverty shows a strong association with both Self-regulation and Hyperactivity (Table 1.B.2). For each dimension, children recorded as having FSM have poorer 'raw' behaviour ratings compared to other children. On average FSM children show increased Hyperactivity (104.0) relative to non FSM children (99.0); they also show poorer Self-regulating behaviour (95.6) compared to non FSM children (101.1). The net impact of FSM remains statistically significant for both Self-regulation (ES=-0.17) and Hyperactivity (ES = 0.18), and in both cases it is of moderate magnitude.

Table 1.B.2: Differences in measures of social behaviour by FSM eligibility								
Self-regulation					Hyperactivity			
FSM Eligibility	N	Mean	Sd	Net Effects*	N	Mean	Sd	Net Effects*
Yes	496	95.59	15.55	-0.17	496	104.00	16.58	0.18
No	2011	101.08	14.68	0	2011	98.99	14.41	0
Total	2520	100	15		2520	100	15	

\* 'Not FSM' as the comparison category

## Language

The effects associated with gender and FSM are consistent for both social outcomes. However, differences in children's Self-regulating and Hyperactive behaviour associated with EAL are inconsistent across the two dimensions (Table 1.B.3). EAL children rated less highly for Self-regulating behaviour (97.5) when compared to non EAL children (100.3) in their 'raw' scores, but they are also rated as less Hyperactive (97.5) than non EAL children (100.3). However, when EAL is entered in a multilevel analysis with other child and family predictors these differences become non significant, suggesting that language differences by themselves do not influence these two dimensions of children's social behaviour at age 10.

Table 1.B.3: Children with EAL and differences in social behaviour								
Self-regulation					Hyperactivity			
EAL	N	Mean	Sd	Net Effects*	N	Mean	Sd	Net Effects*
Not EAL	2279	100.26	15.04	ns	2279	100.25	15.10	ns
EAL	239	97.53	14.43	ns	239	97.54	13.87	ns
Unknown	2	96.88	.57		2	105.51	5.73	
Total	2520	100	15		2520	100	15	

\*Not-EAL as the comparison category

In the past, EAL was found to be a significant predictor of both cognitive and social/behavioural outcomes at age 3 and 5, but this is no longer the case at age 10. At this age, many of these children are likely to be fluent in English. Indeed, only forty per cent of the children in the original EAL sample were identified as still needing EAL support. Therefore, further analysis was conducted using ‘need of EAL support’ as an indicator of poor language. Having a need for EAL support was also found to be an important predictor of cognitive outcomes.

Need EAL support	Self-regulation				Hyperactivity			
	N	Mean	Sd	Net Effects*	N	Mean	Sd	Net Effects*
None	2204	100.74	14.75	0	2204	99.75	14.99	0
Yes	95	89.62	14.40	-0.53	95	103.58	16.26	0.26
Unknown	221	97.09	15.79	-0.30	221	100.96	14.40	0.19
Total	2520	100	15		2520	100	15	

\* No need of EAL support as the comparison category

Table 1.B.4 presents differences in average social behaviour between children who are in need of EAL support and children who are not. The ‘raw’ mean difference between the groups appears to be smaller than it was for EAL and non EAL children, but the effects sizes (taking account of other factors) are both significant and large especially for Self-regulation (ES=-0.53). In addition, and in contrast to the EAL comparisons, the differences on the two social outcomes are now in the same direction.

### Ethnic Groups

Ethnic differences in social/behavioural development varied greatly for Hyperactivity, but variations for Self-regulation were less pronounced (Figure 1.B.1).

**Figure 1.B.1: Raw differences in Hyperactivity and Self-regulation by ethnic groups**

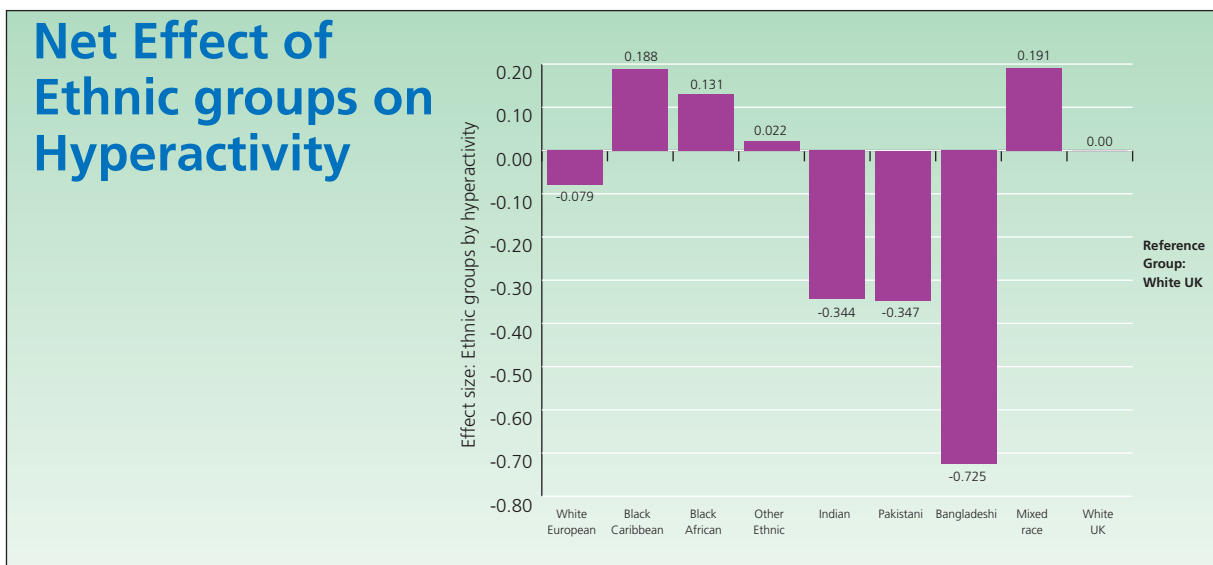


Bangladeshi (93.0) and Indian children (94.8) showed the lowest levels of Hyperactive behaviour. Black Caribbean children (104.7), Mixed Race (103.5) and Black African (103.2) showed the highest levels of Hyperactive behaviour. Black African children also rated more positively in terms of Self-regulating behaviour (102.1), followed by Bangladeshi (101.3), White UK (100.5) and Black Caribbean (100.3). The average score for Self-regulation was lowest for Pakistani children (94.5). All these means are 'raw' not controlling for any other possibly relevant background factors.

Note, ethnic group differences for the two social outcomes were in the opposite directions (i.e. raised Hyperactivity but higher Self-regulation) for some ethnic groups (e.g. Black African, Black Caribbean both of whom show better Self-regulation but poorer scores for Hyperactivity). This is similar to the pattern identified in the EAL comparisons reported above.

Figure 1.B.2 shows the net effect sizes for Hyperactive behaviour by different ethnic groups (Negative scores here indicate reduced Hyperactivity). Differences between ethnic groups were not significant in the final contextual model for Self-regulation. This indicates that apparent differences in this aspect of social behaviour are attributable to the influence of other demographic factors rather than to ethnic background per se.

**Figure 1.B.2: Effect sizes for Hyperactivity by Ethnic groups**



Reference group: White UK

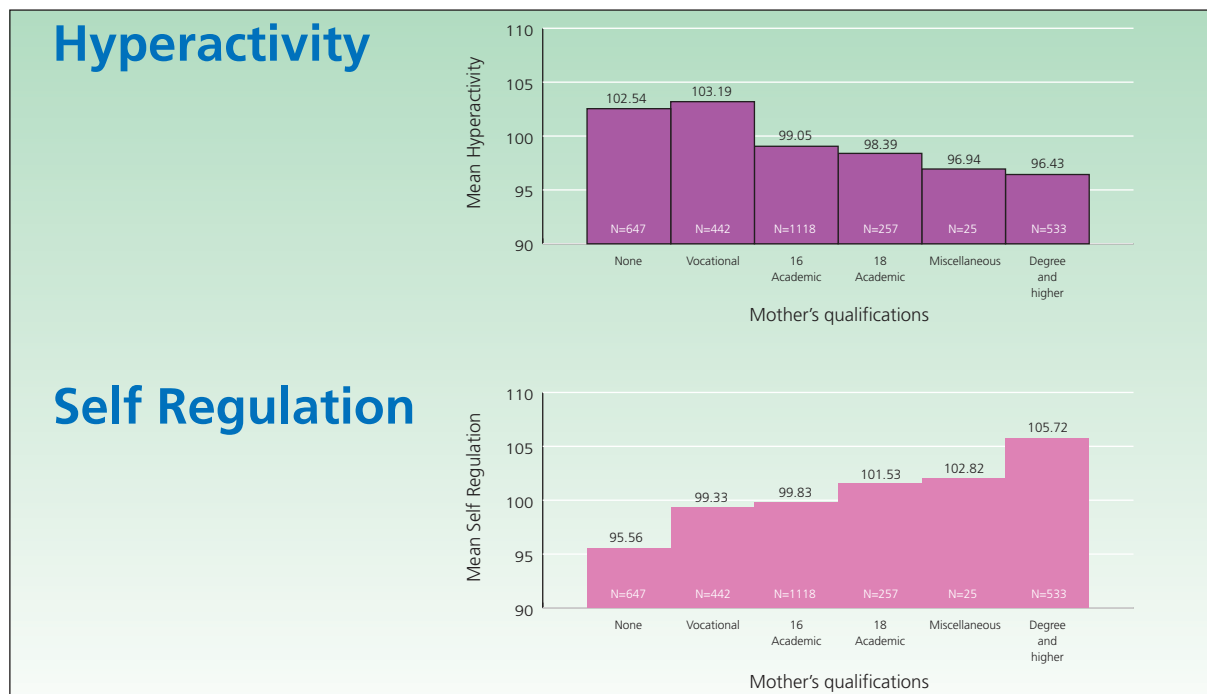
Differences in net effect sizes by ethnic group reflect differences in 'raw' scores for most groups. The only exception is the Pakistani group for which Hyperactivity levels appear to be markedly lower than the 'raw' scores initially indicated, and certainly lower than the Indian group.

Overall, Bangladeshi, Pakistani and Indian pupils show significantly better behaviour (reduced Hyperactivity) at age 10 than other groups. Differences are weaker for other ethnic groups but net effects are somewhat higher for Black Caribbean and children of mixed race groups.

### Parents’ qualification

Mother’s highest qualification level shows an association with raw differences in teacher ratings of child behaviour in Year 5 (Figure 1.B.3).

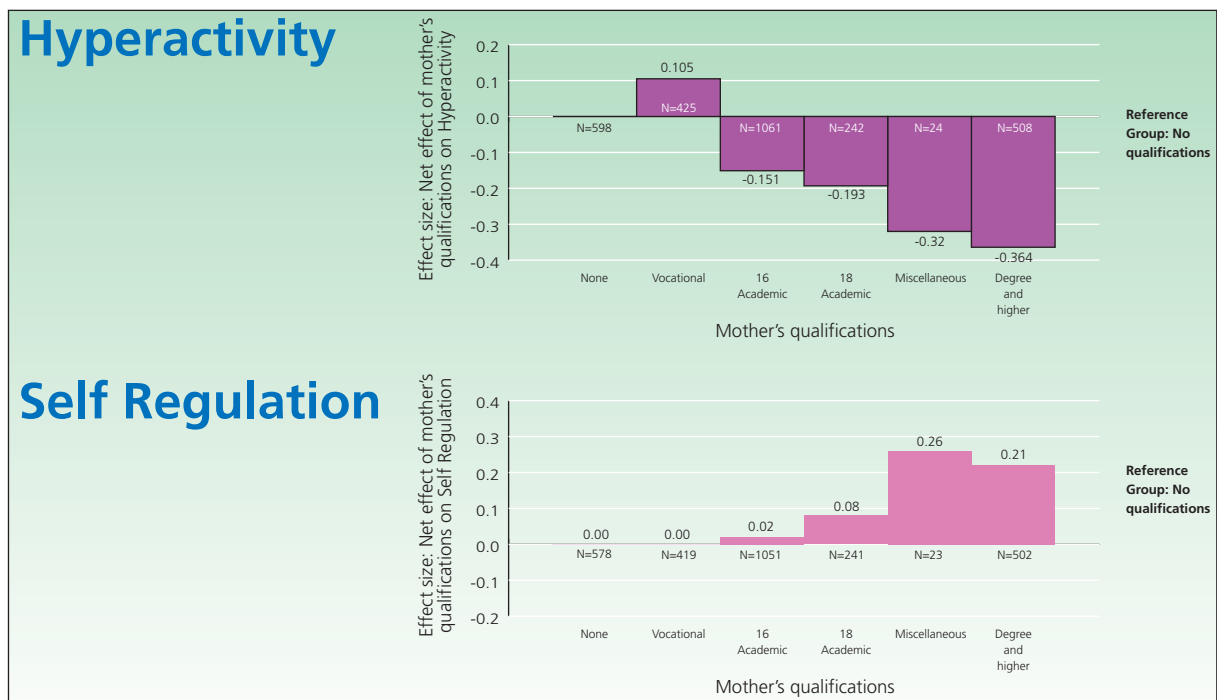
**Figure 1.B.3: Hyperactivity and Self-regulation by mother’s qualification**



Hyperactive behaviour is raised for children whose mothers have no qualifications or vocational level qualification; differences between the medium and high qualification categories are less pronounced.

Self-regulation on the other hand shows a steady and positive increase as a function of increasing level of mother’s qualifications. Differences in Self-regulation are most notable in children whose mothers have a degree or higher degree qualification level (105.7) and children whose mothers have no qualifications (95.6) (see Figure 1.B.3).

**Figure 1.B.4: Effect sizes for Hyperactivity and Self-regulation by mother’s qualifications**



Reference group: No qualifications

The patterns observed in the distribution of ‘raw’ scores become even more evident after controlling for all child and family characteristics; children of mothers with low qualifications tend to be more Hyperactive. Hyperactivity then decreases with increasing maternal qualifications (see Figure 1.B.4), with children of mothers with the highest qualifications scoring lowest on the Hyperactive scale (ES = -0.36).

The net effect of mother’s qualification on Self-regulation is not as strong as the raw data initially indicated; when other factors are taken into account, Self-regulating behaviour seems similar across most qualification categories, the *degree and higher* category is the only group with significantly higher scores (ES = 0.21)

### Early years home learning environment (HLE)

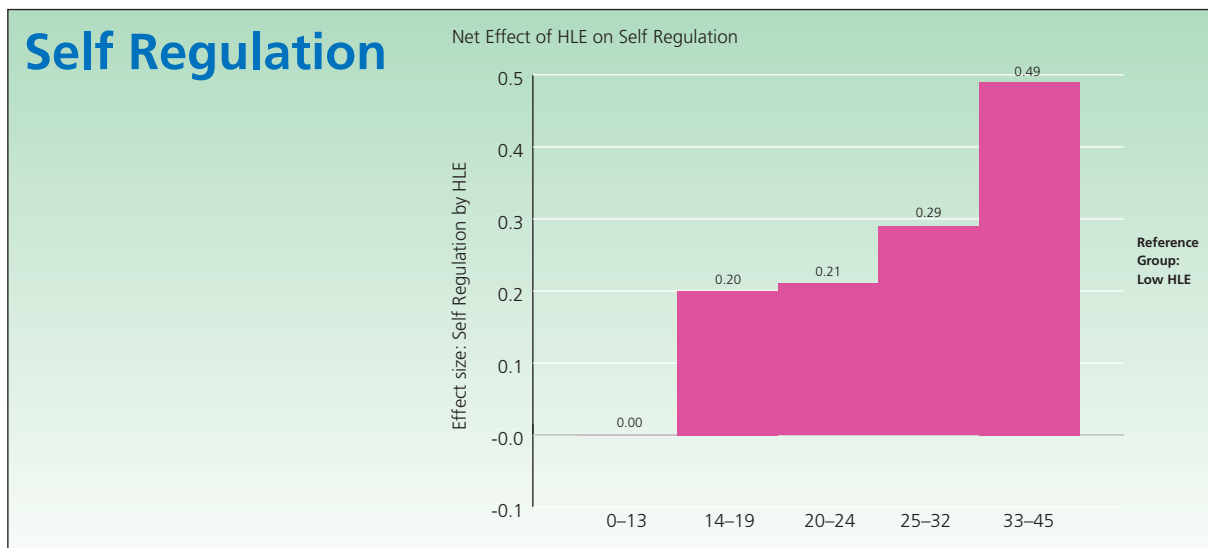
The early years HLE still shows a strong relationship with social/behavioural development, even at Year 5. The better the HLE during the early years, the better the social/behavioural development at age 10 years (see Figure 1.B.5 for ‘raw’ differences in attainment).

**Figure 1.B.5: Hyperactivity and Self-regulation at age 10 by early years HLE**



There is a clear association between higher scores on the early years HLE and reduced Hyperactivity, but the greatest differences in Hyperactivity are between the very low and very high HLE scores. Similarly higher scores on the early years HLE are related to better Self-regulation but the relationship in this case shows a stronger linear pattern.

**Figure 1.B.6: Net Effects of early years HLE by Self-regulation**



Reference group: Low HLE

The observed 'raw' differences in Hyperactivity were not significant in the final model. For Self-regulation, the early years HLE continues to show strong positive association (controlling for all background effects), with the effect sizes of this predictor being the largest in the model.

### 1.B.2.3 Pre-school quality effectiveness and primary school effectiveness

After taking account of the impact of child, family and HLE characteristics, pre- and primary school characteristics were entered into the model as additional potential influencing factors on social/behavioural development.

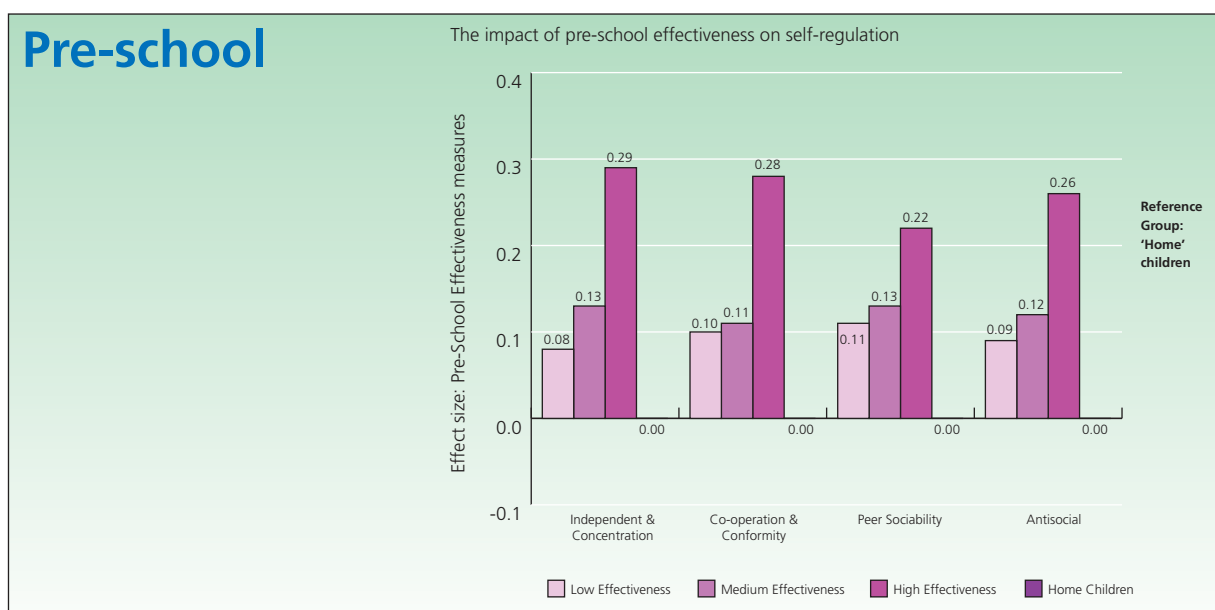
#### The effect of attending pre-school compared to not

At age 10, there are no significant net effects of *just* attending pre-school compared to not attending on social/behavioural development in contrast to patterns found at younger ages; particularly at entry to primary school. The comparison in this case is between children who have attended pre-school and 'home' children, and the differences are not significant. There were also no differences in relation to type of pre-school attended or the number of months spent in pre-school.

#### The impact of pre-school effectiveness

Significant net effects are still found for indicators of both the effectiveness and quality of pre-school. Children who had attended a more effective pre-school setting show significantly better social/behavioural development. Effectiveness in this context is measured in terms of settings that promoted progress in positive social skills ('Independence and Concentration', 'Co-operation and Conformity', 'Peer-Sociability'), or helped to reduce 'Anti-social' behaviour between 3+ and 5. All measures of pre-school effectiveness in social/behavioural development were found to be significant positive predictors for later Self-regulation at age 10 (see Figure 1.B.7). Interestingly, only the 'Antisocial' measure of higher pre-school effectiveness was significant in predicting reduced Hyperactivity in the longer term (see Figure 1.B.8).

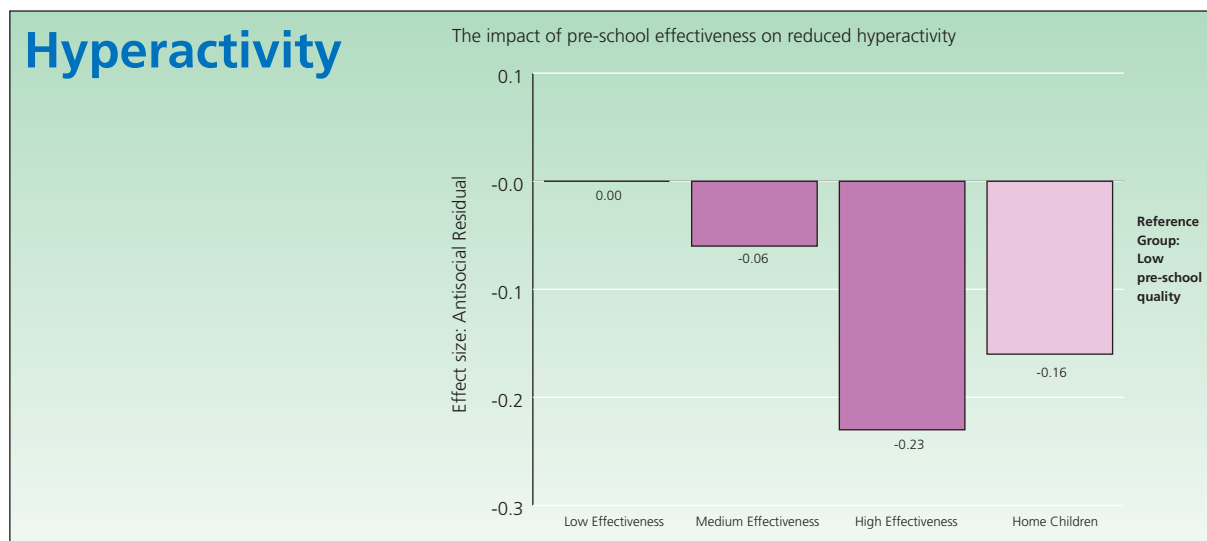
Figure 1.B.7: The impact of pre-school effectiveness on Self-regulation at age 10



Reference group: 'Home' children



**Figure 1.B.8: The impact of pre-school effectiveness on Hyperactivity**



Reference group: Low Effectiveness settings

### The impact of pre-school quality

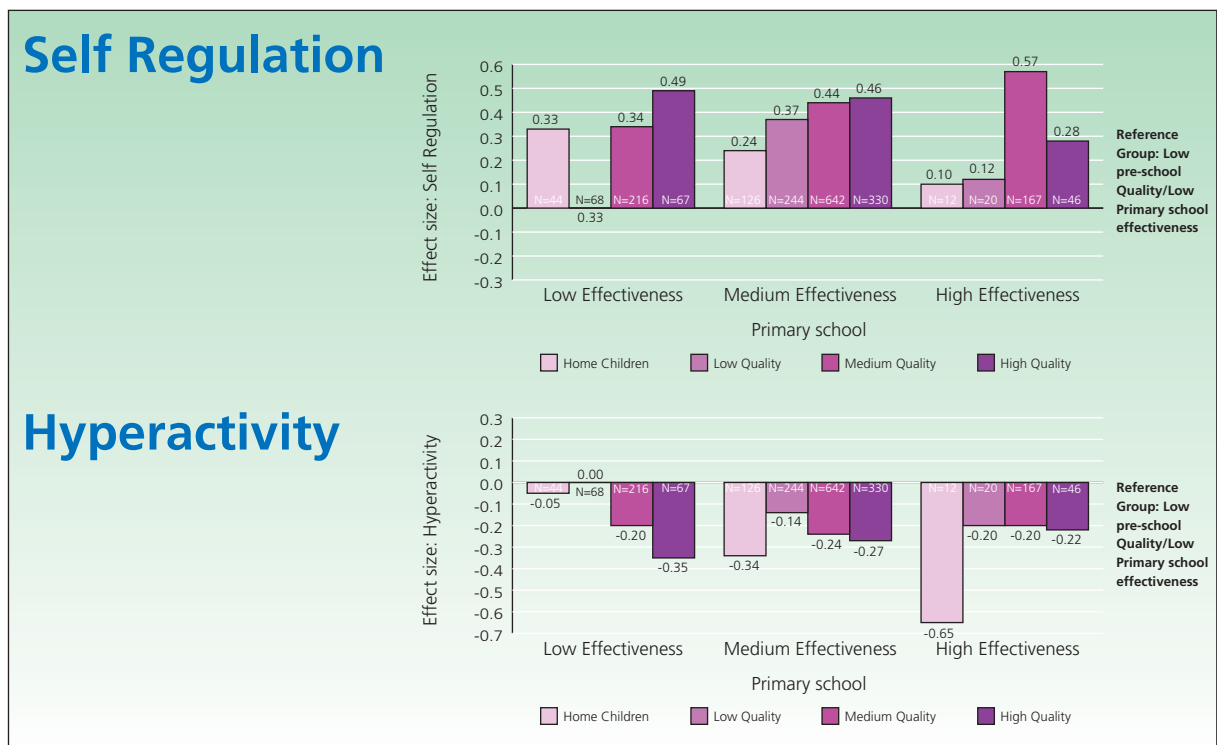
‘Home’ children and children who have attended low quality pre-school show poorer Self-regulation at age 10 than children who have attended high quality pre-school (ES=-0.17 and ES=-0.16 respectively). The net effects of quality were not significant for Hyperactivity but the patterns are the same.

### The combined impact of pre-school quality and primary school academic effectiveness

Primary school academic effectiveness was not a statistically significant predictor of social/behavioural development on its own. However, primary school effectiveness is significant in combination with pre-school quality.

In this analysis, we combined the two measures of pre-school quality and primary school effectiveness to explore whether going to a higher quality pre-school had a protective function if a child went to a less effective primary school later on. Similar to the analyses described in the cognitive section, we sought to establish whether children who did not go to pre-school or went to a low quality pre-school could benefit more from the effectiveness of the primary school. Results for Self-regulation and Hyperactivity are shown in Figure 1.B.9.

**Figure 1.B.9: The impact of pre-school quality and primary school effectiveness on Self-regulation and Hyperactivity**



Reference group: Low quality pre-school by low effectiveness primary school

The overall impact of the combined pre-school quality and primary school effectiveness was found to be greater for Self-regulation than for Hyperactivity.

‘Home’ children who go to academically less effective primary schools have higher Hyperactivity scores at age 10 in comparison to children who attend medium or highly academic primary schools. ‘Home’ children who go to academically more effective primary schools by contrast have the lowest scores i.e. are the least Hyperactive

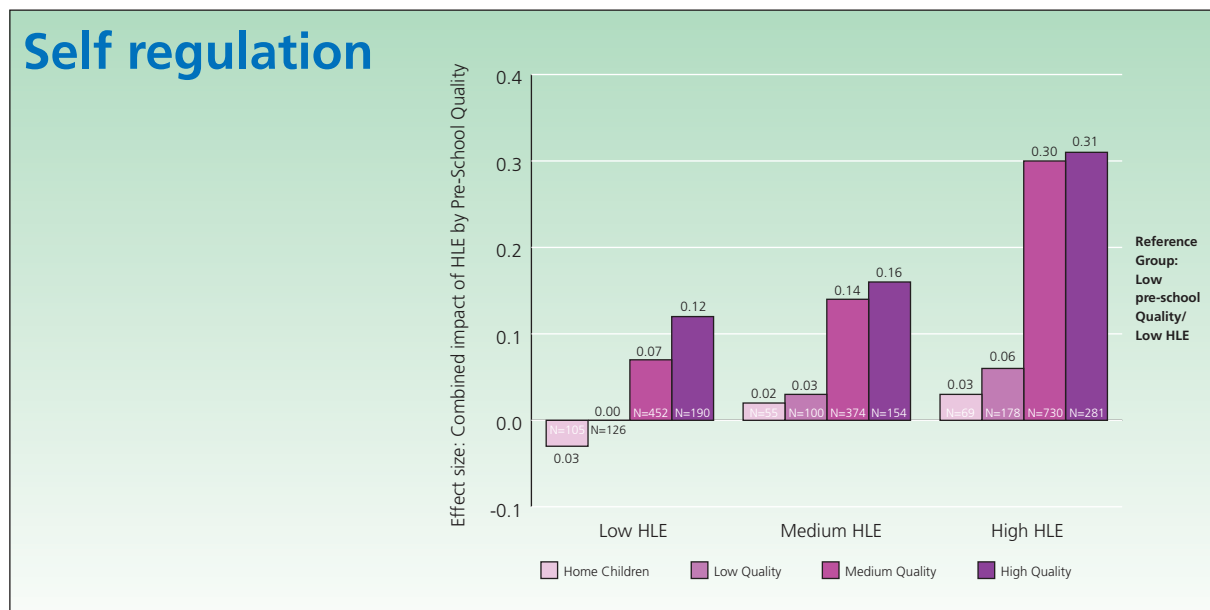
For children who attended medium effective primary schools, higher quality pre-school (compared with low quality or no pre-school) was significantly related to Self-regulation. High quality pre-school is found to offer protection against less effective primary schools: it is related both to reduced Hyperactivity and increased Self-regulation

In primary schools showing high effectiveness, the effects of pre-school quality are diminished, but only for Hyperactivity. Pre-school effects for Self-regulation are still evident. Contrary to the general pattern for children who had attended high quality pre-school and a highly effective primary school, Self-regulation outcomes were not better than those who had attended medium quality pre-school. However, in interpreting this pattern we conducted further analysis that reveals poorer early years HLE for this small sub-group. This analysis is described in more detail in the next section.

## The combined impact of pre-school and early years HLE

In previous sections we have shown that the early years HLE has a strong and long lasting effect on children’s later Self-regulation. We’ve further shown that high quality pre-school has a long lasting effect on children’s later Self-regulation. In this section we examine the combined effect of the early years HLE and pre-school quality to further explore the interplay between these two predictors and the relative contribution each predictor makes to Self-regulation. For this analysis the HLE index was re-grouped into three categories representing low, medium and high early years HLE.

**Figure 1.B.10: The combined impact of pre-school quality and early years HLE**



Reference group: Low quality pre-school by low effectiveness primary school

As can be seen in Figure 1.B.10, the greatest boost in Self-regulation comes from the combined effect of medium or high pre-school quality and high early years HLE (ES = 0.30-0.31).

High early years HLE alone is not enough; children who have high scores on the early years HLE and attend low quality pre-schools have poorer Self-regulation than children with low and medium HLE scores who attended high quality pre-school.

Similarly, high quality pre-schools improve Self-regulation but it is not enough; Self-regulating behaviour in children who go to high quality pre-schools still varies as a function of the early years HLE.

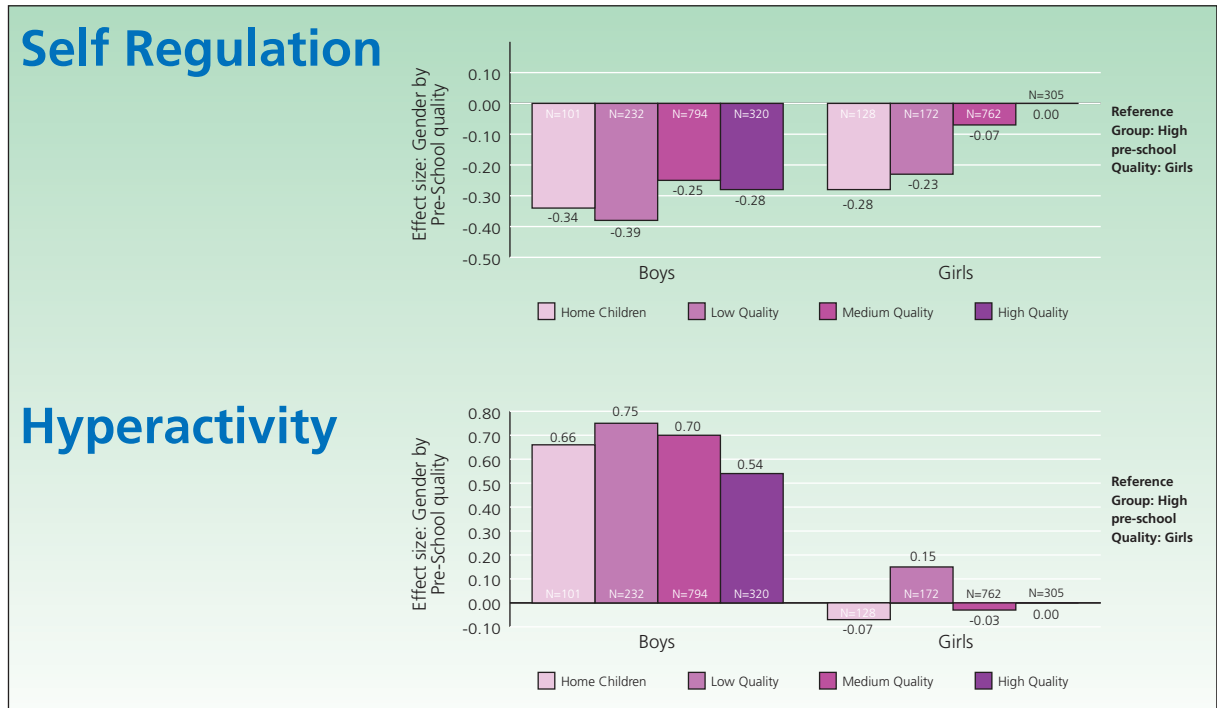
As noted previously, the reduced level of Self-regulation in the ‘high quality-high effectiveness’ group (see Figure 1.B.9) is most likely to be a reflection of this interaction since the proportional representation of high early years HLE in this group (28 per cent) is much lower relative to the rest of the sample (43 per cent).

### Different pre-school effects for different groups of children

Further analysis looked at whether attending a pre-school has different effects for different groups of children. This section presents net results that have been conducted to explore differential pre-school effects by gender and FSM.

It is clear that gender has a strong influence on social/behavioural development especially for Hyperactivity. Nonetheless, there is an interaction with gender and quality of pre-school provision (Figure 1.B.10).

**Figure 1.B.10: The combined impact of pre-school quality and gender**



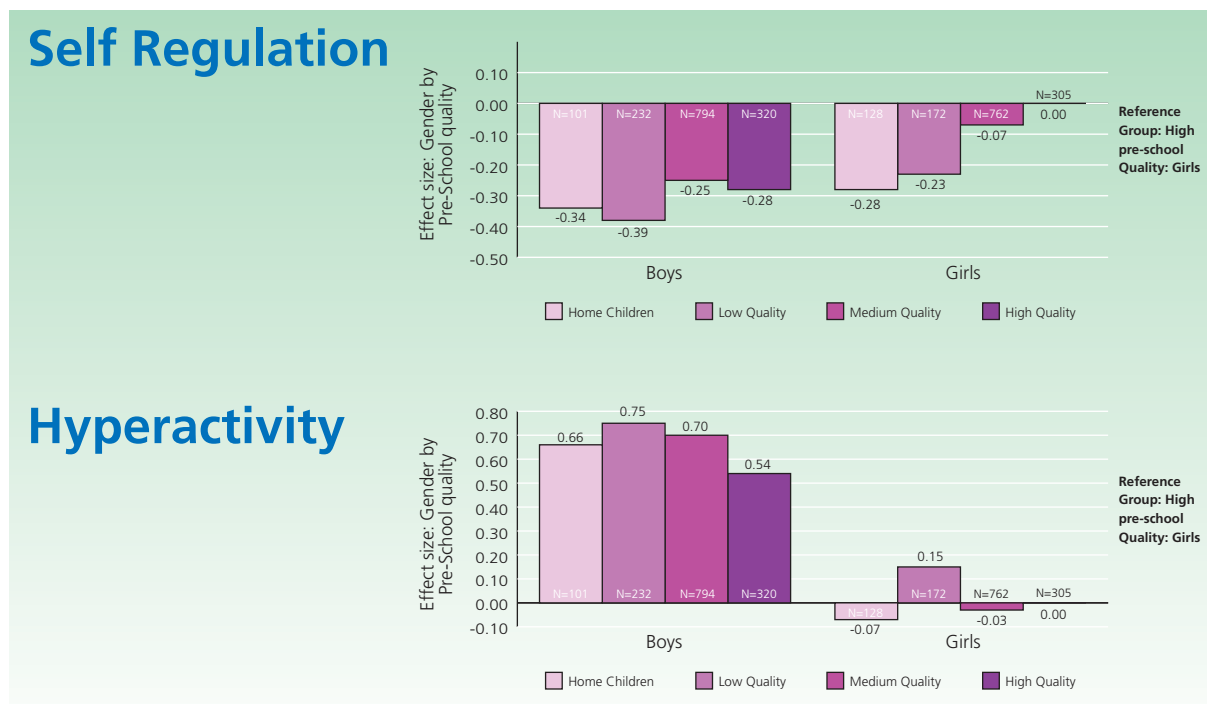
Reference group: Low quality pre-school by low effectiveness primary school

Girls who had attended *high* quality pre-school have the best Self-regulation at age 10 of all groups. Girls who had not attended pre-school have poorer Self-regulation at age 10 than girls who had attended pre-school.

Self-regulation is generally better for children who had attended pre-school (apart from boys in low quality pre-schools).

High quality pre-school appears to reduce Hyperactivity in boys; whereas low quality pre-school appears to increase Hyperactivity in girls.

**Figure 1.B.11: The combined impact of pre-school quality and FSM**



Reference group: Low quality pre-school by low effectiveness primary school

FSM children who had not attended pre-school were rated lower on Self-regulation at age 10 than children who had attended pre-school. However, FSM children who had attended low quality pre-school showed subsequent poorer Self-regulation than 'Home' FSM children.

High quality pre-school provision, on the other hand, seems to help to close the gap for Self-regulation: FSM children who had attended medium or high quality pre-school do as well as non FSM children on Self-regulation at age 10.

Poor quality pre-school appears to increase Hyperactivity and reduce Self-regulation, again confirming the importance of quality especially for disadvantaged children.

FSM children without pre-school are less Hyperactive than those who attended pre-school. In interpreting these findings we should be cautious because more of the 'home' children were of Pakistani and Bangladeshi origin and thus cultural differences may be playing a part in accounting for the difference in this measure of behaviour. These two groups have already been shown to have the lowest Hyperactive scores of all ethnic groups, after controlling for other factors (see Figure 1.B.4).

## Summary

The original EPPE research studied young children's cognitive and social/behavioural development from age 3 to 7 years. It pointed to important differences in attainment related to child, family and HLE characteristics. It also identified significant pre-school effects. These were most marked at entry to primary school where it was shown that pre-school (particularly high quality and longer duration) gave children a better start to school (Sylva et al., 2004). However, benefits also remained evident during Key stage 1 in follow ups of child outcomes at ages 6 and 7 years, although the pre-school influence was less strong. In addition the research pointed to the benefits of pre-school in reducing the 'risk' of SEN (Sammons et al., 2003a). A summary of evidence from the original EPPE research has already been submitted to the Equalities Review and informed its Interim Report for Consultation (<http://www.theequalitiesreview.org.uk/>).

These additional analyses, conducted using data collected for the Key Stage 2 follow up of the sample (EPPE 3-11), confirm and extend many of the findings originally presented to the Review.

Our current analyses provide new evidence on the size of the attainment gap in Reading and Mathematics for different groups of children at age 10.

The analyses present details in terms of 'raw' results (in terms of differences in average scores in these subjects by gender, ethnic group, family SES and so on). In addition, they explore the net effect sizes, which show the relationship between different factors (e.g. ethnic differences in attainment) after controlling for the influence of a wide range of other child, family and HLE influences. This is important, because the research shows that much of the 'raw' difference in attainment associated with ethnicity reflects the impact of other socio-economic and demographic factors (for example, birth weight, income, language, family SES, parents' qualification levels and HLE). Such findings are important to inform thinking on appropriate policy and practical strategies to reduce the achievement gap and enhance outcomes for vulnerable groups.

By studying changes in results between age 6 and 10 years we can identify the groups of children for whom the gap has widened or reduced during Key Stage 2 and the factors associated with better or poorer progress.

The findings again draw attention to the importance of the quality of the early years HLE on longer term educational outcomes, both academic and social/behavioural. A more detailed exploration of the influence of the HLE forms the focus of Part 2 of this report and investigates interactions between HLE and other child and family characteristics.

The importance of educational experiences in shaping outcomes at age 10 years has been highlighted in Part 1. We have shown that pre-school influences remain evident. However, at this stage just having attended a pre-school is not sufficient to ensure better outcomes in the longer term. It is the quality and effectiveness of the pre-school attended that predicts better outcomes. Poor quality pre-school, however, does not improve outcomes at age 10 years, whereas medium and especially high quality provides benefits. There are indications that attending poor quality pre-school may adversely affect social/behavioural development.

We find that pre-school influences are somewhat stronger for Mathematics and Self-regulation than for Reading.

The academic effectiveness of primary schools (measured independently using National assessment data and value added approaches) has a significant impact on attainment at age 10 years. For 'home' children in particular the effectiveness of the primary school attended helps to close the attainment gap (for those who attend a highly effective primary school there is a particular boost to Mathematics outcomes. By contrast, attending a high quality or more effective pre-school acts as a protective factor for children who attend a less effective primary school.

## Key findings

The attainment gap at age 10 years remains significant and has widened for some groups (in relation to measures of socio-economic disadvantage for example) although in some cases the position has changed (boys and those of Indian ethnic background are now doing better in Mathematics in contrast to findings at younger ages).

The strongest net effects are for measures of early HLE and parents' qualification levels, followed by low birth weight, need for EAL support, early health or developmental problems and family SES.

Much of the difference in attainment between ethnic groups is related to differences in influential demographic factors such as these, although there are still some low and high attaining groups. Multiple disadvantage remains an important predictor of educational outcomes.

Good pre-school still matters. There is new evidence of continuing pre-school effects for attainment in Reading and especially in Mathematics as well as better social/behavioural development (increased Self-regulation and reduced Hyperactivity). It is differences in the quality and effectiveness of pre-schools that contribute to better outcomes in the longer term rather than just attending or not attending a pre-school setting.

Although 'home' children have begun to catch up from a much lower starting point an attainment gap remains. Those children who attended low quality pre-school no longer show benefits whilst poor quality pre-school is associated with poorer social/behavioural development.

Primary school academic effectiveness (measured by value added in National assessments) is a significant influence. Those who attended more academically effective primary schools show better attainment and better social/behavioural development at age 10.

The research provides new evidence concerning the combined effects of pre-school and primary school in shaping educational outcomes. It is important to raise the quality and effectiveness of both.

We can conclude that no one factor is the key to raising achievement – it is the combination of experiences over time that matters. The child who has a better HLE and goes to a high quality, effective pre-school setting and who then goes on to attend a more effective primary school has a combination of ‘protective’ experiences that reduce the risk of low attainment and poor social/behavioural development.

Our results provide no evidence to support the idea that pre-schools or primary schools that foster better academic outcomes are less good for social/behavioural development. Rather the evidence indicates that the two are associated. High quality and more effective pre-schools support better outcomes in both cognitive and social/behavioural domains. Likewise, we also find that a higher quality early years HLE benefits both cognitive and social/behavioural development throughout pre-school and primary school. Moreover children with a high HLE during the early years may gain extra benefits in Reading outcomes from high quality pre-school (possibly because home and pre-school influences may support and reinforce one another).

The implication of these findings is that policy development should seek to promote strategies to support improvements in HLE especially for vulnerable groups and also work to improve the quality and effectiveness of pre-school provision. Such pre-schools are well placed to identify children who may need extra support if they do not experience a high quality HLE and could be supported in working with parents to improve HLE during the early years. Ways to improve the provision in poorer quality pre-schools need to be given a priority, since poor quality provision does not offer long term benefits in improved child outcomes.

The research indicates that primary schools also play an important role. Improving the academic effectiveness of primary schools is particularly important for disadvantaged groups of pupils, since we find that school effects matter more for this group. The finding that both social/behavioural development and Reading and Mathematics attainment is boosted by academically effective primary schools has important messages for the achievement of the Every Child Matters agenda, because it shows that the promotion of better academic outcomes is not at variance with the development of better social/behavioural development. The finding that primary school effectiveness is a more significant influence for disadvantaged pupils (especially those who didn't go to pre-school) is of particular importance.

In order to help reduce the achievement gap for multiply disadvantaged groups, actions to improve HLE, pre-school and primary school experiences will be needed since improvements to any one in isolation would be insufficient to boost outcomes on its own. In addition, it is likely that specially targeted interventions for children who are identified as very behind their peers in cognitive or social/behavioural profiles at the start of primary school will also be necessary to prevent a widening of the gap during Key Stage 1 and 2.



## Part 2: The HLE, Attainment and Resilience

Authors: Edward Melhuish, Kathy Sylva, Pam Sammons, Iram Siraj-Blatchford, Brenda Taggart and Mai Phan

This part of the report addresses the following research questions:

Are there any factors which characterise low SES children who:

- had higher HLE,
- go on to have relatively high attainment or progress (in English and Mathematics) in pre-school/primary and

Where a particular group are characterised by relatively low HLE, e.g. Pakistani children and low SES White boys – explore what are the common factors they may share.

Over many decades, research studies have documented the relationship between SES and academic achievement (e.g. Bloom, 1964), and similar associations exist for several aspects of children's development (e.g. Davie, Butler & Goldstein, 1972). In terms of which aspects of SES relate most strongly with academic achievement, there is long standing evidence (Mercy & Steelman, 1982) that parental education is the best predictor, with maternal education being most potent in the early years. However, such relationships account for only a limited amount of difference in academic achievement. From a meta-analysis of studies, White (1982) concluded that as little as five per cent of the variance in academic achievement was linked to SES. While such estimates are open to dispute, clearly other factors are necessary to explain variation in academic achievement.

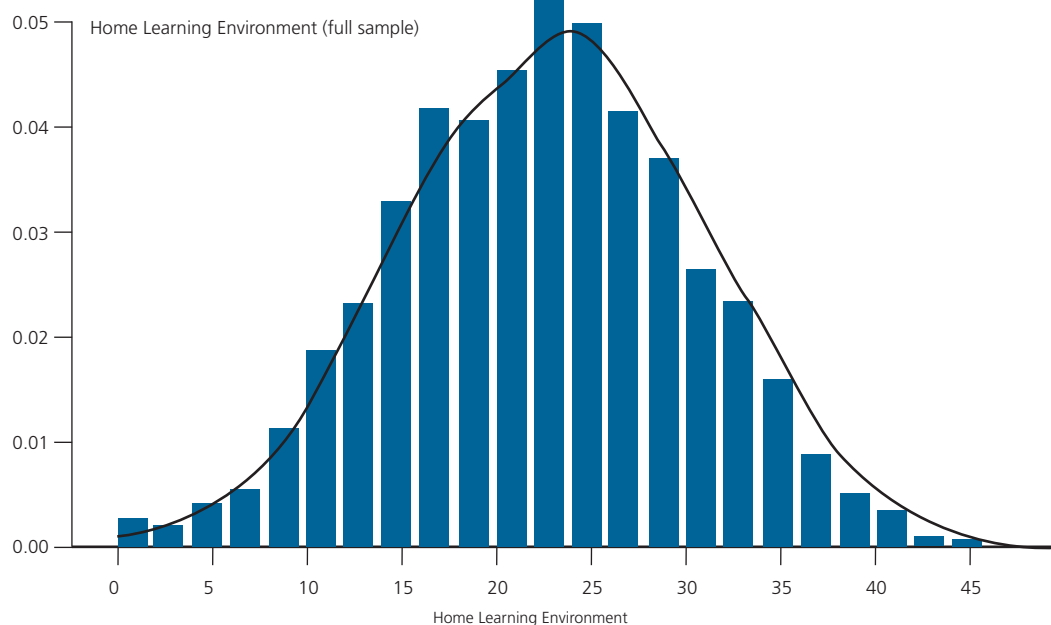
The extent and persistence of deficits in academic achievement associated with low SES and minority ethnic status led to policy initiatives in the USA such as the Elementary and Secondary Education Act (1965) and the recent No Child Left Behind Act (2001). Similar thinking also applied to policies in other countries aiming to change schooling to improve outcomes for disadvantaged children. However, several studies indicate that deficits in school achievement amongst disadvantaged children are presaged by cognitive differences below school age, as shown in the Early Childhood Longitudinal Study (ECLS-K) (Denton, West & Walston, 2003). Indeed the relationship between SES and cognitive development is present from infancy (McCall, 1981). Such evidence suggests that the causes of poor academic achievement largely lie in experiences and development during the pre-school years. For example, Heckman and Wax (2004) recently proclaimed, "Like it or not, the most important mental and behavioural patterns, once established, are difficult to change once children enter school" (p A14).

Parenting matters and varies with SES. Parcel and Menaghan (1990) found that mothers with more intellectually stimulating jobs provided more support and stimulating materials for their children, which in turn was linked to children's verbal skills. The argument linking low SES to lack of cognitive stimulation and lower cognitive development has a long history (e.g. Hunt, 1961), and has regularly been supported by evidence (e.g. Bradley et al., 2001; Brooks-Gunn et al., 1997).

Parenting practices such as reading to children, using complex language, responsiveness and warmth in interactions, are all associated with better developmental outcomes (Bradley 2002; Bradley & Corwyn, 1999). This partly explains links between SES and developmental outcomes, in that higher SES parents use more developmentally enhancing activities (Hess et al., 1982). Stimulating parenting activities may help by providing children with specific skills that will enhance development (e.g. linking letters to sounds), but also, and perhaps most importantly, by developing the child's ability and motivation concerned with learning generally. If so, it is the frequent occurrence of learning activity rather than the content of learning that is most important.

The EPPE study developed an interview based measure of HLE in order to examine possible influences on later cognitive and social/behavioural development. When children were between 3 and 4 years of age, one of the child's parents or guardians was interviewed (usually the mother). Most questions in the semi-structured interview were pre-coded, with some open-ended questions coded post hoc. The interview covered: parents' education, occupation and employment, family structure, ethnicity and languages used, the child's birth weight, health, development and behaviour, the use of pre-school provision, childcare history and significant life events. The parental interview included a measure of the frequency that children engaged in 14 activities (See Appendix 6 for list).

Of the 14 home activity items seven were social/routine activities (play with friends at home, and elsewhere, visiting relatives/friends, shopping, TV, eating meals with family, regular bedtime) and seven activities provided clear learning opportunities (frequency read to, going to the library, playing with numbers, painting and drawing, being taught letters, being taught numbers, songs/poems/rhymes). Since these items were conceptually linked they were combined into a single measure, the home learning environment (HLE). The frequency of each of the seven activities was coded on a 0-7 scale (0=not occurring, 7= very frequent), and the seven scores were added to produce an index with a possible range of 0-49, which was normally distributed with a mean of 23.42 (SD = 7.71). The overall HLE score distribution across the EPPE sample can be seen in Figure 2.1 below.

**Figure 2.1: The Distribution of HLE scores in the EPPE sample**

It is noteworthy that the HLE is related only moderately ( $r=0.32$ ) to SES and parents' educational levels, indicating that low SES homes sometimes score highly and, conversely, high SES homes at times score poorly. This variable proved to have several powerful effects on all child development variables measured at 3-4 years of age. A better HLE was associated with increased 'Co-operation/conformity', 'Peer Sociability' and 'Confidence', and lower 'Antisocial and worried/upset behaviour' and higher cognitive development scores. The effect on cognitive development was particularly pronounced. After the age of the child, it was the variable with strongest effect on cognitive development (Melhuish et al., 2001). It is particularly noteworthy that the effects of the HLE were as great as or stronger than that of demographic variables such as SES and parental education, which have often been found to be amongst the strongest predictors of children's cognitive development (e.g. Davie, Butler & Goldstein, 1972). When children entered primary school there were similar effects for the HLE to those seen earlier (Sammons et al., 2002). Also the persistent effects of HLE are apparent still at age 10 (Sammons et al., 2007). These powerful positive effects for HLE on young children's cognitive and social/behavioural development can be identified net of the influence of mother's education and SES. Similar results have been found in the EPPNI study in Northern Ireland (Melhuish et al., 2006b). The effects associated with SES, mother's education, father's education, family income and the HLE can be compared in Table 2.1 where effect sizes have been calculated from equivalent multilevel models for similar outcomes at 5, 7 and 10 years of age. Clearly the HLE is associated with stronger impact upon these outcomes at all ages than other measures related to SES. Such results suggest that what parents do can be more important than who they are.

High versus low group	5 year olds		7 year olds		10 year olds	
	Literacy	Numeracy	Reading	Maths	Reading	Maths
SES	0.29	0.43	0.37	0.39	0.26	0.32
Mothers' Education	0.35	0.23	0.33	0.33	0.46	0.37
Fathers' Education	n.s.	n.s.	0.19	0.16	0.25	0.23
Earned income	0.31	0.28	0.15	0.15	0.24	0.23
HLE	0.73	0.65	0.60	0.50	0.49	0.45

n.s = non significant

### The variation in the HLE for different groups.

Are there any factors that characterise children who had higher HLE, and where a particular group are characterised by relatively low HLE, e.g. Pakistani children and low SES White boys, and what common factors might they may share? In order to answer questions such as these a series of statistical analyses were undertaken on what factors might predict better or worse HLE scores. These analyses firstly considered the HLE as a continuous dimension as this allows more power in the analysis and the calculation of effect sizes for the different factors considered. Secondly analyses were undertaken that considered children in 3 categories of high, medium and low HLE, and whether specific factors differentiated these categorical groups. The results that derive from these alternative treatments of children's HLE scores are essentially the same and are described below.

The HLE does vary by socioeconomic status (SES) and by ethnic group as can be seen in Table 2.2.

	Prof SES	Mid SES	Low SES	Total (rank)
White UK	26.8	23.3	20.3	24.1 (1)
White European	27.0	20.5	15.1	22.7 (3)
Black Caribbean	25.1	21.0	19.3	21.4 (4)
Black African	18.0	21.5	19.3	20.4 (5)
Indian	23.7	18.5	17.1	20.1 (6)
Pakistani	19.1	14.8	14.2	15.2 (9)
Bangladeshi	23.8	15.5	19.6	17.5 (8)
Other	22.1	19.5	17.2	19.7 (7)
Mixed	26.8	21.2	21.2	23.4 (2)

Within ethnic groups there is usually a pattern of the professional groups having higher HLE than the middle SES groups who are higher than the low SES group. The ethnic groups vary with the White UK group showing the highest HLE and the Pakistani group showing the lowest HLE. This raises the issue of whether the HLE is a culturally appropriate measure for all ethnic groups. This issue is considered later in this report.

The factors that influence the HLE can be examined through statistical analysis (in this case multilevel models) and those showing significant effects upon the HLE, together with effect sizes are shown in Table 2.3. The effect sizes are shown separately for analyses with the total sample, low SES only, White UK low SES, boys and girls.

The level of statistical significance is indicated by stars (\*= $p < 0.05$ , \*\*= $p < 0.01$ , \*\*\*= $p < 0.001$ ). It is necessary with small sizes to have larger differences between groups (bigger effect sizes) in order to achieve statistical significance.

<b>Table 2.3: Effect Sizes of Factors associated with effects upon the HLE</b>					
	Total Sample	Low SES	White UK Low SES	Boys	Girls
Gender	+0.38***	+0.35***	+0.38***	-	-
English as an additional language (EAL)	-0.60***	-0.61***	-	-0.53***	-0.76***
3+ siblings	-0.30***	-0.34***	-0.46*	-0.41***	-0.18
Developmental Problems	-0.23**	-0.34***	-0.42*	-0.31***	-0.10
Mother's Education	+0.46***	+0.45***	+0.40*	+0.49***	+0.58***
Father's Education	+0.23***	-	-	+0.30***	+0.20
Pre-school – % mothers degree	+0.25**	+0.20*	+0.25	+0.18	+0.38***
Area deprivation	-0.25***	-0.30**	-0.13	-0.34**	-0.20*

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

The HLE varies between boys and girls similarly across all samples, with girls having higher HLE scores than boys. Where the home language is not English HLE scores are markedly lower. Where a child has 3 or more siblings this also depresses the HLE score, as does the presence of early developmental problems for the child. Mother's education has similar effects upon HLE scores for all the groups with higher mother's education being associated with higher HLE. The effects for father's education are similar but only about half the size as for mother's education, and for the low SES group the effect of father's education is not significant, possibly because of limited variation in father's education for this sub-group. Where children attended a pre-school, the parental composition of the pre-school was associated with differences in the HLE for all samples. Where more mothers using the pre-school had a degree the HLE was higher for all children. This suggests that opportunities for mixing with parents who are better educated may have some benefits for parenting, i.e. the possibility of a peer-group learning effect amongst mothers or parents. Also where children lived in more deprived areas their HLE was depressed, which may partially derive from the same peer-group mechanism.

The differential effects of various factors for boys and girls can be seen in the last two columns of Table 2.3. The home language not being English affects girls more than boys, while 3+ siblings and developmental problems depresses HLE more for boys than girls. Mother's education is more important than father's education for girls and boys, but is more important for girls' HLE than for boys, whereas father's education exerts a bigger effect for boys than for girls. The effect associated with pre-school parental composition is stronger for girls whereas the effects of area deprivation are stronger for boys.

The effects of the factors shown in Table 2.3 raises the possibility that the earlier described differences in HLE between ethnic groups may be partly a function of differences in the factors considered in Table 2.3 amongst ethnic groups, e.g. differences in family size, parental education etc. Analyses were extended to consider the following question: To what extent do demographic factors account for ethnic group differences for the total sample and for the low SES sub-group? In order to examine this issue the HLE scores were analysed to extract an effect size for each ethnic group controlling for the factors in Table 2.3. The results are shown in Table 2.4.

The level of statistical significance is indicated by stars (\*= $p < 0.05$ , \*\*= $p < 0.01$ , \*\*\*= $p < 0.001$ ). It is necessary with small sizes to have larger differences between groups (bigger effect sizes) in order to achieve statistical significance.

**Table 2.4: Effect sizes associated with Ethnic Groups for HLE scores controlling for other significant factors.**

	Total Sample	Low SES
White European	-0.02	White European + Mixed -0.16
Black Caribbean	-0.16	-0.08
Black African	-0.44**	-0.04
Indian	-0.09	Indian + Bangladeshi +0.14
Pakistani	-0.46**	-0.17
Bangladeshi	-0.01	Indian + Bangladeshi +0.14
Other	-0.24	+0.26
Mixed	-0.05	White European + Mixed -0.16

White UK group used as the comparison group \*\*  $p < 0.01$

The results are shown for the total sample as well as for the low SES sub-group. Note only the differences associated for the Black African and Pakistani groups in the total sample are sufficiently large (with small sample sizes in the ethnic groups) to reach statistical significance.

In the low SES sub-group the White European and Mixed groups were particularly small and as they performed similarly in the analysis they were combined for the low SES analysis. For similar reasons the Indian and Bangladeshi groups were combined for the low SES analysis. This analysis for the full sample indicates that the White European, Indian, Bangladeshi, and Mixed groups are virtually indistinguishable from the White UK group once other significant factors are controlled. The difference for the Black Caribbean group is small and does not reach statistical significance. Only the Black African and Pakistani groups still maintain statistically significant lower scores on the HLE than the White UK group in the total sample. For analyses within the low SES sub-group the ethnic group differences are greatly reduced and the Indian, Bangladeshi and Other sub-groups show an advantage in the HLE over the White UK sub-group, while the Pakistani, White European and Mixed tend to have lower HLE scores within the low SES sample. Note for the low SES sample the ethnic group effects are not statistically significant as group sizes are small.

## Children's attainment and resilience

Low SES children on average, have lower attainment than high SES children. Therefore a high attaining low SES child might only be in the average band for attainment (or above) for the whole population. Therefore in defining the level of attainment it is proposed to produce a statistical model of attainment as a function of specified child factors (e.g. birth weight, gender), family factors (e.g. mother's education, SES, N.B. HLE would not be one of these factors) and neighbourhood factors (e.g. level of deprivation). On the basis of this model it will be possible to identify those individuals who are attaining either:

- a. Higher than expected    b. As expected, or    c. Lower than expected

after controlling for the effects of the specified child, family and neighbourhood factors.

Using this 'demographically adjusted' attainment score, it will be possible to explore whether there are specific factors that, in addition to (or in conjunction with) HLE differentiate children of different levels of demographically adjusted attainment.

Ethnic groups in EPPE include White UK, White European, Black Caribbean, Indian, Pakistani, Bangladeshi, Mixed and Other.

For the large White UK group, we can also look at sub-groups by SES and gender, e.g. low SES White UK boys. For the other ethnic groups numbers within different SES groups become too small for reliable analyses but it is possible to look at gender by ethnic group interactions to consider whether results vary by gender differently for different ethnic groups.

## Resilience – producing a measure

Resilience is a concept that can be approached in several different ways. Approaches based upon the absolute level of attainment or development have the problem that children from very disadvantaged backgrounds may show some improvement over others in similar circumstances yet still not attain a high level. Here the approach adopted is to consider the child's attainment in Literacy and Numeracy in terms of whether the child is attaining above or below expectation. What is expected for a child would depend upon a range of child and family characteristics. In order to establish what is expected for a child, children's attainment in Literacy and Numeracy is considered as a function of the child's characteristics (birth weight, previous developmental problems, age, gender, FSM), parent and family characteristics (education, SES, income, number of siblings, home language), and pre-school experience. The statistical method used is to establish a multilevel model for each child outcome, which we will call the demographic model. Variables controlled in the demographic multilevel models are:

- Age
- Birth weight
- Developmental problems
- English as an additional language (EAL)

- Number of siblings
- Mother's education
- Father's education
- SES
- Household income
- Eligible for FSM/not
- Time in pre-school

In these models results vary somewhat from outcome to outcome but the results typically indicate that overall, higher birth weights, educated parents, high incomes and professional households predict higher Literacy and Numeracy scores at ages 5 and 10. On the other hand, having EAL, being eligible for FSM and developmental problems predict lower test scores. For each outcome the models provide a predicted or expected score for a child given the characteristics pertaining to that child.

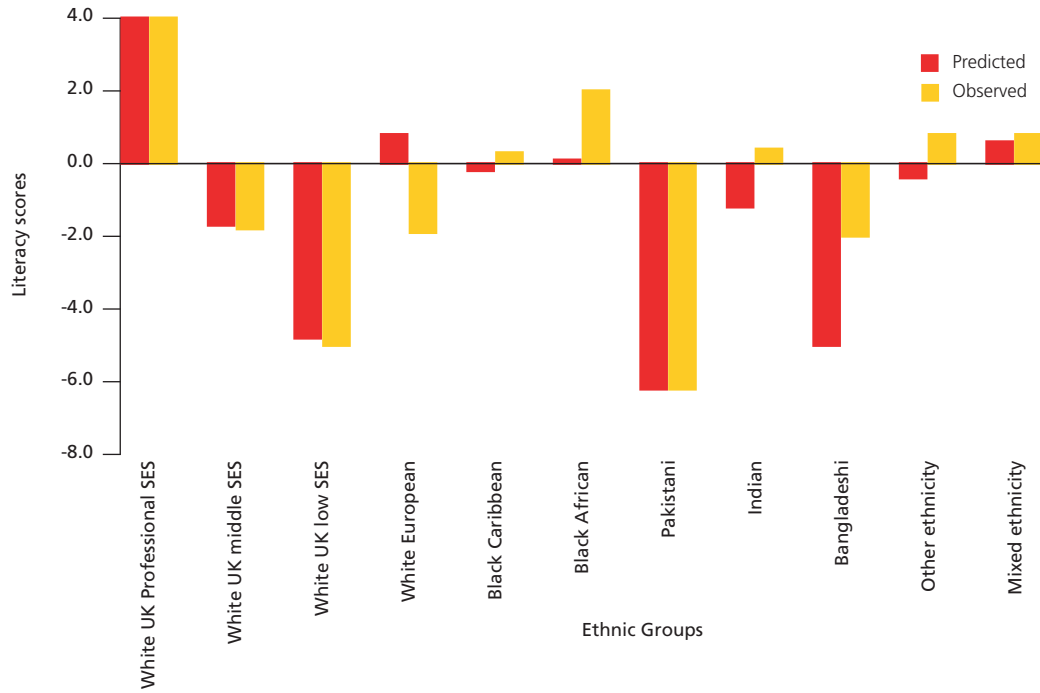
However, children's actual attainment can deviate from that predicted by the demographic model (see Figure 2.2). Children's observed attainment can be considered in terms of whether it is above or below the expected score (based on the demographic model). Where a child's observed attainment is above the expected, then that child can be regarded as showing positive resilience. Where a child's observed attainment matches expectation then resilience is typical (in line with those predicted) and where a child's attainment is below that expected then the child might be regarded as having negative resilience or is vulnerable. Hence the difference between predicted and observed attainment constitutes children's level of under and over-attainment in pre-reading and Numeracy scores, and therefore can be treated as a score of resilience, which can vary from negative scores through zero to positive scores. In other words the resilience score is the degree of deviance from the expected attainment based on the child's demographic and background factors. Figures 2.2a and 2.2b below show the predicted and observed scores in Literacy and Numeracy at the start of school (age 5) and Figure 2.2c and 2.2d those at age 10 for different ethnic groups (White UK group divided into high, middle and low SES).

Note that the numbers of children within specific ethnic groups is often small and hence the results for individual ethnic groups should be treated with caution.

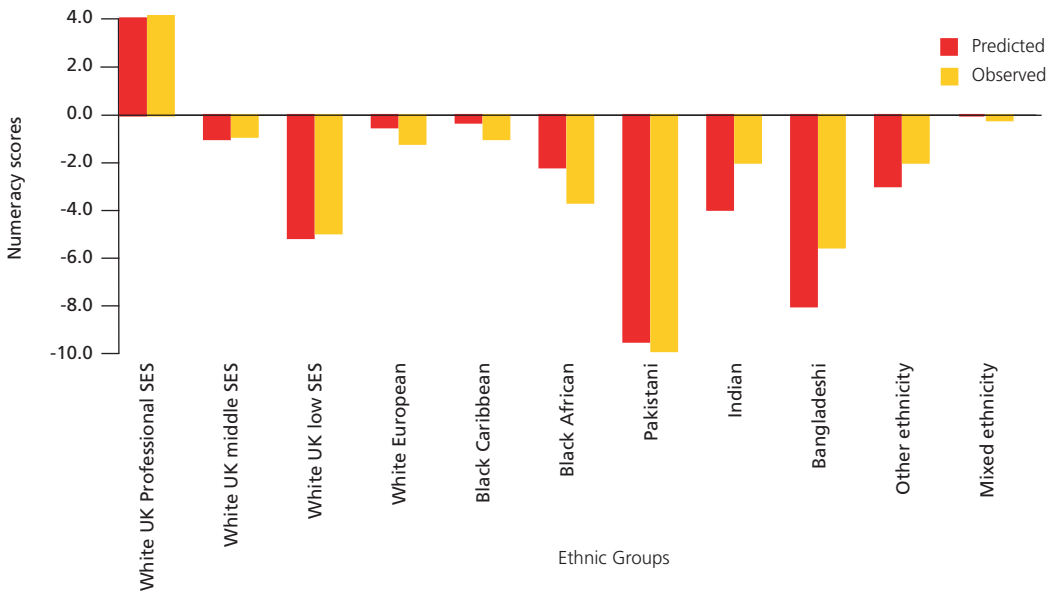


**Figure 2.2: Predicted and Observed Attainment in Literacy and Numeracy at the Start of School (age 5) and age 10 relative to sample average (set to score of zero)**

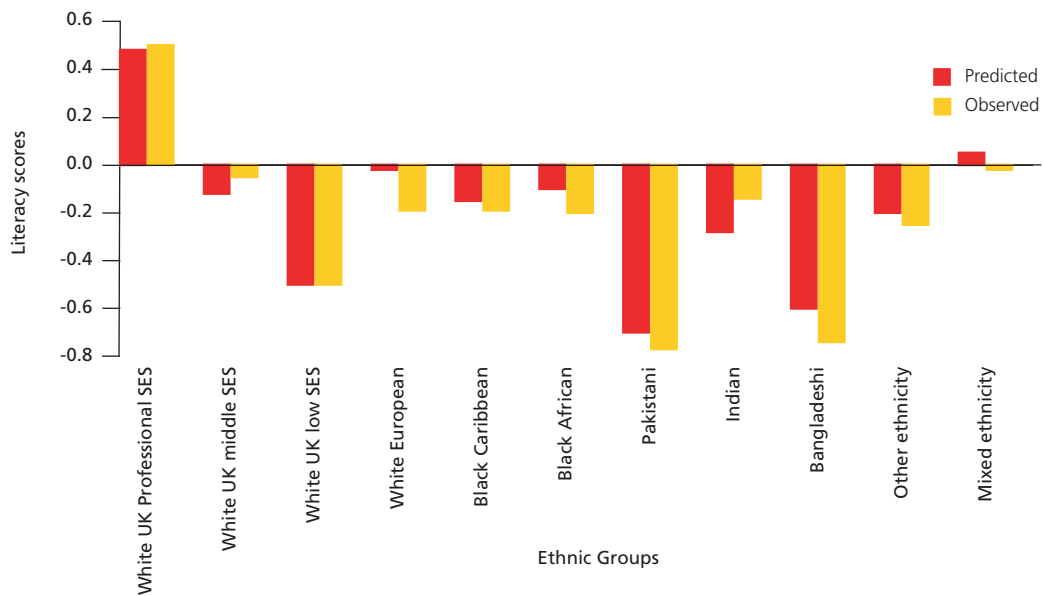
**2.2a: Predicted and Observed Literacy Attainment at Age 5 by Ethnic Group**



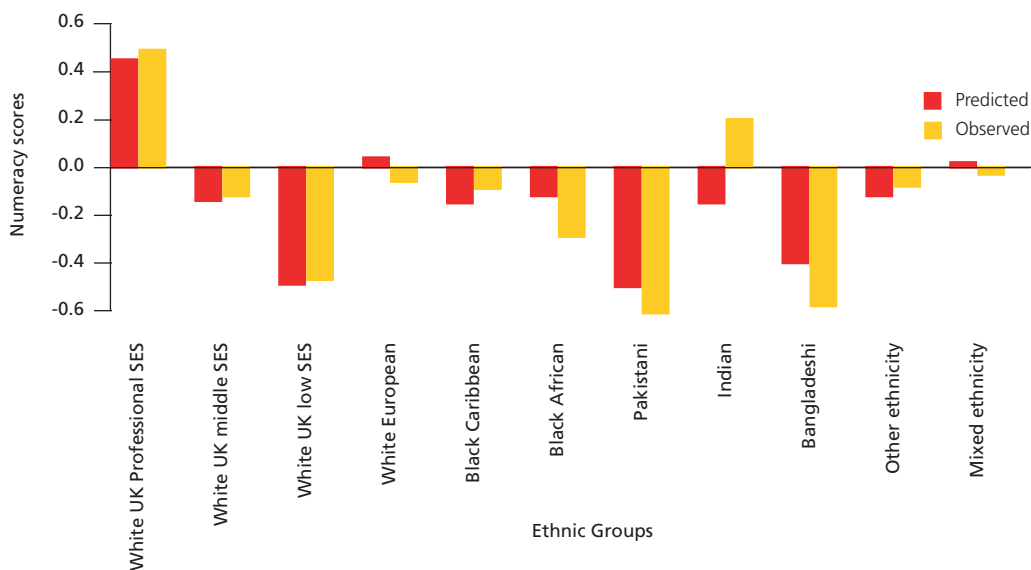
**2.2b: Predicted and Observed Numeracy Attainment at Age 5 by Ethnic Group**



### 2.2c: Predicted and Observed Literacy Attainment at Age 10 by Ethnic Group



### 2.2d: Predicted and Observed Numeracy Attainment at Age 10 by Ethnic Group



There are marked differences between ethnic groups but one striking feature of these graphs is that the predicted and observed scores show great similarity. For example, on average, the Pakistani group clearly show the lowest level of attainment in Literacy and Numeracy, but the observed attainment almost exactly matches that predicted from demographic and background characteristics. This implies that the great majority of differences in attainment between ethnic groups results from their demographic and background characteristics with little variation being due to specific ethnic group factors.

Moving on to consider the differences in resilience associated with particular ethnic groups, we can identify from these graphs some differences in the average resilience between ethnic groups. At the start of school (age 5) White UK, Pakistani and the Mixed ethnicity groups are all achieving as predicted by their demographic characteristics (little or no difference between predicted and observed scores). White UK children from professional backgrounds are expected to achieve the highest Literacy and Numeracy scores, and they do. Middle SES White UK children achieve lower scores as expected, whilst low SES White UK and Pakistani children achieve among the lowest scores, but this is very much to be expected on the basis of demographic and background characteristics. The Mixed ethnic group also attain much as expected for Literacy and Numeracy. These results are repeated in the age 10 Literacy and Numeracy scores for these groups, with the exception that Pakistani children (n=130) do slightly worse than expected in Numeracy.

White European children (n=78) do worse than would be expected on their demographic characteristics, for both Literacy and Numeracy. This group is amongst the smallest and also extremely diverse, containing many nationalities. The results for this group should be interpreted with caution and may not be reliable.

At age 5 years both the Black Caribbean (n=98) and the Black African (n=50) ethnic groups, on average, attain higher Literacy scores than expected, but have lower scores than expected for Numeracy. By age 10 years both Black groups have lower scores than expected for Literacy but the Black Caribbean group shows slightly better than expected attainment for Numeracy.

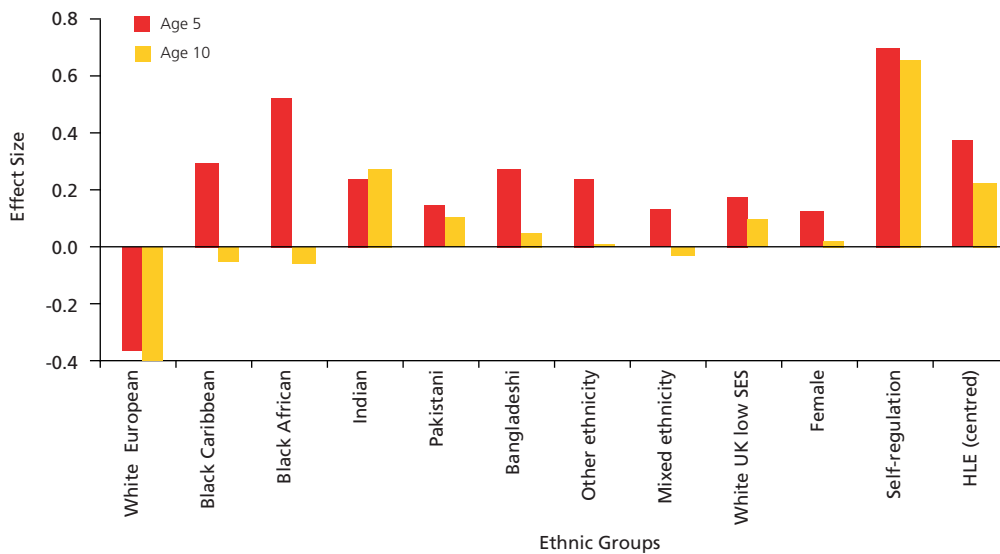
At age 5 years, the Indian (n=51), Bangladeshi (n=29) and the Other (n=56) ethnic groups achieve better than expected scores for Literacy and Numeracy and therefore appear to be more resilient than other ethnic groups. For example, the Bangladeshi group would be predicted to score similarly to the White UK low SES group for Literacy, but actually score substantially better than them. While in Numeracy the Bangladeshi group would be predicted to show substantially worse attainment than the White UK low SES group, yet their actual attainment is very similar to the White UK low SES group. At age 10 years the Indian group continue to attain better than expected for Literacy and Numeracy. However, the Bangladeshi group are now performing worse than expected for Literacy and Numeracy. Note that DfES analyses of pupil progress from Key Stage 1 to Key Stage 2 indicate that Bangladeshi pupils are making more rapid progress than White UK pupils. This suggests that the finding for Bangladeshi pupils in the EPPE sample may reflect the particularly small number of Bangladeshi children in the study and may not reflect the national picture derived from larger numbers, and hence should be treated with particular caution and not be generalised. The Other ethnicity group at 10 years are attaining slightly lower scores than expected for Literacy and slightly better for Numeracy.

## What might affect resilience?

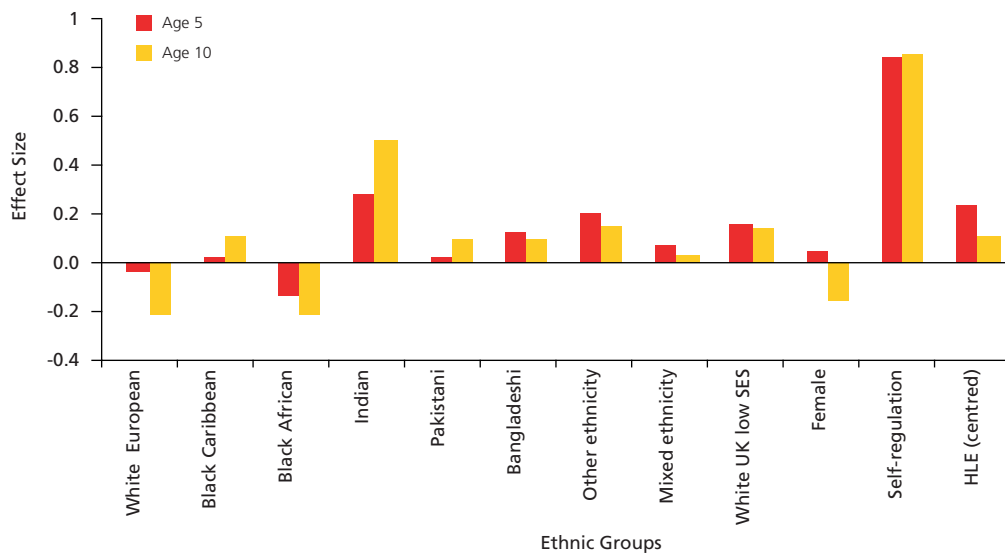
Several factors may have significant effects on resilience. We can examine this possibility by constructing multilevel models of children’s resilience scores as a function of any other factors of interest that were not already included in the construction of the resilience measure. Some fairly obvious factors of interest are gender, ethnicity, HLE, and level of area deprivation of place of residence. However it might be expected that children’s personal resources at the start of school might also influence the likelihood of showing resilience. In the EPPE study we measured children’s level of social/behavioural development in terms of ‘Self-regulation’ (‘Independence/concentration’), ‘Co-operation’, ‘Sociability’, ‘Openness’, ‘Pro-social behaviour and behaviour problems (‘Antisocial/worried’ behaviour). These measures were used as measures of children’s personal resources (non-cognitive or ‘soft’ skills) in the multilevel models to predict resilience. In the analyses the factors found to exert statistically significant relationships with resilience were gender, ethnicity, HLE and Self-regulation. The other factors investigated did not show independent significant associations with resilience. The effect sizes for the significant predictors of resilience for Literacy at age 5 and 10 years are shown in Figure 2.3a and those for resilience for Numeracy in Figure 2.3b.

**Figure 2.3: Predicting Resilience in Literacy and Numeracy**

**2.3a: Predicting Resilience in Literacy at 5 and 10 years**



### 2.3b: Predicting Resilience in Numeracy at 5 and 10 years



The strongest effect on children's resilience is their level of prior Self-regulation (Independence and Concentration) measured at the start of school. This measure is based upon the ratings (1-5 scale; 1=does not apply; 5=almost always applies) of a teacher, familiar with the child, on how the following items apply to the child:

- Thinks things out before acting
- Not easily distracted
- Can move to new activity upon completion of task
- Can independently select and return equipment
- Does not fidget or squirm about
- Perseveres in face of difficulty
- Likes to work things out for self
- Not restless
- Sees task through to end.

The factors which predict the child's level of Self-regulation at the start of school have been described in a previous report (Sammons et al., 2003b). Being female, higher parental education and income, HLE, quality of pre-school and amount of time (in months) in pre-school all are associated with increases in Self-regulation, whilst lower birth weights, eligibility for FSM, developmental and behavioural problems are associated with decreases in Self-regulation.

The HLE also has a strong, independent effect on resilience at ages 5 and 10, with higher early HLE being associated with higher resilience; the effects being strongest at age 5 and also stronger for Literacy than Numeracy.

Girls show more resilience in Literacy at age 5 and 10 although the effect is stronger at age 5. For Numeracy there is barely a perceptible advantage for girls at age 5 and this has changed to a clear advantage for boys at age 10.

When these factors are accounted for, there are statistically significant associations related to ethnic group. In these comparisons the White UK middle/high SES group is the comparison group for ethnic group effects. White UK children from low SES backgrounds appear to be more likely to over-achieve in both pre-reading and Numeracy at age 5 and 10. The most vulnerable children (to under-attainment) are of White European backgrounds in Literacy and Numeracy (at age 10). For all other ethnic groups, children are achieving higher than expected in Literacy at age 5, with Black African children proving the most resilient (compared to White UK middle-high SES). By age 10, most are achieving more or less as expected (from the demographic profile), except Indian children, who consistently over-achieve. In Numeracy, Black African children become as vulnerable to under-attainment as their White European counterparts by age 10.

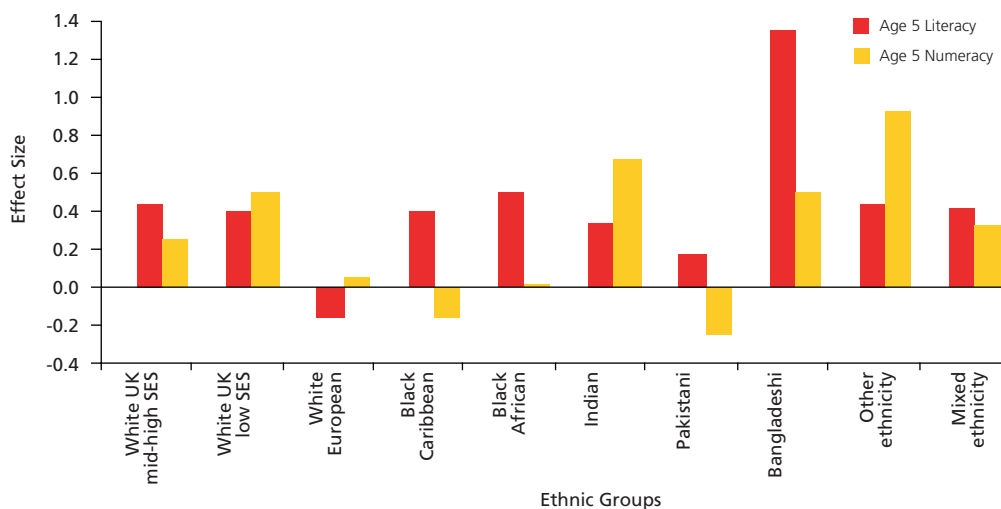
Apart from ethnic group differences, differences in resilience are associated with Self-regulation, gender and the HLE. Do the effects associated with these three variables differ by ethnic group? This possibility was examined by constructing multilevel models of resilience that included interaction terms for

- Ethnic group by Self-regulation
- Ethnic group by HLE
- Ethnic group by gender

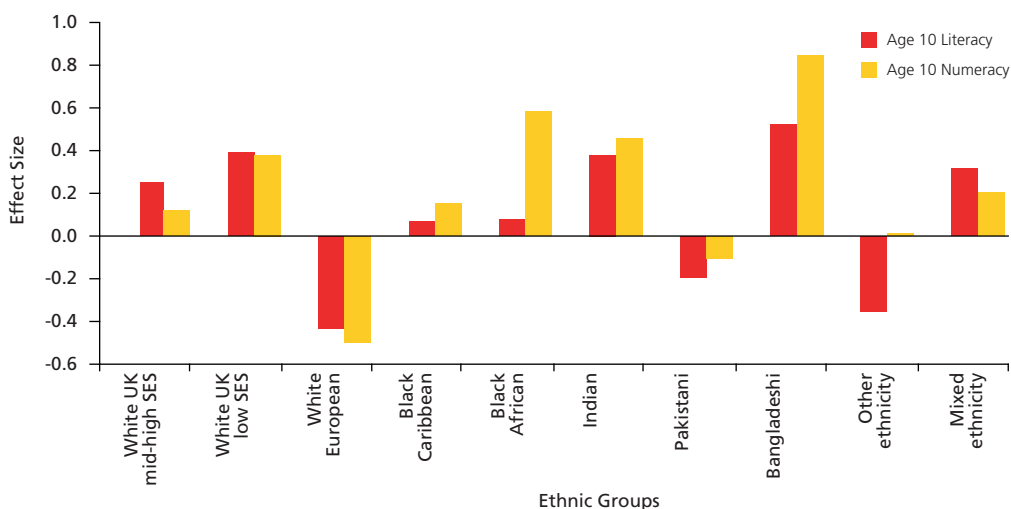
The results of these analyses revealed that the effect of Self-regulation on resilience does not vary by ethnic group. Rather, across all ethnic groups, Self-regulation is strongly associated with resilient (better than expected) attainment in Literacy and Numeracy at ages 5 and 10. There are ethnic group differences in the effect of early HLE and gender on resilience (Figures 2.3 and 2.4).

**Figure 2.4: The Effects of HLE on Age 5 and 10 Literacy and Numeracy Resilience by Ethnic Group**

**Figure 2.4a: The Effects of HLE on Age 5 Literacy and Numeracy Resilience by Ethnic Group**



**Figure 2.4b: The Effects of HLE on Age 10 Literacy and Numeracy Resilience by Ethnic Group**



At age 5 there are a few instances where the HLE is associated with a negative effect upon resilience. These are for White Europeans for Literacy, Black Caribbean and Pakistani children for Numeracy, and these negative effects are all small. Otherwise the effects of HLE upon resilience are positive and often large. In the case of Bangladeshi children the effects are very large indeed. For most minority ethnic groups the effects of HLE is as large as or greater than the effect for the White UK group.

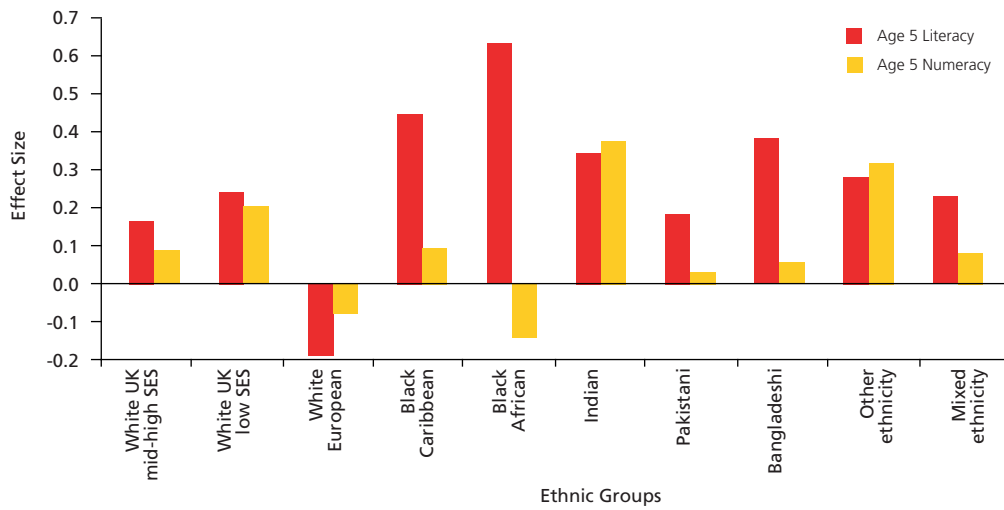
At age 10 the White European group is atypical in that HLE has a moderately large negative association with resilience for Literacy or Numeracy. There are negative effects for the Pakistani group but they are small and the Other ethnic group also shows a negative effect for HLE on Literacy only. In all other cases the effects are positive and also for several groups the effects are larger than for the White UK group (Bangladeshi and Indian overall, and Black African for Numeracy).

The findings that the impact of early HLE upon resilience is often greater for minority ethnic groups (despite sometimes lower overall level of HLE) than for the White UK group indicates that the HLE is a useful measure for understanding differences in the academic performance of children across most if not all ethnic groups.

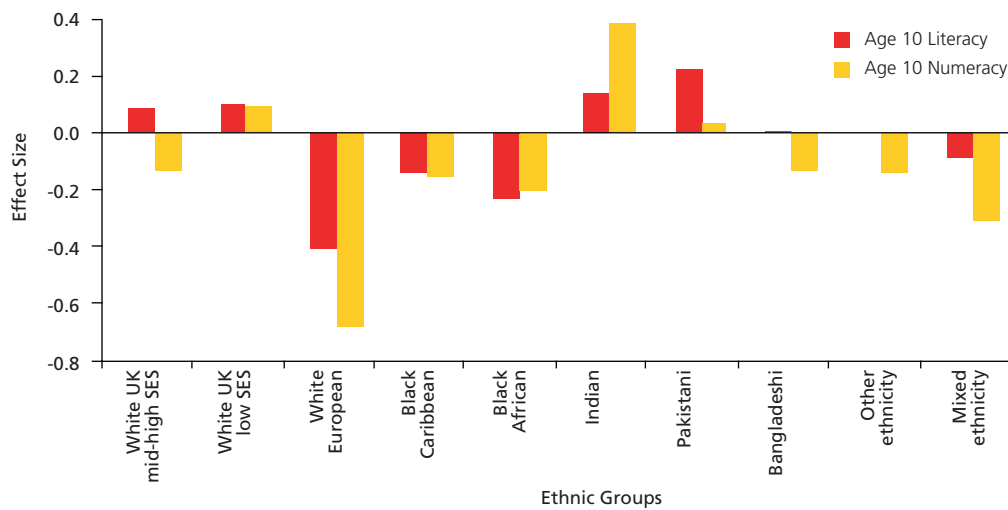
The analyses for gender by ethnic group interactions reveal that the consequences of being female (as opposed to male) also vary by ethnic group (see Figure 2.5).

**Figure 2.5: The Effect of Being Female (over Male) on Resilience in Literacy and Numeracy**

**Figure 2.5a: The Effect of Being Female (over Male) on Resilience in Literacy and Numeracy at age 5**



**Figure 2.5b: The Effect of Being Female (over Male) on Resilience in Literacy and Numeracy at age 10**



At age 5 girls have an advantage in Literacy over boys, a pattern that cuts across ethnic groups (to varying degrees). The exception is the White European group, for whom being a girl predicts worse attainment over boys (compared to White UK middle-high SES). Among Black Caribbean and African groups, being a girl quite strongly predicts over-attainment in Literacy at age 5.



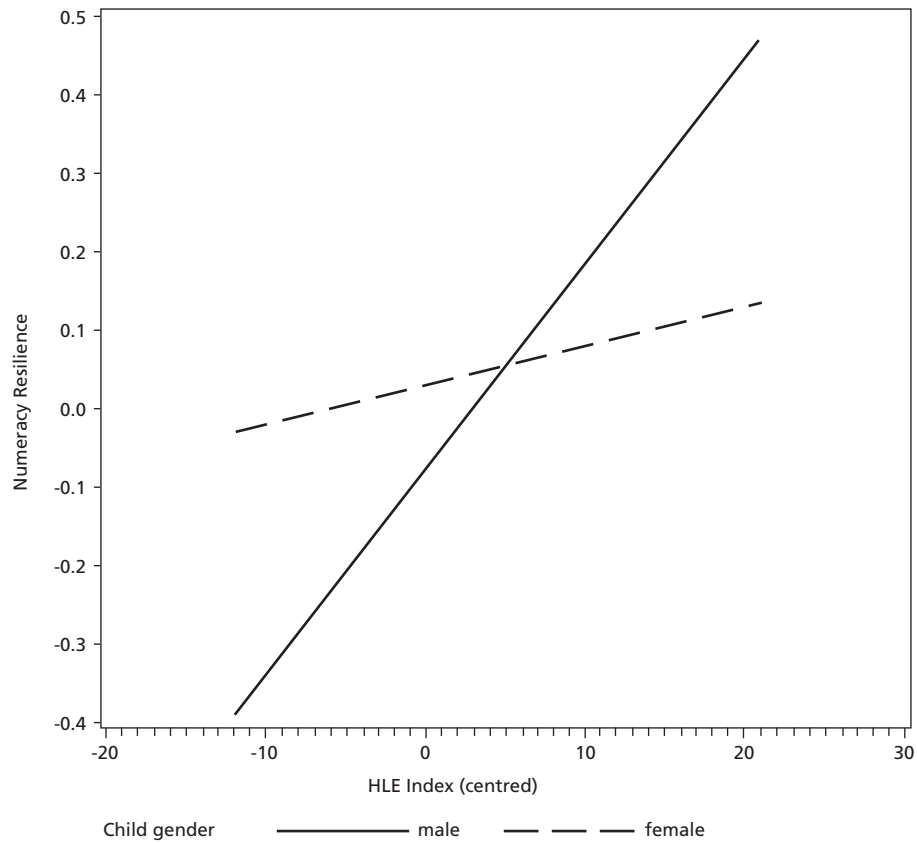
For all other ethnic groups, with the exception of White Europeans and Black Africans (in Numeracy), being female has a weak to moderate positive effect on resilience at age 5. By age 10, the pattern is reversed – being a girl no longer has positive effects except for Indian and Pakistani groups where the positive effect is weak. In fact, being a girl predicts worse attainment than expected, particularly for White European groups. These results suggest that something is occurring differentially for girls and boys by Year 5 of primary school that causes girls' early advantage over boys to disappear and even reverse, after accounting for all other factors such as demographics, HLE, and Self-regulation. Such changes result in boys catching up somewhat with girls in their Literacy related abilities and making more gains in Numeracy in most groups.

### **White UK group considered separately**

While most ethnic groups in the EPPE sample are too small to subdivide by SES and also run interaction analyses, the White UK group is large enough to do this. Sub-group analyses for the White UK group were undertaken for the low SES, middle SES and high SES groups separately for outcomes at the start of school, looking for significant interactions between gender, HLE and Self-regulation.

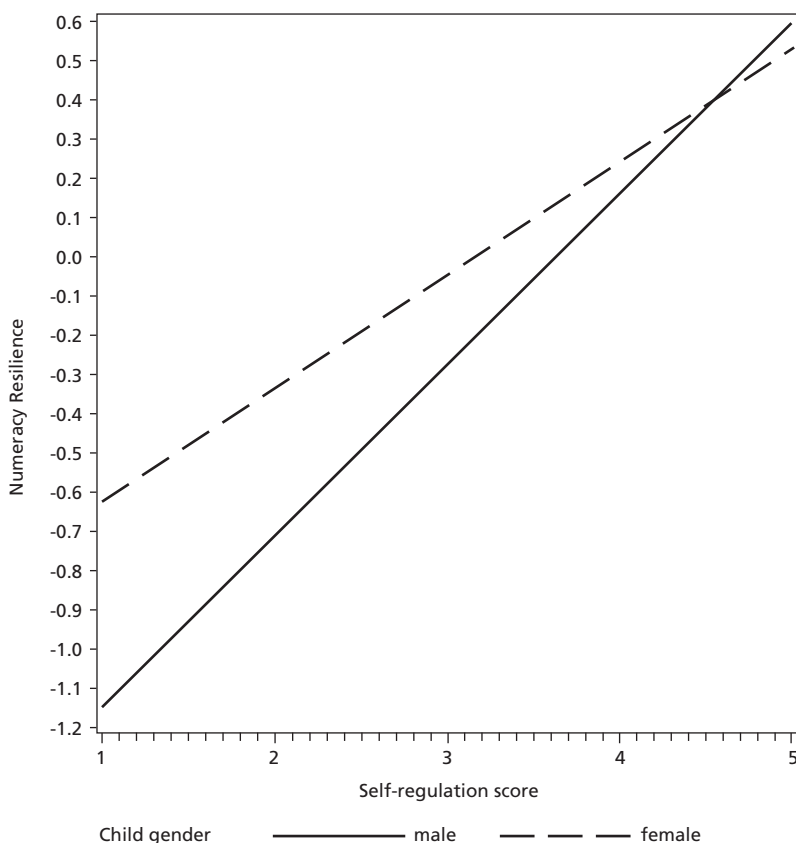
Examination of interactions between HLE and gender revealed that there was a significant conditioning effect of HLE for resilience in Numeracy by gender that applied in the high SES group. The relationship between the HLE and resilience in Numeracy was significantly different for boys and girls in the high SES group. Furthermore, the differential effects by gender were not significant in the middle and low SES groups. HLE significantly improved high SES boys' chances of over attainment in Numeracy, whilst contributing significantly less to girls' Numeracy resilience. Figure 2.6 illustrates the differential effect of HLE by gender for the White UK high SES group.

**Figure 2.6: Plotting the differential effect of HLE on Resilience in Numeracy at age 5 by gender for White UK high SES group.**



Examination of interactions between Self-regulation and gender revealed that there was also a significant conditioning effect of Self-regulation for resilience in Numeracy by gender within the middle SES group. This means that the relationship between the HLE and resilience in Numeracy was significantly different for boys and girls. At age 5, the gap between boys and girls is the greatest at low levels of Self-regulation, where boys are most vulnerable (compared to girls) to under-attainment in Numeracy. However, middle SES boys' resilience in Numeracy catches up with girls with higher Self-regulation scores. High Self-regulation scores predict over attainment for both boys and girls relatively equally. For White UK high SES and low SES group, there was no significant differential effect by gender for Self-regulation, which was associated with increasing resilience in similar ways for boys and girls.

**Figure 2.7: Plotting the differential effect of Self-regulation on Resilience in Numeracy at Age 5 by gender for White UK Middle SES**



## Summary

Considering the results for the Home Learning Environment (HLE):

The HLE is strongly associated with better cognitive and social/behavioural development, including Self-regulation. The effects associated with the HLE upon children’s development are stronger than for other traditional measures of disadvantage such as parental SES, qualifications or income.

The HLE varies between boys and girls similarly across all groups, with girls having higher HLE scores than boys.

Parent’s education has similar effects upon HLE scores for all the groups with higher parent’s education level (particularly mother’s) being associated with higher HLE. For the White UK low SES group the effect of father’s education disappears, possibly because of limited variation in father’s education for this sub-group.

The HLE varies between ethnic groups and where the home language is not English (EAL), HLE scores are markedly lower, and this raises the question of whether the HLE is a culturally appropriate measure. However the HLE is associated with differences in child and family characteristics and when these are taken into account only the Black African and Pakistani groups still have significantly lower HLE than the White UK group. When the low SES group is considered separately, and after allowing for background factors, ethnic differences are largely reduced and often insignificant, while Indian and Bangladeshi groups show higher HLE scores than the White UK group. Also when examining the impact of HLE upon children's resilience in Literacy and Numeracy the effects of the HLE are strong across most ethnic groups with some ethnic groups showing HLE effects stronger than the White UK group. This clearly indicates that the HLE is important for these ethnic groups in understanding how children reach different levels of attainment.

Where a child has more than 3 siblings (a measure of large family size) this also depresses the HLE score, as does the presence of early developmental problems for the child, and these influences upon the HLE are stronger for boys than for girls.

Where children attended a pre-school, the composition of the pre-school was associated with differences in the HLE for all groups. Where more of the other mothers using the pre-school had a degree the HLE was higher. This suggests that opportunities for mixing with parents who are better educated may have some benefits for parenting, i.e. the possibility of a peer-group learning effect amongst mothers or parents. This pre-school influence appears somewhat stronger for girls than boys.

Also where children lived in more deprived areas their HLE was depressed, and this effect was stronger for boys than girls.

Considering the results on resilience:

There are marked differences between ethnic groups in attainment but the great majority of differences in attainment between ethnic groups results from their demographic and background characteristics with relatively little variation being due to specific ethnic group factors.

There are some ethnic group differences in resilience. At the start of school (age 5) White UK, Pakistani and the Mixed ethnicity groups are all achieving as predicted by their demographic characteristics (little or no difference between predicted and observed scores). These results are repeated in the age 10 Literacy and Numeracy scores for these groups, with the exception that Pakistani children do slightly worse than expected in Numeracy.

At age 5 years both the Black Caribbean and the Black African ethnic groups, on average, attain higher Literacy scores than expected, but do worse than expected for Numeracy. By age 10 years both Black groups are doing worse than expected for Literacy but the Black Caribbean group shows slightly better than expected attainment for Numeracy.

At age 5 years, the Indian, Bangladeshi and the Other ethnic groups achieve better than expected scores for Literacy and Numeracy and therefore appear more resilient than other ethnic groups. At age 10 years only the Indian group continues to attain better than expected for Literacy and Numeracy. However, the Bangladeshi group are now attaining lower scores than expected for Literacy and Numeracy. In DfES figures on progress from Key Stage 1 to Key Stage 2 Indian pupils show better progress than White UK children. The EPPE data is compatible with these DfES results.

The strongest effect on children's resilience (better than expected attainment) at age 5 and 10 is their level of Self-regulation (Independence and Concentration) at the start of school. Being female, higher parental education and income, HLE, quality of pre-school and amount of time in pre-school are all associated with increases in Self-regulation, whilst lower birth weights, eligibility for FSM, developmental and behavioural problems are associated with decreases in Self-regulation.

The HLE also has a strong, independent effect on resilience at ages 5 and 10, with higher HLE being associated with higher resilience; the effects being strongest at age 5 and also stronger for Literacy than Numeracy.

Girls show more resilience in Literacy at age 5 and 10 although the effect is stronger at age 5. By age 10 boys show a clear advantage for Numeracy. The relative better resilience for girls differs amongst ethnic groups with the advantage of being female being greater in the Black Caribbean, Black African, Indian, Bangladeshi and the Other ethnic groups than for the White UK group at age 5. By age 10 the situation looks very different with the advantage of being female being reduced and for Black Caribbean and Black African ethnic groups the situation is reversed with boys now being associated with better resilience.

For the White UK high SES group, there was a gender by HLE interaction, whereby the HLE improved boys' over-attainment in Numeracy markedly, whilst contributing only slightly to girls' Numeracy resilience. For the middle and low SES groups HLE influenced boys and girls similarly.

For the White UK middle SES group boys are relatively more disadvantaged than girls if they have low Self-regulation. For the high and low SES groups Self-regulation scores influenced boys and girls similarly.

## Discussion

The evidence indicates the importance of the early HLE. While other family factors such as parents' education and SES are also important, the extent of home learning activities exerts a greater and independent influence on educational attainment (at different ages), and this occurs for almost all ethnic groups. It is rare for a large scale study, longitudinal or not, to include process variables indicative of family interaction processes or patterns of experience in the home other than the standard structural demographic variables such as SES or parental education. The strength of the effect of this variable could well be informative to projects and social policies targeted on improving the home environment of children with regard to reducing social exclusion e.g. Sure Start. The components of the HLE provide a starting point for consideration of which aspects of family life may be involved in efforts to produce measurable beneficial effects upon children's development

There are strong effects of the pre-school HLE at age 5, 7 and 10 years but the influence of the HLE becomes somewhat reduced as the children get older. Two reasons suggest themselves for this finding; (a) over time, earlier experiences become less influential, losing their developmental significance, or (b) perhaps new sources of influence, especially schooling, affect children's development? The results of EPPE analyses clearly indicate that primary school influences are moderate to strong by age 10.

Possibly the continuing effects at age 10 of the HLE, measured approximately 6 years previously, is to be expected from continuity over time in the relative standing of homes, on developmentally enhancing activities, i.e. it is concurrent effects of the HLE rather than earlier experience producing longer term effects upon development. However, the interpretation that earlier home experience matters is supported by NICHD study evidence (Belsky et al., 2006) indicating that parenting sensitivity at 4-5 years predicts cognitive development at age 10 with current parenting controlled. Developmental versus environmental continuity issues pervade longitudinal research and require ongoing attention.

The HLE is only moderately associated with SES and parents' educational levels (correlations = 0.28 – 0.32), indicating that low SES homes sometimes score highly and, conversely, high SES homes at times score poorly on the HLE measure. In studies using another measure of the home environment, the Home Observation for the Measurement of the Environment (HOME), the correlations between HOME and maternal education or SES are in the range 0.36 to 0.50 for differing social and ethnic groups. Generally measures of learning stimulation derived from the HOME measure are significantly associated with social and cognitive development after controlling for demographic factors (Bradley, Corwyn, Burchinal, McAdoo & Coll, 2001). Others have found that the affective quality of mother-child interactions predicts cognitive skills (e.g. Estrada et al., 1987). Such findings led Conger et al. (1992) to conclude that between 20-50% of the variance in child outcomes can be accounted for by differences in parenting.

The effects of the home environment and parenting upon children's development may partly be due to the teaching and learning of specific skills, e.g. letter-sound relationships. However, the multiplicity of learning opportunities included in the HLE suggests that the effects may be related to more generalised and motivational aspects of child development, e.g. learning to learn. Also children may internalise aspects of parental values and expectations (implicit in the activities of the HLE) as they form a self-concept of themselves as a learner. Such a perspective is congruent with Vygotsky's (1978) theory that children learn higher psychological processes through their social environment and specifically with adult guidance within a child's "zone of proximal development" (stimulation within the child's comprehension) and reinforces the idea that children acquire cognitive skills such as Literacy through interaction with others who aid and encourage skill development.

It is quite possible that the strong relationship between HLE and cognitive scores is mediated by some intervening unmeasured factor. Those parents, who answer the questions in a way leading to a high score, may have other characteristics that lead their children to have higher cognitive scores. Even if this were so, the HLE would still be an efficient proxy measure of such unmeasured factors. Additionally it is possible that a feedback loop is operating whereby parents are influenced by the child's level of attainment, and this would lead to children with higher ability possibly receiving more parental stimulation.

Whatever the mechanisms, the influences of parenting upon child development are pervasive. Research involving 0-3 year olds from the evaluation of the Early Head Start (EHS) program, which provided combinations of home visits and centre childcare intervention for disadvantaged families, found that the intervention increased both the quantity and quality of parents' interaction with children, as well as children's social and cognitive development (Love et al., 2005). A review of early interventions concluded that, to gain the most impact, interventions should include both parent and child together with a focus on enhancing interactions (Barnes & Freude-Lagevardi, 2003). Such work indicates that parenting behaviours are learnable, and changes in parenting are associated with improved child development. Similar conclusions were derived from a study by Hannon, Nutbrown & Morgan (2005) in the UK, where children showed better Literacy progress when parents were involved in a program on ways to improve child Literacy during the pre-school period.

With primary school children similar relationships between parenting and academic achievement occur. DeGarmo et al. (1999) found that the effects of parent education upon primary school achievement were primarily mediated through parents' provision of opportunities for building intellectual skills. Reviewing studies, Mason and Allen (1986) concluded that the quality and quantity of interactions, not just reading materials and a story time routine, shaped early Literacy. Similarly, Zellman and Waterman (1998) found that parent-child interaction was more important than other family variables for primary school children's success in Reading or Mathematics.

With secondary school children similar effects are detectable. In the USA, Siu-Chu and Willms (1996) analysed data for 24,000 14-year-olds and found that parental involvement made an important contribution to academic achievement over and above the effects of family demographics; in particular parent-child interaction seemed most important. While in the UK Feinstein and Symons (1999) found that indicators of parental interest and involvement with child learning were more important in predicting academic achievement at 16 than parental education and SES.

Such research indicates the importance of school readiness, and mounting evidence demonstrates the role of parenting, for children's school readiness, skills and ongoing achievement. Academic achievement in adolescence and beyond can be linked to academic skills at school entry (Alexander, Entwisle, & Horsey, 1997), and school entry ability can, in turn, be linked to pre-school abilities (Agostin & Bain, 1997). Possibly pre-school experience matters because behaviour is more susceptible to the environment earlier rather than later in childhood, or because starting school is a critical social transition when ability predicts longer term achievement through creating expectations.

The results reported here indicate that a critical element of school readiness is the child's capacity for Self-regulation. This factor was by far the strongest in predicting children's over-attainment relative to that expected from the child's background. Self-regulation is itself affected by the child's previous experience including the HLE and amount of pre-school. This suggests that if pre-schools were to arrange the curriculum to foster the development of Self-regulation then this is likely to have beneficial effects upon children's school readiness, and consequently longer term attainment.

Parenting is influenced by poverty. For instance, NICHD ECCRN (2005) report that families in chronic poverty have less stimulating home environments but that the home environment improves as families move out of poverty. Families exposed to transient poverty, on the other hand, appear to manage to maintain adequate home stimulation despite restricted resources. Wachs and Camli (1991) and Miller et al., (1998) noted that crowding and the number of people coming and going in the home, together with the noise level, may all have adverse effects on parenting behaviour and child development via a reduction in maternal involvement, verbal stimulation and maternal responsivity.

Poverty is linked to poorer child outcomes as well as poorer parenting (Brooks-Gunn et al., 1997). Children in persistent poverty have greater cognitive and behavioural deficits at age five than those exposed to transient poverty, who, in turn, have more deficits than children in families which have never been poor (Korenman et al., 1995). Some of these deficits can be attributed to the health problems associated with poverty and deprivation, but the greatest part can be explained by reduced emotional support and less cognitive stimulation from parents (McLoyd, 1998).



Such findings suggest that, for parents in disadvantaged communities, policies that encourage active parenting strategies, and also pre-school education, can help to promote young children's Literacy and Numeracy and facilitate later academic achievement. A measure such as the HLE could be a good starting point for a project concerned with improving home environments and consequently children's development. However, responsibility should not be placed solely on parents. The provision of (good quality) pre-school education from 3 years of age is likely to produce further benefits, particularly when the centre works closely with parents as many pre-schools do. Studies of successful pre-schools by Siraj-Blatchford et al., (2003) indicate that pre-schools that promote activities for parents and children to engage in together are likely to be most beneficial for young children.

With regard to ethnic group differences in attainment, the results reported here clearly indicate that the great majority of the variation amongst ethnic groups in Literacy and Numeracy attainment at age 5 or age 10 is due to the demographic and background factors associated with particular ethnic groups. There is little variation that can be considered a consequence of being in a specific ethnic group. However it is clear that resilience amongst all children is affected by gender, HLE and the child's level of Self-regulation on starting school. The effects of gender and HLE vary between ethnic groups with effects for some ethnic groups both for gender and HLE being markedly greater than for the White UK group. Such findings may well have implications for consideration of how to improve the educational performance of Black and minority ethnic groups. Those strategies that increase the HLE and children's Self-regulation would appear to offer most opportunity for substantial benefits for children, and the structuring of pre-school experience and the services offered by Children's Centres are routes for such improvements.

While EPPE has no data on the issue of segregation by ethnic group the Equalities Review may be interested in the following American research. It is possible that ethnic group differences may be influenced by neighbourhood and segregation effects. The large gap in educational achievement between blacks and whites has long troubled Americans. Fifty years after the *Brown v. Board of Education* decision (1954), persistently large black-white differences in standardised test scores remain central to education policy. Card and Rothstein (2006) found for 1998-2001 high school graduation classes, that the black-white achievement gap is clearly linked to racial segregation. They compare the black-white achievement gap across areas with more- and less-segregated neighbourhoods and schools. Within a metropolitan area, families living in integrated neighbourhoods (and students attending integrated schools) may be different in a variety of unobserved ways from those in segregated neighbourhoods and schools, confounding the effect of inter-racial exposure. The focus on across area differences in segregation eliminates biases deriving from this sort of within city sorting. Similarly, the focus on metropolitan level black-white test score gaps removes the impact of a variety of omitted characteristics potentially including school quality and resource levels that do not vary within a city but might be correlated with inter-racial contact. They find that segregation has large, negative effects on black students' relative test scores. When a city is completely integrated, the gap in relative attainment between blacks and whites proves to be twenty-five per cent smaller than in a city where the races are fully segregated in different neighbourhoods, holding family background characteristics constant.

Card and Rothstein (2006) also attempt to distinguish between the effects of residential and school segregation. Considered separately, each appears to have a negative effect on the relative test scores and educational attainment of black students. In statistical models that include both school and neighbourhood segregation, though, the effects of relative exposure of black and Hispanic students to white students are small and statistically insignificant. Although the data could be consistent with equally negative effects of neighbourhood and of school segregation, the authors draw the tentative conclusion that neighbourhood composition matters more than school composition.

These results (both the negative effects of segregation, and the indication that neighbourhood segregation matters more than does school segregation) stand up in the face of a variety of statistical tests designed to rule out competing explanations. The segregation effects do not appear to be attributable to differential family background characteristics of black students living in more- and less-segregated cities, nor to resource differences between students' schools.

One potential explanation for the lack of a school segregation effect is the prevalence of within-school segregation: if black students rarely attend class with white students even in cities with integrated schools, these cities may not have higher black test scores even though truly integrated education would have a positive effect. Indeed, the authors find a strong relationship between school integration and at least one proxy for classroom-level exposure: white students are more likely to take honours and advanced placement classes, which typically have few black students, in cities where the schools are integrated than in cities where schools are segregated. Although the authors have no way of measuring direct interactions between students of different races at school, this result suggests that school integration may not achieve high exposure rates of black to white students, potentially accounting for the lack of an integration effect on black students' test performance.

The EPPE data do not include measures of residential segregation and this is not a topic the team has addressed. However, it is an aspect that may be relevant to the wider consideration of social policy by the Equalities Review.

Overall this study indicates that support for parents to develop stimulating home environments, and the provision of good quality pre-school, should help all children. This has implications for policies designed to help children from disadvantaged backgrounds start school with more academic skills, and to maintain their achievement through the primary school years, and Sylva and Pugh (2005) have described how such research has affected public policy in the UK.

## Part 3: Qualitative Case Studies

### How low SES families support children's learning in the home

Authors: Iram Siraj-Blatchford, John Siraj-Blatchford, Brenda Taggart, Kathy Sylva, Edward Melhuish, Pam Sammons and Stephen Hunt

The focus of our qualitative case studies is on the experience of low SES families from five ethnic groups: White U.K., Pakistani, Black Caribbean, Black African and Bangladeshi. The broad objective of our analysis has been to establish how (and why) some poorer families in each of these communities are able to provide better support for their children's learning at home. Department for Education and Skills (DfES, 2006) evidence shows that Pakistani, Bangladeshi, Black African and Black Caribbean children are more likely to experience deprivation than White UK children:

*For example, 70% of Bangladeshi pupils and almost 60% of Pakistani and Black African pupils live in the 20% most deprived postcode areas (as defined by the Index of Multiple Deprivation) compared to less than 20% of White British pupils. (DfES, 2006, p.5).*

This part of the report begins by identifying the context of the study and provides a rationale for the loose theoretical framework that was applied in the initial stages of analysis. The EPPE project (Sylva et al., 2004) has shown that various specific parental activities explain (in the statistical sense) a substantial variance in attainment. On their child's entry to the EPPE study, over ninety-eight per cent of parents were interviewed based on an 11 page interview schedule. When compared with child attainments, analysis of this child/parent/home data identified a range of indicators of disadvantage. In terms of child characteristics, for example, children tended to be disadvantaged where English was an additional language (EAL), where they lived in large families with 3 or more siblings or were born prematurely, or with a low birth weight (below 2500 grams).

Although the parents' SES and levels of education were also strongly related to child outcomes, the quality of the home learning environment (HLE) was found to be more important. At age 3 years and onwards strong associations were found between poor cognitive attainment and a less stimulating HLE. By comparison there was only a moderate, positive association between the HLE and parents' SES and qualifications ( $r=0.3$ ). For example, the children of parents who reported that they regularly taught/played with the 'ABC' had pre-reading scores 4.5 points higher than children whose parents did not teach/play with the alphabet. This could be compared to the impact of social class where it was found that the difference between the lowest classification (IV and V) and highest (I) was only 2.4 points (Sammons et al., 2002). In other words; EPPE found that it is what parents did that was more important than who they were (Melhuish et al., 2001). New evidence on the importance of the HLE has been included in earlier sections of the report.

As we have seen from the evidence presented in Part 1 and 2 of this report:

- The provision of positive early HLEs are still associated with children achieving more in terms of both cognitive and social/behavioural development at age 10.
- We have found that members of some ethnic and socio-economic groups tend to provide lower HLEs. The reasons for this may be associated with both material and the less tangible aspects of poverty (e.g. related to social capital) experienced by many ethnic and socio-economic groups.

Given the strength of the evidence for these two findings, if we are to reduce underachievement, it would seem that there are two practical responses that should be considered:

- a) that efforts should be made to try to improve young children's HLEs
- b) that schools and pre-schools should provide greater educational support for those children who need it.

In preparing this report we have taken the view that ideally we should be looking for strategies to achieve *both* of these objectives in addressing the **Every Child Matters** agenda. The Government's aims for 'Every Child Matters' are for every child, whatever their background or their circumstances, to have the support that they need to:

- **Be healthy**
- **Stay safe**
- **Enjoy and achieve**
- **Make a positive contribution**
- **Achieve economic well-being**

As we shall see, these are also the aspirations that our minority ethnic and working class parent respondents have for their own children. But the biggest question still remains: How are these ends to be achieved?

Some readers may feel uncomfortable in discussing the 'quality' of HLEs provided by some social and minority ethnic groups and we therefore felt that it was important for us to acknowledge from the start that there are legitimate concerns to be addressed in this respect, perhaps especially for policy makers. Notions of 'cultural deficit' have been voiced in the past and it is therefore essential in our discussions of the HLEs that we shouldn't be seen to be blaming those *experiencing* educational underachievement for their own problems. In most academic circles theories of cultural deficit have been rejected, thanks in most part to the efforts of conflict theorists who have argued that schools should do more to recognise the strengths that minority ethnic and working class children bring with them into school.

But educational research concerned with parent partnership and participation remains a controversial area and a wide range of understandings of parental partnership and participation have been applied in educational literature and practice. Bastiani (1987) identified conceptualisations that ranged from 'compensation' (or deficit) models to those proposing a more genuine participation. But as Croll (2004) and others have noted, despite the rise in interest and in the establishment of partnership initiatives over the years, professionals often continue to see parents more as problems than as equal participants. Pugh et al., (1987) may have been among the first to offer a participatory account for early childhood although Basil Bernstein's paper *Education cannot compensate for society* was published in *New Society* in 1970. In order to clarify our position we would argue that the perspective that we take on these issues is entirely congruent with those of Bernstein's when he wrote:

*It is an accepted educational principle that we should work with what the child can offer; so why don't we practise it? The introduction of the child to the universalistic meanings of public forms of thought is not 'compensatory education' it is **education** (p.345).*

*We need to distinguish between the principles and operations that teachers transmit and develop in the children, and the contexts they create in order to do this. We should start knowing that the social experience the child already possesses is valid and significant, and that this social experience should be reflected back to him as being valid and significant.*

But as Jones and Allebone (1998) have argued, initiatives continue to be developed that appear to offer parents the opportunity to participate in the culture of the school while offering no real opportunity to recognise the contribution that their own knowledge and social background might be making to the children's education. Yet:

*...More recently projects **have** developed in which there is a more equal notion of partnership developed between the school and the community and in which the richness of the home environment **is** recognised. (E.g. Bouchard et al., 1998; Civil, 1996; Macbeath, 1996) (*Op cit*, with our emphasis).*

To start where the child is, or to be 'child centred', is to acknowledge and value the child's home culture and experience. It may also involve us supporting the family in their development of a more positive HLE. The solution to this apparent contradiction is to recognise that this is not an either-or situation. The parents that we interviewed saw no contradiction and neither did the children. The child can be successful at school and simultaneously true to their 'roots' and community. In fact they may ultimately be better equipped to serve their community interests precisely because they have achieved academic success.

In recognition of the role played by an often quite wide range of extended family members in providing for the HLEs that we investigate, we have chosen to refer throughout this report to the participation of 'families' rather than to parents alone. We have also recognised the weakness of theoretical models that fail to account for the agency of the children themselves in the construction of HLEs (Edwards and David, 1997; Runyan, et al., 1998; Harpham et al., 2002). In conducting the study we have therefore been concerned to provide the children's own perspectives.

Apart from EPPE, a number of other studies on family involvement in the early years of schooling for Reading and Literacy development (see Hewison, 1988; Spreadbury, 1995), suggest that children's educational development can be enhanced with long term positive effects. However, other researchers suggest that some forms and patterns of parental involvement can constrain and even contribute towards the reproduction of social inequalities (Brown, 2000). In working with parents then, this suggests that pre-school and primary staff require careful preparation and planning. The research also needs to be looked at carefully and critically. In fact the literature continues to provide a range of typologies and particularly influential among these have been the large-scale and longitudinal studies conducted by Joyce Epstein (1987; Epstein & Dauber, 1991) in the United States. Epstein (1996) provides a particularly useful typology of the six main types of family-school-community involvement summarised below:

Type 1: Basic Obligations of Parents (for example building positive home environments that foster children's learning and development and assisting schools to understand families).

Type 2: Basic Obligations of Schools (for example communicating with parents about program expectations, evaluations, and children's progress).

Type 3: Parent Involvement at School (for example volunteering in classrooms to support school and children).

Type 4: Parent Involvement in Learning and Developmental Activities at Home (for example providing material and ideas to parents about how to interact with children at home to help them with academic learning activities such as reading).

Type 5: Parent Involvement in Governance and Advocacy (for example including parents in decision making, advisory councils, and parent-teacher organizations).

Type 6: Collaborating with Community (for example working together with community businesses, social service agencies, and other members of community (McBride et al., 2003).

Recent governments have been increasingly concerned to foster parental choice and participation in the process of their children's education and as Epstein & Dauber (1991) and Siraj-Blatchford & Brooker (1998) have shown, most educational settings are good at promoting Types 2 and 3 but they have failed to make adequate provision and processes to achieve Types 1, 4, 5 and 6. Arguably, these latter types are more highly correlated with successful family involvement towards genuine participation and towards a better education for children. Research by Dauber and Epstein (1993) also suggests that families become more involved in supporting their children's education in the home when they perceive their contribution is actively encouraged by the school.

We are indebted to Deslandes (2001) for drawing our attention to the ecological (Bronfenbrenner, 1986) complementarity of applying, alongside Epstein (1996), the typology created by Hoover-Dempsey and Sandler (1995) and a model of parental partnership developed by Bouchard et al. (1998).

Hoover-Dempsey and Sandler's model suggests that families decide to participate when:

- a) They understand that participation is a legitimate part of their role as a member of the family.
- b) When they believe that they can make a difference to the child's learning outcomes.
- c) When they believe the child and the school want them to be involved.

The model also suggests that family involvement:

*influences children's educational outcomes by means of modelling, reinforcement and instruction, three mechanisms which are, in turn, mediated by the developmental appropriateness of parents' strategies and the fit between parents' actions and the expectations of the school.*  
(Deslandes, 2001, p4)

Hoover-Dempsey and Sandler (1995) argue that it isn't enough for parents to feel invited to become involved, their parental role construction and self efficacy are crucial in the process. The family's understanding of their role depends on a range of factors including their understandings of child development and learning, and family members develop their sense of self efficacy in the process of actively engaging in the child's education. When anticipated outcomes are achieved, then more challenging goals are adopted and an even stronger sense of self efficacy is developed (Bandura, 1997). So Hoover-Dempsey and Sandler (1995) are suggesting that any efforts to encourage greater family involvement must initially focus upon parents' own perspectives on the issue.

According to Deslandes (2001), a number of writers including Pourtois and Desmet (1997), Bouchard et al., (1998), and Dunst et al., (1992) provide reciprocal partnership models based on the principles of enabling and empowerment, and they call for family-school relations that involve a more complete sharing of knowledge, skills and experiences. 'Enabling' in this sense refers to the families' ability to define their role and the nature of the collaboration. 'Empowerment' involves the actualisation of their resources and competencies. As Vincent (1996) has argued, empowerment should also be defined in a way that opens up the possibility of collective action. Rhetoric is not enough, and initiatives will not encourage family involvement unless they address themselves to 'people's immediate experiences and realities' (Vincent, 1996, p78).

As Deslandes (2001) suggests, while Epstein's model provides a means of holistically analysing the factors that influence family – school collaboration, the conceptual framework provided by Hoover-Dempsey and Sandler (1995) emphasises the importance of family knowledge and perceptions and the role of the child. The enabling and empowerment model in turn refocuses attention on the interactional dimensions at the centre of any collaboration:

*To sum up, the three models described here complement each other to the extent that they lead to strategies for improving the efficacy of all the actors involved, thereby creating successful school-family partnerships.*  
(Deslandes, 2001)

## **The qualitative case-study research questions**

The specific research questions to be addressed in the study were determined in collaboration with the Equalities Review Team and sought to provide answers to a range of questions that were identified in the main from their own independent review of the extant literature (including that of the EPPE project):

- i. How does HLE affect children's experience of the transition between home and pre-school?
- ii. Does the type of pre-school provision used affect transitions?  
(Or: Do particular patterns of pre-school use support transitions?).
- iii. Where a particular group is characterised by relatively low HLE, e.g. Pakistani children and low SES White boys – are there any common factors?
- iv. What is it that parents do practically to support the HLE and how do they support their children?
- v. How do parents and children see the quality of HLE affecting the pre-school experience, and how does this vary according to individual characteristics?
- vi. What are the key characteristics and motivations of the higher HLE/low SES families?
- vii. What family aspirations and expectations exist and how do these support, maintain or constrain achievement?
- viii. What level of information or understanding of the early years and primary education system do these parents have, what do they understand of the benefits?
- ix. What do the children and their parents think are the reasons for their children's success?
- x. What external influences (e.g. pre-school staff, work colleagues media etc.) have supported or encouraged the development of the HLE?
- xi. What social capital do these families possess?

We have found that the first three of these questions are most appropriately answered by drawing upon a range of EPPE qualitative and quantitative findings. In the following pages these are therefore covered first. Rather more qualitative data are presented in addressing the rest of the questions which have been organised according to the Epstein (1996), Hoover et al.,(1995), and Bouchard (1998) models of parent participation referred to above:

**Family constructions of the parental role** – addressing questions 4 and 5

**The family's sense of efficacy in supporting their children's learning** – questions 6 to 9

**The active encouragement of parent participation by schools** – question 10

**Social Capital and the development of reciprocal partnerships** – question 11



The process followed in our analysis was therefore to initially code our data according to these broad categories, this was followed by NVIVO (qualitative data analysis software) analysis which identified a number of key issues that sprang from the data such as 'learning dispositions' (referred to in our findings below). The overall process of engagement with the literature and with the research questions was thus iterative and incremental.

### **Home Learning Environment (HLE)**

As noted in an earlier section of the report, the EPPE HLE index had been constructed in a process that initially involved the collection of a wide range of data from parents that extant literature suggested might be of relevance to children's early learning in the home. The interview schedule was completed with 98 per cent of the EPPE parents and subsequent analysis identified which of their responses, to our open and closed questions, were the most significant in predicting children's cognitive and social/behavioural development when other background factors were taken into account. The HLE study might thus be considered to be 'grounded' in the concrete behaviours of over 3,000 families drawn from differing social backgrounds across England.

The quantitative analysis cited earlier in this report were applied to identify a possible sample for selection for the case studies. A total of 57 families were initially identified as possible respondents. Of these we were able to identify 21 individual children and their parent/s with moderate or relatively high HLE and attainment (demographically adjusted as described above) and relatively low SES from the range of diverse backgrounds; seven of these are boys. EPPE found that the HLEs provided for boys are lower overall than for girls, and given the low proportion of some of the ethnic minorities in the cohort it proved impossible to identify an equal number of male respondents in all of the target groups. We also identified a further five children, one from each ethnic group selected for the purpose of comparison with a more 'typical' low HLE, but were only able to recruit three of them, making the total sample 24.

Semi-structured interviews were carried out with each child and parent. Wherever possible, and in all of the interviews involving Pakistani, Bangladeshi and White UK families the interviews were carried out by trained interviewers from the appropriate ethnic group (Siraj-Blatchford and Siraj-Blatchford, 1997; Jones and Allebone, 1998). Several of the interviews were conducted in the appropriate community languages and translated by the interviewer before transcription.

A central aim of the interviews was to encourage the respondents to provide a narrative account that would demonstrate a sense of direction and meaning in their experiences (Gergen & Gergen, 1984). In an effort to support respondent recall, timelines were constructed prior to the interviews for each family showing each of the institutions (e.g. schools, pre-schools) that the child had attended. Parent and child respondents were encouraged to refer to (and elaborate upon) these time lines throughout the interview (Gagnon, 1981).

## Features of the qualitative sample

Of the 21 children included in the sample with above average HLE (and low SES) scores for their group, 12 (57 per cent) were brought up in single parent families and 9 (43 per cent) were of low birth weight (i.e. had a birth weight under 2500 grams). All of the families were categorised as belonging to the lower SES groups, with a third of parents having 'never worked'. Thirteen (54 per cent) of the children were receiving FSMs at reception to primary school. Fifty per cent of the parents had no qualifications at all, and for another 42 per cent, their highest qualification was achieved at the age of 16 in the UK or overseas. Twenty of the 24 families lived in areas identified by post code analysis as deprived using the index of multiple deprivations (IMD), with the majority of areas showing extreme deprivation with high levels of crime, poor housing and environment etc. Half of the respondents lived in the ten per cent most deprived areas of the country. Despite all of these disadvantages, the individual HLEs were on average 6.3 points above the mean for their group (See Table 3.1 below).

<b>Table 3.1: Sample of 24 low SES children from five ethnic groups 21 with moderate to high HLE and attainment and 3 with the 'typical' low HLE and attainment</b>									
Ethnic Group	Name <sup>6</sup>	Gender	HLE	IMD	Low Birth Weight	Attended Pre-school	FSM in Recep	Single Parent?	Birth order
African	Anike	F	25	20	Yes	Yes	Yes	Yes	2nd
African	Desola	F	25	20	Yes	Yes	Yes	Yes	1st
African	Daniella	F	24	49	No	Yes	No	No	2nd
African	Yosola	F	23	67	No	Yes	No	Yes	1st
Bengali	Firoja	F	30	17	No	Yes	No	No	1st
Bengali	Tanuja	F	27	43	Yes	Yes	Yes	No	2nd
Bengali	Sahira	F	18	63	No	Yes	Yes	No	1st
Bengali	Deepa	F	18	40	No	Yes	Yes	No	1st
Bengali	Sundara	F	24	45	Yes	Yes	Yes	Yes	1st
Caribbean	Leilani	F	26	40	Yes	Yes	No	Yes	4th
Caribbean	Winston	M	23	50	Yes	Yes	Yes	Yes	1st
Caribbean	Celine	F	18	66	No	Yes	No	No	2nd
Caribbean	Louis	M	25	58	Yes	Yes	Yes	Yes	2nd
Pakistani	Safia	F	22	5	Yes	Yes	No	No	2nd
Pakistani	Ghalib	M	23	40	Yes	Yes	No	No	2nd
Pakistani	Ikram	M	19	59	No	Yes	No	No	2nd
Pakistani	Faiza	F	26	38	Yes	No	Yes	Yes	2nd
White	Tanya	F	35	53	No	Yes	Yes	Yes	1st
White	Lorraine	F	34	19	No	No	No	Yes	1st
White	Shaun	M	21	63	No	Yes	Yes	Yes	2nd
White	Daniel	M	30	70	No	Yes	Yes	Yes	2nd
Bengali	Nadiya	F	9	17	No	Yes	No	No	2nd
Pakistani	Aftab	M	6	35	Yes	Yes	No	Yes	1st
White	Sally	F	1	45	No	Yes	Yes	No	3rd

6 Pseudonyms provided in the interests of anonymity.

## Findings

### a) How does the HLE affect children's experience of the transition between home and pre-school?

The answers to this from EPPE are clear, the early years HLE has been found to have an independent influence on cognitive attainment at age 3, rising 5 years and also on progress during the pre-school period. In fact we now know that a better early years HLE helps the child adjust to both pre-school and to primary school. A better early years HLE (just like better pre-school quality) gives a child a better start to school and sets them on a more positive learner trajectory in terms of social/behavioural development especially important for 'Independence and Concentration'. These effects are strong and independent of other predictors. We have found that the early years HLE effect (high verses low) is similar in magnitude to that of having a mother with a degree verses a mother with no qualification.

Our analyses also show that combining a good early years HLE with attendance at a high quality pre-school promotes better attainment at age 10 years. But our findings at age 10 suggest that for disadvantaged children, attending a medium or high quality pre-school, or having a medium high early years HLE on its own, may not be enough. They really require both.

The qualitative analysis suggests that one of the main reasons relatively higher HLE families decide to send their children to pre-school is to give them a head-start in education. While our data provides little indication of the specific factors parents applied in evaluating their pre-schools it is clear that they were looking for some indication of educational quality (see next section on pre-school choices). In many of our interviews comments from both the parents and the children suggest that they now believe that their decision *has* paid off.

**Lorraine's Stepfather:** *I think because she'd been to pre-school... this was before my time, we'd just got together about six months before she started primary school... but you'd have her in playschool and she could count, she could read as well as anybody there and she'd been going there for a year or so, hadn't she, in the mornings, so [when she entered primary school] she was pretty well ready for the challenge.*

Further details of our findings related to HLE and children's subsequent progress and achievement in pre-school and in primary education may be found in an earlier quantitative section of this report.

As Bruner (1996) has argued, culture shapes the mind, and learning must be considered within its situated context. Here, learning is seen as situated social practice, where the individual is developing her/his *identity* as a member of a particular community. This is seen as a socially negotiated and mediated process. Rogoff, et al. (1993), in their studies, observed interactions between young children and their caregivers in four communities and found that learning was taking place within all the communities, despite very different interactions taking place. Within the two working class communities, where the children were not segregated from adult activities, children were keen observers and were oriented by their caregivers towards any adult activity that was taking place. Within the two middle class communities, where children were segregated from adult's activities, learning was a more structured process, with the caregiver managing learning through a special discourse and organised, instructive events.

Similarly, in her study of the development of narrative between mothers and their young children within different language communities in the USA, Melzi (2000) found that Spanish speaking mothers were active listeners and gave general conversational guidelines to their children, whilst English speaking mothers took a more guiding role in organising the story for the child. Melzi (2000) concludes that the "*elicitation styles adopted by European American and Latino mothers corresponded to cultural definitions of conversational contexts and roles...*" (p.157). These studies demonstrate how children in different communities are enabled to learn accepted practices and discourses within their social contexts.

As much of the work conducted by Tizard and Hughes (1988), and Wood (1988) in the 1980s shows, an advantage that the parent has over the teacher is that in the home environment the child's own interest and embedded previous knowledge can become the starting point for any pedagogic exchange. Between parent and child there can be an interactive partnership, where the child becomes responsible for the direction of much of his/her own learning, with the parent serving as a source of information as it is required:

*Not only may the experience at home provide something not readily available in school but also it seems that the skills involved apply as much to the process of attention, perseverance, task performance and work organisation as to particular areas of knowledge. Learning how to learn may be as important as the specifics of what is learned. (Rutter, 1985)*

While relatively few studies have addressed the specific issue of transition from home to pre-school, Sanders et al. (2005) provide a useful summary of the main findings from the broader research into children's experiences of transition. These show that:

- On the whole, children view transition in a positive light.
- Work and workload are of concern to children making educational transitions.
- Friendships, siblings and social skills may help children to settle into a new setting more easily.
- Children are concerned about the rules and conventions of school.
- Children from minority ethnic groups, those with English as an additional language (EAL), and children with special educational needs (SEN) often find transition more difficult.

With regard to any specific factors that affect the transitions from home to pre-school related to contrasting aims, values, philosophy, approaches etc. our study has found little evidence to base any firm conclusions upon. Whilst it is impossible to make generalisations from any such small scale study, the data do provide sufficient depth to illuminate some possible tensions.

While one of the children reported an apparent disjuncture in the approaches applied in early literacy instruction, the EPPE evidence suggests that the kind of contribution that parent's are currently making (and described in the following transcript) do provide significant support.

**Lorraine:** *I didn't know the sounds of the letters, I knew how to say them, like ABC, but not "a", "buh", "cuh", because that's what they were teaching then, that's what the pre-school tried to teach me, but my mum had taught me the ABC, so I had to get used to a totally new thing.*

But while modern approaches to the teaching of reading prioritise the early introduction of a phonic alphabet we are aware of no research that would suggest that any previous introduction to the formal alphabet and letter names could interfere with the learning processes involved. We would therefore assume from the evidence that we currently have available that an introduction to the formal letter names could provide a valuable precursor to learning phonics.

While some children may be disadvantaged by other discontinuities of experience between the home and school, there remains little consensus of opinion regarding the extent of such disadvantages. In a few cases parents expressed concern that teachers were relatively permissive in the classroom and some parents also complained that teachers provided insufficient support and encouragement. Both Louis and Winston's Mothers also referred to some degree of cultural misunderstanding:

*I think it's the teachers who do not understand black culture... I had a conversation with one of my eldest boys when they went to [Secondary school] they actually asked a question and it was seen that he was challenging the teacher, and in our culture we ask ... 'Mum why did you say no?', and I think it's important that if you say no... that the child should know why you said no...and it's seen as challenging, and that sort of suppresses an individual person, specially boys because they're sort of more emotional than girls, because a lot of it is to do with suppressing the black child at school more than letting them be themselves, and that might add to the bit of why they don't bother...*

Wood and Bennett (2001) report on two teachers involved in their study who discussed the discontinuities they sometimes perceived in the transition from home to school:

*... there is a mismatch and the children get confused. Part of the transfer process should be making the children as settled and confident as possible so that they can learn. The way teachers interact with children, is different to what they have experienced in the home... so you have to bridge that gap because there are cultural differences. (Nursery)*

*The children come from an area where there hasn't generally been a positive attitude towards school. So before the children can learn anything there has to be a positive ethos ... to make sure that every child has positive self-esteem... That is something that runs throughout the school ... and every step they take is rewarded. That is the caring side of it. (Reception)*

Taking the first of these comments, we would assume that similar adjustments must routinely be made by teachers at every stage of their schooling as approaches to pedagogy and discipline continue to vary significantly between professional educators (O'Brien, 1991). The second statement may have more specific relevance to transitions between the home and school and the experience of our low HLE 'comparison' families may be relevant. Sally's Mother told us, "I do try but sometimes they take no notice of you".

Some teachers clearly see the role of the reception teacher (at least) to act as an important 'socializing agent'. Wood and Bennett (2001) report on a teacher who emphasised the importance of continuity in behaviour policies, particularly because she considered some of the children weren't 'really given boundaries at home':

*We build on work that has been done in Reception, establishing boundaries within the school, sanctions for bad behaviour, expectations of what we do expect, giving rewards for appropriate behaviour and good work and all those sorts of things, which enable us to teach the curriculum.*

The subject of the effect of the HLE on the children's further progress in primary school is dealt with more fully in the earlier quantitative sections of this report.

## **b) Does the type of pre-school provision used affect transitions?**

EPPE has found that, regardless of all other factors, children who did not experience any pre-school provision were less cognitively advanced and showed poorer social/behavioural development, especially 'Peer Sociability' and 'Independence and Concentration', at school entry (Sammons et al., 2002, 2004). Questions related to the specific measures taken by schools to ease the transition from home to school for such children are therefore especially important. Unfortunately our qualitative case study sample did not lend itself to investigating this problem as only one of the children did not attend a pre-school.

The EPPE study also examined whether there were systematic variations in centre effectiveness for the six types of provision included in the sample of 141 pre-school centres. The findings suggest that differences in children's cognitive progress related to type of provision do emerge during the pre-school period. While outlier<sup>7</sup> centres, both positive and negative, were found in each type of provision and the differences between individual centres are likely to be more important than differences between types, certain patterns did emerge to suggest that some forms of provision were more effective.

7 Outlier centre – where children's performance was above (positive) or below (negative) the predicted level of attainment given their backgrounds.

Integrated provision (i.e. combining education and care) showed a significant positive impact for several measures. These settings have explicit educational objectives and they are generally committed to providing for parental partnership and family support. Nursery schools also showed some positive effects compared with other types of provision and similar to those found for Integrated provision. By contrast, children who attended Local authority day care nurseries tended to make relatively poor progress, especially for Pre-reading. Children from low SES families also showed better outcomes if they attended Integrated provision or Nursery schools. Both of these forms of provision also showed higher scores in observed quality.

Although Private day nurseries did not show up as significantly more effective in the analyses of impact of type of provision on progress (except in comparisons with Local authority day care nurseries for Pre-reading and Language) a number of the positive outlier centres for Pre-reading were found to be Private day nurseries. This may reflect curricular differences in emphasis and priorities. The results suggest that centres classified as Private day nurseries in particular show much greater variation in effects and quality, some having a specific educational philosophy or tradition (e.g. Montessori). It should be noted that the analyses took account of the compositional<sup>8</sup> effects of concentrations of more advantaged children in different centres; this is particularly relevant to comparisons of Private day nurseries.

The presence of compositional effects would suggest that the clustering of disadvantaged children within specific centres may not be advantageous for young children's cognitive progress. Policies aimed at encouraging a social mix of children may be more appropriate, although this may be difficult to achieve in practice, given many parents' preferences/needs for a local centre in close proximity to home, and the extent to which different social and ethnic groups are clustered in some neighbourhoods.

The EPPE study also demonstrated that there was significant variation both between individual centres and by type of provision in the observed quality of provision (see Sylva et al., 1999 for details). But when account was taken of variation in the quality of the centre environments, the impact of the type of provision was reduced. This indicates that the impact of type of provision is likely to be, at least in part, attributed to variations in environmental quality and adult-child interactions. We have found that by age 10 the statistical pre-school 'type' effect that we identified in the early analysis had washed out, but the effect of pre-school quality on children's outcomes remains very strong. It is important to recognise in this context that the Integrated centres and Nursery schools that did better overall served significantly more multiply disadvantaged children from families with less positive HLEs.

In interpreting the findings on type of provision, it is also important to acknowledge the very different resourcing levels typical of different types of provision, which have implications for staffing, training and facilities. The maintained sector differs quite markedly in this respect from voluntary provision, particularly Playgroups which, in the past, have had little access to resources in England and often few staff with higher levels of relevant qualifications (for further discussion of these issues see Taggart et al., 2000).

8 Number of children from families with mothers who had a degree or higher degree

Given the research evidence referred to above that identifies the importance of friendships, siblings and the social skills that help children to settle into new settings more easily (see also Stephen and Cope, 2001; Margetts, 2003), it is especially interesting to note that EPPE found a statistically significant difference between the 'Co-operation & Conformity' of children attending Nursery classes and Integrated centres compared to Playgroups, Private day nurseries and Local authority day nurseries. Children in Nursery classes and Integrated centres made more cognitive and social/behavioural developmental gains. Nursery classes also showed a positive impact for 'Peer Sociability' compared with Playgroups and Local authority day nurseries.

There were also some indications that poorer outcomes in terms of the factor 'Anti-social/worried' behaviour' (i.e. a worsening of 'Anti-social/worried behaviour') were associated with both Private and Local authority day care nurseries. These differences were statistically significant in comparison with Nursery classes and Nursery schools (Sammons et al., 2003b).

When we asked our higher than average HLE child respondents about their experiences of transition, most of the children found it difficult to recall their first impressions of pre-school although many had fond memories of the time that they had spent there playing with sand, bicycles etc., and in their outdoor play. But in common with other studies looking at transitions to primary school (Hendy and Whitebread, 2000; Potter and Briggs, 2003; Corsaro and Molinari, 2000; Clarke and Sharpe, 2003) the children referred to the increased influence of adults and a reduction in choice. Given the limitations of our qualitative sample it would be inappropriate to attempt to differentiate between these responses according to the type of pre-school attended:

**Faiza:** *In infants you were playing all the time and like work was more like fun, but then it's more like serious.*

**Lorraine:** *All I remember is lots of bean bags and tiddly little chairs about that big and I remember these letter cards we used to have where you used to spell out the letters and then write them down on a piece of A4 paper ....*

**Safia:** *We used to play with toys and games there; they used to read us stories.*

**Shaun:** *All I remember is when you went in you had to take your name off like a Velcro thing and take it in and put it on another Velcro thing, so you used to go and find your name.*

When we asked the children about their move into primary school a few references were made to the size of the school, to uniform requirements, and to the increased number of children they were with. Some of the children expected it to be more 'strict' than it turned out to be. The biggest difference most of the children found was that there was more 'work' and less opportunity to 'play' (particularly outside). Although for at least one of the children this rather simplistic distinction was already being questioned:

**Leilani:** *Well, it seemed like playing, but we probably were learning at the same time.*



These findings resonate with those of Ofsted (2004) and Fabian (1998) which focused on the transition from Reception to Year 1 and found that while children had mostly positive views of the transition, they also had some prior concerns, especially about the more formal work that might be demanded of them.

As a number of previous studies have found (Dockett and Perry, 2002; Einarsdottir, 2003; Corsaro and Molinari, 2000; Griebel and Niesel, 2000), on secondary transfer the children had many more concerns regarding the expected standards of discipline (this was often associated with the wearing of uniforms), and the need to make new friends. But most of the EPPE children who had made the transfer found it easier than expected. Of the others most told us that they were looking forward to going, even if the prospect was a little more daunting for a few. For many parents, the anticipation of, and preparation for, secondary transfer may be equally stressful and daunting. Louis was given 6 months of private tutoring (2 hours each week) in preparation for the 11+. He started at his new Grammar school in September 2006 but only after a fairly considerable effort was made by his Mother:

**Louis' Mother:** *Well, it's like with the Eleven Plus. None of the teachers knew anything, I had to go and sort that out for myself. A few parents I had to tell them myself. And the school is saying, 'What's wrong with the schools around here'. When you looked at my list for the Eleven Plus, for the secondary school, grammar school, grammar school, grammar school, grammar school. I had five grammar schools on it. The secretary took one look and she said, 'I've noticed there's no ordinary school on it.' I said, 'Yes.' I turned around and I said, 'No. You're not deterring me'. I'm thinking a secretary and teachers should be encouraging us.*

As Crozier and Davies (2005) have argued, while there is now substantial information available for parents regarding their rights of school choice and how to help their children in school, many schools remain unable to adequately convey this information to some groups of parents.

**c) Where a particular group is characterised by relatively low HLE are there any common factors?**

As has been seen in earlier sections of this report the common factors identified in our quantitative analysis of the EPPE data conducted for the Equalities Review were as follows:

- Poor mother's education,
- Larger families,
- Early developmental problems,
- Area of higher deprivation and
- If going to pre-school, going to one that is mainly homogeneous in terms of low mother's qualifications.

#### d) Family constructions of the parental role

As suggested earlier, families decide to participate when they understand that participation is a legitimate part of their role as a member of the family (Hoover-Demsey and Sandler, 1995). Type 1 and 2 of Epstein's (1996) typology of participatory forms was therefore applied to compile the evidence related to the basic obligations perceived by families and in with respect to their involvement in the school and pre-school classrooms.

We asked the children who they thought that they had learnt the most from at home and it is clear from their responses that a very wide range of family members provide support for children's learning. In the circumstances the notion of 'parental participation or partnership' does seem inappropriate. In addition to the parents and brothers and sisters, the contributions of aunts and uncles, grandparents and even cousins were referred to. All of the parents from each of these high HLE, low SES groups studied, read to their children in their early years and went on to listen to them read at an early age. Numerous other educational stimulus and activities were provided. Some variation in both the motivations for, and the content of, these activities is apparent across the different ethnic groups:

#### African Respondents

*Anike and Desola's (Twins) Mother* read fairy tale books ('like Cinderella') to them, she took them to the library, and she heard the girls read books from school. This was probably as part of a reading scheme: "Yeah, yeah. I have to ... one day I have to listen to them..." (Mother 1927/8). The children recall learning their alphabet and numbers at home.

*Daniella* remembered being helped with letters and numbers at home. Daniella's Mother provided a lot of encouragement for her daughter, she read to her from an early age and she also heard Daniella read: "I used to get her loads of books and read with her, read together, bible stories, anything" (Mother 2282). Her Mother had developed the habit of using a public library in Sierra Leone and she felt it was important for her children to know how to use the resource as well. Books were also purchased, as well as collected from the library and brought home from school. Daniella's father also made a major contribution:

**Daniella's Mother:** *I did most of the thing but if I am at work then she would do it in the evenings. Most times I always try, he will be there and sit down with them, if I am in the kitchen, you know, he will help them out with their studies and reading and stuff. And when I am free I will join in as well.*

**Daniella's Father:** *We did our best because it was always when [Daniella] was born I was a bus driver so I was always there swapping shifts to be at home in the evenings and if I wasn't there the mum was always there so we feel we've done well.*

Yosola's parents took her to the library from an early age, and they read to her every day throughout her early years:

**Yosola's Mother:** *Normal bedtime stories, normal things, sometimes she gets some books, they go to the library and get books, I mean I used to read to them when they were younger, but since they started reading themselves, been independent as far as reading is concerned, go the library, Dad reads as well, they take part in this thing that happens during the summer holidays, it's a reading kind of competition where they are supposed to read x number of books, she's quite good with that, got medals and stuff like that.*

## Bangladeshi Respondents

Firoja's parents bought a lot of books and she sometimes went to the library with her as well. Earlier research had shown us that the HLE provided for Firoja's younger sister Nadiya was quite different (see below), we therefore took the opportunity of investigating this situation more closely. We were informed:

**Nadiya's Mother:** *...we gave a bit more time to Firoja as she is the eldest. The other two had less attention. Firoja is our first child. She got undivided attention.*

But while Firoja recalled learning the alphabet and a few words of English at home it wasn't entirely clear whether this was something her parents had supported her with or whether it had been her sister's home tutor:

**Firoja's Mother:** *The lady used to read to both of them. Their father also read to both of them together.*

That said, Firoja's Mother did clearly recognise the importance of the HLE:

**Firoja's Mother:** *When kids are very young, someone should read to them to start the teaching. They need to learn from early childhood and reading helps that way. We were also informed that the parents listened to them to correct if they were not reading accurately and they were given help with their spelling.*

Tanuja remembered learning to write her name at home and this was confirmed by her mother:

**Tanuja's mother:** *Tanuja learnt numbers and letters from her sister and me. When school started to teach these things we brought books home and supported her learning.*

**Tanuja:** *I used to read Bengali books, Islamic books, English alphabet etc. I used to read because if I didn't read, she would only play. You have to grow interest in study from very early age.*

Both Sahira and Deepa's Mothers helped them learn the alphabet and they read story books (some from the library) to them. They also listened to them read 'to improve their reading':

**Deepa's Mother:** *She enjoyed it. I enjoyed it too. She is my first child. Both of us felt alone. This was a good way to pass time.*

*Sundara's Mother reported on the fairy stories that she read to her in the early years, and on Sundara reading to her as well (possibly as a part of a reading scheme). The books came from a variety of sources:*

**Sundara's Mother** *Some of them, they used to get from school, she had to change every week, so I can't remember what kinds they were. Short stories, from school, and library ... and they joined the local library here.*

### **Pakistani Respondents**

*Safia had rhyme books that her parents would read to her before she used to go to bed. They took her to the library and they would also hear her read a couple of times a week:*

**Int:** *Why did you choose to read to her?*

**Father:** *...going back to 1971 when we first arrived in England, I couldn't speak a word of English and I only spent what less than a year in London, where we stayed, again not knowing a word of English and I spent about five years at Barnaby School, nine months at a technical college and thereafter I just started work... my father had to go to India, and somebody had to find a job...then what I did, I thought to myself well look, your standard of education is still low, I can't go to school, I must study at home so in the Sun Paper I saw an advert of like a course and I sent that away...and I used to study at home, in one of the quiet bedrooms in the house, and that made me realise how important it really is. So this is where I thought well, my children, they are going to have the best of education, I'm going to support them all the way...*

*Safia's father regularly provided Safia with pages of arithmetic sums and gave her spellings to complete at home.*

*Ikram remembered his Mother teaching him letters and numbers. His parents read to him nearly every day from an early age, they also encouraged him to read by himself. The importance of home learning was clearly recognised:*

**Ikram's Father:** *It's good for his English and his ... to do well at school.*

*Faiza didn't attend a pre-school as there was "no playgroup round this way" (Older Sister). But she was given 'something to do' every day. She remembers learning her letters and about money and counting at home. Members of the family read to her every day and many of the books she used came from a local library:*

**Int:** *Now why did she think it was important to listen to her read?*

**Faiza's Older Sister:** *Basically there was a fear from my older brother 'cos he's got autism and so it was important to listen to her to see if she had anything wrong with her...Generally as well to help her, to give her something on a child basis to start on so she did know something when she went to school not just like nothing." ..."When she was younger when she was about four or five, you know in reception, the school used to give little word boxes, and in the words and that, were words that me mum could pick out cos me mum's limited, but my Dad when he was here he did actually read with her. Mum did teach her how to write like you know dot to dot when reception started out she [the child] couldn't really write anything.*

## Caribbean Respondents

In the early years *Leilani's* Mother collected books from the Nursery class and she read to her every day. She informed us that she did this:

**Leilani's Mother:** *...to find out how she was getting on, but also to help her...*

Her Mother taught her to write her name and she also told us that her Mother had also taught her numbers and the alphabet before she was taught it in school.

Louis told us that his Mum had always helped him with his education although he felt that his parents sometimes pushed him too hard. His mother regularly took him to the library, she read to him from birth and she later heard him read.

Winston's Mother also took him with her to the library from an early age, she read to him (about three times a week). Winston also benefited from the support of older siblings and from attendance at a Saturday Supplementary School:

**Int:** *And when you did read to him, what sort of things were you reading?*

**Winston's Mother:** *...it depends what age it is, because if he was under five, it would be reading books, like Jack and Jill, and Thomas the Tank and stuff like that, I think by the time he was the age of five he used to go to Saturday school so I used to read a lot of black history books to Winston, also the newspaper with Winston as well, and I think by that time Winston was bringing books home from school as well, so I'd ask him to read the book and then probably write, as he grew older I said well read the book and you write down to me what the book's actually saying, then I'd read the book and see whether he could retain it.*

Celine told us that she "Learnt a lot at home, did lots of writing at home, with more detail at school". Home learning was given a high priority by Celine's Mother and time was set aside for reading on a daily basis:

**Celine's Mother:** *When she first started I'd sit with the normal children's books, the ABCs that kind of thing, I used to buy those books that you can get from WH Smiths, that go along with the year that they are in school, key stage books, and one of her favourite games as a younger child was playing schools ...so she went through those stages, and then she went through a stage of choosing her own likes and dislikes, cos she's also been part of the library since she was two, so we used to get books out the library as well and she'd have a choice of books.*

## White UK respondents

Tanya's Mother bought her books and read to her 'ever since she's been tiny'. Later she also listened to her read.

**Int:** *Were there ever books that she brought home from playgroup or school, or ...*

**Tanya's Mother:** *They never really brought books home from playschool, and school books ... not very often, she wouldn't really bring very many books home from school.*

Tanya recalled practicing writing her name 'a lot' at home and her Mother told us that she had taught her all of her alphabet and numbers

Lorraine's Mother taught her first letters and numbers and she read to her from an early age and later listened to her read at least 3-4 pages every day – apparently she was reading sentences from the age of 5:

**Lorraine's Mother:** *I read to her things what she enjoyed and what was also slightly a little bit advanced for her and what she was interested in and there was, as she got a little bit older, there were certain authors and people who she liked and so, I'd read them sort of books.*

Shaun's parents read to him from an early age and continued to listen to him read when he brought books home from school as a part of their reading scheme:

**Shaun's Mother:** *He just got certain books, he doesn't have a choice at school, he just got given books, like that went up in stages, and he just got given books.*

Shaun learnt his alphabet from a video before he went to nursery:

**Shaun's Mother:** *...he used to sit and watch it like, a nursery one but it like sang the alphabet and that's how he more or less knew the alphabet off that video 'cos he never had it off.*

Shaun also reported that he had learnt most of what he knew about drawing and science at home, especially from his Grandad.

Daniel didn't attend pre-school but he was clearly given a good deal of support at home:

**Int:** *Did you learn things at home when you were little?*

**Daniel:** *Yes, lots.*

**Int:** *What sort of things did you learn before you went to school?*

**Daniel:** *Some of the alphabet and numbers.*

**Int:** *And who taught you that?*

**Daniel:** *My Mam...and sometimes, the numbers, Sonia.*

Daniel's Mother taught him his first numbers and letters and she used to read to him every night. It was only in Year 6 that this changed:

**Daniel's Mother:** *...from you reading to him to him actually sitting down and pulling the book out and sitting there with me and reading to me...*

Occasionally he would be taken to the library as well.

**Int:** *Why did you read to him?*

**Daniel's Mother:** *Well, I suppose it was just to learn him as well, because once I had read the book to Daniel, he used to sit with me and he used to read it back.*

## The role of children in maintaining the HLE

Parents often commented upon the active role played by the children themselves in maintaining support in the home:

**Lorraine's Stepfather:** *[Lorraine] was about three or four years old just before she went to primary school when we got together and [Lorraine] used to demand a certain amount of attention from her mum because she was jealous that we might be sitting downstairs after she'd gone to bed, so she used to demand a lot more reading and got a lot more reading than perhaps a child who had grown up with the same two parents all the time.*

Similarly Daniella's Mother explained why it was that she regularly listened to daughter's reading:

**Daniella's Mother:** *Actually because she gets annoyed if you don't listen to her, like sometimes ...mum you are not paying attention, you know, so I like to give everything to her, for her to know that I am proud of her.*

## The provision of structure in the home

Apart from the positive home learning practices that we have investigated, indicators such as bedtime requirements suggest that these parents provide a significant amount of structure. Twenty of the 21 higher HLE parents continue to set a fixed bedtime (typically 9 o'clock on a weekday) at age 10/11. Most of the girls are given regular chores to do around the house although this was less prevalent among the white working class children and the Pakistani boys.

**Int:** *Are there any special jobs that you have to do around the home?*

**Desola:** *Yeah, like doing the dishes, cleaning up my room, hoovering the floor.*

**Int:** *And have you always done those jobs?*

**Desola:** *The dishes, I've always done the dishes, and tidying up my room, and I've done most of them.*

**Celine:** *Cooking, washing, hoovering, polishing, and house-hold chores. Sometimes I'm asked to do them, but usually just does it.*

For some children the responsibilities they were taking were significantly more demanding:

**Sundara:** *I helped my mum with housework and for looking after my brother. I am doing it since year 6.*

**Int:** *Are there any special jobs you have to do around the home?*

**Sahira:** *Yeah, look after my brothers. I have two younger brothers, well I have two younger brothers, so I have to look after them.*

**Int:** *And have you always done these things?*

**Sahira:** *Yeah.*

## Pre-school choices

Given what we know about the enduring advantage to children of attending a high quality pre-school (Sylva, et al., 2004), one of the most significant things that families can do to support their children in the early years is to find them a good pre-school setting. EPPE has shown that for those children who attend pre-school for two years, cognitive development at the age of five is four to six months more advanced than for those who have not attended at all. The EPPE project also showed that disadvantaged children benefit significantly from good quality pre-school experiences, especially where they are with a mixture of children from different social backgrounds.

All but one of our high HLE sample had enrolled their child at pre-school. Even in that case the child's name had been 'put down' for it but it was oversubscribed and there were no other alternatives. While many of the case study parents informed us that that they were concerned to find the best setting for their children, for some of the other parents their first choice turned out to be oversubscribed and they were therefore unable to obtain a place for their child. For some, similar difficulties were experienced in the case of primary school enrolment, and even more so when it came to gaining a place at their preferred secondary school. As far as the pre-schools were concerned, most of the parents informed us that there was simply too little choice in the near vicinity that was available at prices that they could afford.

**Int:** *When it came to organising pre-school childcare for Yosola, what were the choices that were available to you at the time?*

**Yosola's Mother:** *There wasn't a lot actually from when she started pre-school because at the age when she started [Nursery associated with African and Caribbean Family Project] she was about eighteen months, and it was quite expensive, so we didn't have a choice but to put her somewhere on a part time basis, which in a way wasn't ideal because what it meant was we settled her for two days and then we took her out and there's that gap and then we bring her back again, it took a long time for her to settle.*

**Int:** *So if it hadn't been expensive do you think you would have kept her there full time?*

**Yosola's Mother:** *Definitely.*

**Int:** *So it was the expense?*

**Yosola's Mother:** *And it was one of the reasons why we took her out eventually for her to go to Gillespie, cos we couldn't afford it any more.*

**Int:** *With [LEA Integrated Centre] then, when it came to choosing that centre for her, what sort of options were available to you when it came to making that choice?*

**Yosola's Mother:** *I think it was more because [LEA Integrated Centre] was not too far from where we were at that point, it was just the next street away, and it was a strict run nursery, we did have a look around, but like we normally do, we just have a feel for the place, and if it feels right, that's fine.*



For many of the parents the preference for a nursery that was close to their home was clearly not simply an issue of convenience:

**Ghalib's Mother:** *Well when it comes to nursery or pre-school because a child is young and if anything happens you've got to get there quick.*

The reasons most frequently given by parents for choosing to put their child in a nursery was to give them a head start in education, prepare them for school, and to give them opportunities to spend time with other children. For those parents with English as an additional language (EAL) the opportunities offered by a nursery setting in supporting their children in learning English was clearly significant. This was also the most frequently cited reason that the children with EAL cited as the reasons their parents would have chosen to send them.

Crozier and Davies (2005) found that most Pakistani parents had a broad understanding of the education system and their children's progress. Perhaps unsurprisingly given the higher than average HLE sample, our findings contrast strongly with Crozier and Davies (2005) who found that few of the Bangladeshi parents they surveyed knew very much about the education system or what their children were doing in school.

Epstein's (1996) Type 3 Involvement concerns parents volunteering in classrooms to support school and children and we found that many of the parents did provide this support particularly in the early years.

### Other educational provisions

Eight of the 21 high HLE children attended subject-focused classes outside of school. Three attended classes that had a specific cultural focus, and many more confirmed their attendance of religious classes associated with their local church or mosque. Faiza, for example told us about the Saturday and Sunday religious classes she had attended since she was six years old to learn how to read the Koran and to learn about 'religious stories' and Tanuja's Mother told us about the Bangladeshi rhymes she used to introduce her child to, Bengali alongside English rhymes like 'ring-a-ring-a roses.'

When Winston started at the Saturday School at the age of 5 his mother read Black History books with him at home and Celine's Mother took her to an after-school club which taught her science, Mathematics, English and Black History.

It is quite clear from these data that the positive HLEs *were not* provided as an alternative to these additional early educational, community language and religious instruction provisions.

**Daniella's Mother:** *We wanted to give them something like from our background, you know, they've never been to my country, so we taught them songs from there as well, to learn to sing our own traditional songs, because I think it's important for them to learn their background as well, so for that reason that's why we taught them.*

Several of the parents also paid for private home tutorial support when a particular educational weakness was identified (and in one case in preparation for an 11+ selection test), showing further commitment to educational support.

## Barriers to providing for the HLE

We asked the parents what they felt the barriers were to providing a positive HLE but the only reasons that they could give us were related to the time available and their personal circumstances such as health.

We also interviewed 3 children and their parent/s from Bengali, Pakistani and White UK families who were providing much less support in the HLE.

Sally didn't attend preschool and her HLE was one of the lowest that was recorded in the study (HLE = 1). She was clearly fond of books but received little support or encouragement for this at home:

**Sally's Mother:** *She's always come home with loads of reading books, see she's the type of person, if she reads, she use to when she was younger she used to follow it by the picture.*

**Int:** *So she liked the picture books.*

**Sally's Mother:** *...So I used to think that she couldn't read, because that's the way I used to do it when I was a bairn, I used to take it off by the picture and then I did used to work out the story, find out by the subject the picture and she does exactly the same.*

Sally's Mother reported that when it came to listening to her read, her older brother would sometimes hear her, and on occasions her Father would also help:

**Sally's Mother:** *...if you're sitting doing nothing he'll sit and read and let out reading, and if she gets stuck they're barking out tha shall go to her Da, but her Da's really the good one, the one who's got a good head on.*

**Int:** *...Reading, to Sally, do you read to Sally, has that changed at all?*

**Sally's Mother:** *Well ah've never ever been so much of a good reader meself because I always went to a problem school from being young meself, and I always say you get an odd one or two like you, but lucky ah've hit and I haven't, and I was just praying it wasn't her what turned out like me, cos I had problems from start.*

As previously reported, when she was asked if there was anything she could do to try to help Sally, her Mother told us: *"I do try but sometimes they take no notice of you"*.

Other family pressures also made it very difficult for some families to provide support. *Aftab's* mother only heard him read once a week when he brought a book home as part of his school's reading scheme.

**Int:** *Did you ever read to him when he was younger?*

**Aftab's mother:** *I think he used to read to me more than I used to read to him.*

**Int:** *Any times you can think of that you used to sit down and read with him?*

**Aftab's mother:** *"No.... because I've got like, you know, a disabled daughter as well, and looking after her and ..."*

As previously suggested, *Nadiya's* experience in her Bangladeshi family was also influenced by other members of the family: *"We gave a bit more time to Firoja as she is the eldest. The other two had less attention"*. Their father became too busy with his business to provide the support that he had made for the older sibling. He couldn't read to Nadiya so frequently: *"Now we have become even busier in the case of helping our third child"*. The solution that the family found was to regularly bring in a home tutor.

For most parents any dip in the child's attainment was met with a new strategy. When Sahira's Mother was informed that her daughter was talking too much with her friends in class and her performance was slipping she immediately talked to her about it. Earlier in the year Sahira had asked her Father if she could have a computer for her Birthday so the parents agreed that if she met the standards they wanted then she could have it. Apparently the teachers were really surprised at how quickly Sahira's behaviour changed and what an effect it had on her performance. This wasn't the only incentive that we heard about:

**Daniella's Mother:** *...when it is holidays we try as best as we can to please them and do what we can for them because all we ask for in return is that they focus on their education so we give them as best as we can.*

We also found that even in the most diligent of households, the HLE provisions made for individual children sometimes changed when the home circumstances changed and family pressures made it more difficult to provide support:

**Celine's Mother:** *I do believe it's important to stretch their minds, you know I mean, probably as well since Ruth's been born, she's the only one out of four children where I've worked since before she was born, and worked during her childhood, hers has been different from the others, due to the fact that she's been the child that's has gone to after school, gone to school clubs in the holidays and hasn't always had me. So Ruth's had a different upbringing to the others and there is a difference in their personality because of it, the way that they are as children, the ages they're different, her sister was different to that at twelve, when she was twelve she was a very naïve twelve, whereas Ruth is very worldly wise at twelve.*

### **When a good HLE is not enough**

Unfortunately for some of the higher than average HLE families that we interviewed a positive HLE wasn't enough where other influences led to underachievement. Despite his positive HLE and a promising start, we found that Ghalib's recent educational achievements had been modest. He was born with a low birth weight and a hole in his heart and had clearly overcome some significant early disadvantages. His Father, a taxi driver, was critical of Ghalib's teachers but was quite clear that he would make up for lost ground:

**Ghalib's Father:** *We have to do something for him. He's still got three years before his GCSEs, four years before his GCSEs, so we've got a lot of time to push, his GCSEs are the most important thing for the rest of his life. Then if his A Levels are good enough...*

Tanya's HLE was very high and she benefited from a pre-school that EPPE had identified as particularly effective in terms of their work on Early Number. But her attainment in primary school was disappointing. Her parents had split up, and it seems likely that she had been at very least a witness to a period of domestic violence. She had moved with her Mother to a refuge in a new area. Tanya is now diagnosed as dyslexic and she is deliberately harming herself. When we asked her about her lessons at secondary school she told us that she sometimes walked out of her classes:

**Tanya:** *I just give up, cos I find it all too hard.*

**Int:** *OK, and so what happens when you give up?*

**Tanya:** *I just start talking to other people.*

**Int:** *Right, and then what happens?*

**Tanya:** *Then they all start talking and we all get in trouble. It's the same in French, I hate French, and I don't understand anything. I want to speak German, but I don't want to do French.*

**Tanya:** *Cos I'm always having people going, don't give up so easily, you're always giving up, try harder, you should listen more, and ...*

**Int:** *Do you think they're right or do you think they're wrong?*

**Tanya:** *I think they're right, but I just find it really hard. I try, but ...*

It now seems that the early benefits of her positive HLE and pre-school experiences have been lost, the good HLE practices are no longer being consistently maintained, as her Mother informed us:

**Tanya's Mother:** *Oh god, yeah, homework, oh the slanging matches over homework, she just won't do it, and even if I try to help her do it....The homework's absolutely horrendous, absolutely. The amount of arguments we've had over homework is unbelievable.*

Tanya also told us that she usually didn't tell her Mother about the problems that she was having in school:

**Tanya:** *Cos I don't see what she can do about it, she'll probably just make it worse by telling someone at school and then they'll try harder and I just don't, I can't be bothered with it all. So I just get on with stuff.*

Shaun provides yet another case where a promising start has ended badly with his expulsion from school. His Mother told us that his typical reaction to any difficulties with his homework was to 'stomp off' and leave it saying: "I'm not doing that I dinna understand it". She told us that she would usually be able to coax him back to the work later.

Daniel's low self esteem will be mentioned further in the report, for the time being it is enough to note that again, despite an effective pre-school and his HLE being promising, we found that he was now underachieving and displaying some behavioural problems that involved him seeing a psychiatrist. He told us that whenever he found things difficult in school he would now 'just leave it'.

In a recent paper, Edwards and Alldred (2000) cite the Children Act (1989) to emphasise children's rights, and to argue that a balance needs to be struck between children's 'social' and 'educational' interests. The social interests that they refer to are not very clearly defined except where they suggest that in some cases where parents cannot be involved, parent involvement initiatives may reinforce the "social powerlessness" (p.453) of young children. The major concerns appear to be related to the possibility of challenges being made to children's developing sense of privacy and autonomy. The implication is that the perceived demands may result in underachieving children becoming more resistant and alienated than they are already. The only evidential basis that Edwards and Alldred have for these concerns appear to be children's comments that if people from school visited the home they would hide in the bedroom or go out: "*feeling that the state of their home and their family life was being judged*".

Similar concerns have been expressed by Crowley (2006) who argued that it would be a mistake to encourage HLE developments in cases where basic parent-child emotional bonds are negative or destructive or where, '*a parent is enduring one or more major problems such as domestic violence, depression or other mental illness or woefully inadequate housing*' (p.1). While our sample included several families that fitted the latter statement, given the higher than average HLE criteria applied in our sampling, it is probably unsurprising that we found little evidence of any problematic emotional bonds. The one exception to this might have been with *Tanya* where, as we have seen, there was clearly evidence of conflict with her Mother related to the completion of homework. Following her escape from a violent home, and despite the support provided in a Women's refuge, *Tanya* has clearly become an extremely unhappy and insecure young person. Her educational progress is suffering, and the positive HLE *has* been inadequate on its own in compensating for this. But we would argue that this does not make it a part of the problem. *Tanya* and her Mother need, and deserve, help, and more family support for all families such as theirs is required. But that is a quite separate issue.

An assumption that seems to be being made here by Edwards and Alldred (2000), and by Crowley (2006), is that the values and expectations of families and of educationalists may, at times, be irreconcilable. We reject this assumption, not least on the grounds that the home learning activities that our research shows often make a difference to children's learning may also be applied to support families in developing more constructive relationships with their children.

One of the most significant things that our case studies also demonstrate is that for each of the multiply disadvantaged groups that we investigated, there are at least some families whose educational aspirations and efforts appear to mirror those of schools very closely.

#### **e) The family's sense of efficacy in supporting their children's learning**

A variety of reasons were given by parents for the reasons they supported the education of their children at home but all of the parent responses showed that they had a very clear idea of the major benefits:

**Celine's Mother:** *I think books are important I've always been a reader, and I've always encouraged my children to read as well, I think there is a world of knowledge in reading...*

**Daniella's Mother:** *...my own personal belief is that you don't leave everything to the teachers, the school plays a big role but at home is where you get the majority of what you know in life. You have to help out, you have to help the children, you don't just leave it to the teachers, so it is like we are preparing them.*

**Yosola's Mother:** *It was part of the winding down process every day, plus the fact that the more you read to them, the more likelihood they are able to identify pictures, want to learn to read as well. And to identify that it's not anything major..*

**Int:** *And why did you like listening to him read?*

**Daniel's Mother:** *Just so I could keep an eye on him and make sure that if he'd done a mistake on the word, so he could like make him read it, spell it out, so he knew exactly what was what*

**Winston's Mother:** *...listening to Winston read, it would help him with his speech, helps me with his language helps him with his communication, and by then I'd be able to see whether he could recognise words. Put words together.*

Winston's Mother told us that she provided the support because it was something her parents had done for her:

**Winston's Mother:** *I don't know, well, it's something that my parents did to me, I think once reading helps you to pronounce your words, recognising words and all sorts, so that's why I thought reading was quite important for him.*

It was clear from a number of responses that the application of reading schemes had at the very least encouraged the home based support and in at least one case an informal educational source had provided the stimulus for developing the HLE:

**Int:** *Why did you feel it was important to read to Daniella when she was little?*

**Daniella's Mother:** *We found it important because when Declan, the elder brother was born, there was a programme on TV about how you can start with them as early as possible and we found that it worked on Declan, he was very bright and smart for his age and stuff you know. The primary schools, all the teachers loved him because of his capability, they said he was very capable and everything so I think that helped him*

**Int:** *And so because that helped with Declan you carried it through?*

**Daniella's Mother:** *Yes.*

### **Aspirations and expectations**

As Bourdieu (1983) has argued, in order to understand how power is applied in society we need to consider those resources drawn from social relationships; 'social capital', as well as the 'symbolic and cultural capital' that individuals deploy. Each of these forms of capital play a part in the reproduction of class relationships. Our findings related to Social Capital are discussed later. But at this point it is worth noting that according to this model, individuals draw upon cultural, social and symbolic resources to maintain or enhance their positions in the social order. 'Aspiration' may be considered a feature of cultural capacity and it is in this light that we consider that aspiration may be important.

In a lecture to the Joseph Rowntree Foundation Prime Minister Tony Blair (2006) identified some of the most difficult perceived problems of social exclusion very clearly:

*Their poverty is not just about poverty of income, but poverty of aspiration, of opportunity, of prospects of advancement. We must not in any way let up on the action we take to deal directly with child poverty. But at the same time, we have to recognise that for some families, their problems are more multiple, more deep and more pervasive than simply low income. The barriers to opportunity are about their social and human capital as much as financial.”*  
(Blair, 2006)

Low ‘teacher expectations’ and the notion of ‘self-fulfilling prophecies’ has provided an enduring topic for educational research associated with social exclusion. It is therefore important to consider any possible effects of lower parental expectations on children’s educational performance. Ball’s (2003) study has been helpful in drawing attention to the fact that the operation of high expectations may often act to improve the performance of middle class children. Most of the research conducted in this area in the past has been associated with the detrimental effects of low expectations. Yet the processes involved in the formation of high expectations deserves equal attention.

Equally relevant to family research are those studies conducted to look at the more subtle ‘sustaining expectation effects’ where teachers continue to respond to children on the basis of previously formed expectations even where there are changes in student performance. While a child or group may be ready to move on, it is suggested that teachers may sometimes assume that the difficulties that they have experienced in the past continue to limit their progress. While the self-fulfilling prophecy has therefore been considered to bring about changes in a child’s performance, ‘sustaining expectations’ have thus been seen to prevent changes. The distinction is important because there is a good deal of robust evidence for this latter effect (Cotton, 1989; McGrew and Evans, 2003). It was also a phenomenon explicitly referred to by one of our respondents:

**Shaun:** *The school’s alright, it’s just the headmaster didn’t like us.*

**Int:** *Tell us why that’s happened, why he doesn’t like you*

**Shaun:** *Think its cos me [Colin] and [Gary] went down and then up so he didn’t like us*

**Int:** *I didn’t really understand that...*

**Shaun:** *[Colin] and [Gary] used to go to [Primary School]*

**Int:** *So who’s Ben and Craig*

**Shaun:** *Me cousins*

**Int:** *Oh right so your cousins went there*

**Shaun:** *And them be naughty and that, so I think it’s because of them why he doesn’t like me.*

The experiences and values that young children hold are shaped and constructed from the views of parents and their educators, as well as by their peers, media images etc. In the absence of strong and positive role models some children are left with negative perception of people like themselves. This bias can start from birth. Many parents and early childhood practitioners may conclude from children's behaviour that they are incapable, without considering their own contribution to the children's behaviour, or considering the impact of role modelling. Of course even the youngest children play an active part in all of this and mutual adaptations of behaviour occur between children and the adults who care for them. Children, for example, often encourage early childhood practitioners, through their behaviour, to play out the social games that they have learnt in the home. Early childhood practitioners may therefore quite inadvertently find themselves taking up the role of a dominating parent or sibling. Early childhood practitioners may therefore lower their demands, and provide children with too much help, giving away answers to problems or questions rather than encouraging and supporting them to come up with answers for themselves.

When we asked parents what they considered the benefits of schooling and pre-schooling to be, most of the parents (and the children) demonstrated highly instrumental attitudes towards schooling. The most frequent references were made to achieving economic independence, and to either specific or more general employment opportunities. In fact we found that the parents' expectations for their children were extremely high with all of the higher HLE parents suggesting their children should attend higher education with most going on to professional careers. To a large extent the children's aspirations mirrored these and were similarly instrumental (or performance) based – although they were more likely to suggest an alternative interest as well. These were often strikingly different from their first choice career.

**Louis's Mother:** *Education. Probably aim for Oxford or Cambridge. That's the goal of life, it moves mountains.*

**Daniella's Mother:** *I would love to see her do law or medicine, that is what I'd like to see her do but what we try to do is we don't push her, we always trust her, we try to guide her but what we want to do we are there for you. I would love her to be a lawyer to be honest yes.*

**Tanuja's Mother:** *She will be self-dependent. She will find jobs if educated. We don't know English. That's why we need help in everything. We have gone to other people to ask about things. That won't happen if she gets educated.*

**Safia's Father:** *Well one of the things I say to both of them is that in today's world they are growing and they have got the future ahead of them, it's going to be very tough for them, if they don't educate themselves to a good reasonable standard. I'm afraid there are labouring jobs that pay £5 or £6 an hour but with that kind of wages, you can't go out and buy a house nowadays, nor can you afford the luxury in life you want, like cars and good clothes and what not so that's something that I'll always sort of put into their brain, put into their conscious, but you know, keep yourself educated it's your future.*



For Firoja's parents the eldest child was given more support in terms of the HLE:

**Firoja's Mother:** *We want [Firoja] to be a doctor. We always say this. We believe that she can be a doctor as she is so focused. For the other two of the daughters, we depend on Allah.*

**Int:** *How about [Nadiya]?*

**Firoja's Mother:** *We are not sure about her. She expresses so little, that we don't understand her.*

**Int:** *Still, what is your expectation from her?*

**Firoja's Mother:** *That is still not clear. We don't have any definite expectation about her future job.*

Most of these ambitions were shared by the children who also gained strong encouragement from their parent's views on the matter:

**Safia's Mother:** *One of the things I always say to her, I've said it many times, I said [Safia] you are so bright, and you're intelligent. I think you can run this country, that's what I say to her because...all the subjects she's doing very good, so we think yeah, she can achieve probably what she wants.*

**Int:** *What kind of job would you like to have when you grow up?*

**Louis:** *Footballer. If I wasn't a footballer, I'd be the first black Prime Minister. And then, if I wasn't that, I'd probably be, I'd like to be an engineer. Then if I wasn't that I'd just go for a police officer. My parents don't want me to be a police officer but I'd like to be one.*

Yosola, for example, told us that she was making an extra effort with her Mathematics: *"So if I could be an accountant when I'm older, I could obviously work to it, and progress more".*

**Tanya's Mother:** *As long as she can try and get a nice education, then she can, you know, the world's her oyster, she can do whatever she wants then.*

**Daniella's Mother:** *Education is the key to life now. In the whole world, not only in England and Africa, the whole world, anywhere you go, education is the key to your success or for your future in life.*

**Faiza's Mother:** *Basically if there's no education there is nothing you can do because now in society you do need education, and if she has got education she can achieve what she wants to achieve, and a lot more doors will be open for her, like good jobs and everything.*

Crozier and Davies (2005) found a similar pattern for the 591 Pakistani and Bangladeshi parents that they surveyed. Most had high aspirations for their children, wanting them to go to university and take up professional careers:

*All of the parents, irrespective of their ethnicity or socio-economic background, expressed a value for education and a desire for their children to do well. Two key elements of this were their Islamic values and wanting better opportunities for their children than they had. (op cit)*

Many of the parents also referred to their own educational ambitions. For example, Sundara's Mother told us that she had completed an English level 1 adult Literacy to improve her grammar and she was planning to do a pre-GCSE course in the following year:

**Louis's Mother:** *I'd have liked to have helped myself even with my education, going back to school. I think there's a lot more out there for me. Because education's never too much. And I'm sort of thinking well one day, I will.*

**Daniella's Mother:** *We didn't get like university education and stuff, that is why we are trying our best, what we didn't get for them to have. We are doing courses, little courses, I didn't go to University but I am hoping I want to, definitely.*

**Int:** *What would you like to do?*

**Daniella's Mother:** *I am thinking, maybe, I wanted to do teaching, but maybe it's too much for me, social services, I would like to do social work.*

The involvement of the parents in courses will have also provided motivation for the children. As Yosola's Mother put it: *it shows the children that these things can be done. 'Cos they remember when Daddy used to go to college and Mummy used to go to school.'*

For at least two of the parents racism provided an additional incentive:

**Louis's Mother:** *I think children need education and without it they've got nothing. And education's free, for the time being. And especially like I'm saying with the colour what we've got, I think we have to work twice as hard.*

**Winston's Mother:** *I have to say whilst having an awareness of how society views a black child, he needs to be aware of that as well, and try not to make that suppress him, because it is suppressing out there.*

For both Louis and Daniella's parents a major objective was also to escape the local neighbourhood. As Louis put it himself:

*I just started to stay in, and then, it's hard to try and stay away from them because really it's just you by yourself doing what you're going to do and then you're not having a laugh. It's like a bad influence because every time you go to play or something you always end up doing something bad and always get in trouble.*

Aftab, one of our low HLE 'comparison' children also reported incidents of racism in his primary school: "calling names and all that." Apparently when the incidents were reported the teachers kept some of the children in but it didn't stop until the culprits left the school when he got to Year 5. Sally, the other 'comparison' respondent provided yet another perspective on the problem when she talked about her primary school:

**Sally:** *There's only a couple of white people, I didn't like them coloured people.*

**Int:** *What was the problem?*

**Sally:** *Didn't like playing with them black ones.*

**Int:** *Why was that?*

**Sally:** *Dunno, don't like them.*

**Int:** *Was there a particular thing you didn't like?*

**Sally:** *Mm hmm*

**Int:** *What was the particular thing you didn't like?*

**Sally:** *Some people,*

**Int:** *Tell me a little bit about them.*

**Sally:** *Like if they were playing with them, they would go off somewhere and play with someone else.*

Three of the parents referred to education providing for more general objectives:

**Celine's Mother:** *...she often says she can't wait to be out and going to work and she wants to go to work and she wants to get on with life, and she wants to have her own place and drive a car, and I know a lot of children talk like this, but she does say it, when she says it I believe her, I do believe her...but I do say to her you know it doesn't fall in your hands, you have to work, she's quite willing to work, she's not afraid of the work. If she doesn't attain what her dreams hold, which are not inaccessible, her dreams are quite feasible, quite accessible, even if she didn't attain those dreams, I think it would have an impact again on her self esteem and self worth.*

**Int:** *Now what did you hope Ghalib would gain from going to school?*

**Ghalib's Mother:** *Well teaching him the facts of life really. We expect it to make him a good, fit, honest person and to achieve education*

**Firoja and Nadiya's Mother:** *"It's our dream to have our daughters highly educated. Not to just receive 'some education' like some others kids in the Bengali community; our aim is to see our daughters as properly educated and established in life."*

## **Other motivations for providing the HLE**

Some of the parents drew upon their own childhood experience and wanted the educational advantages for their children that they had been unable to gain for themselves:

**Lorraine's Father:** *I think that [Lorraine's Mother] was equally as bright, but was distracted by the bright lights and boys and whatever and never ended up taking it all the way through to passing exams and going to University and things like that. The same thing could happen to Lorraine if the academic work became less important and the social life became more important. It's a question of...finding a happy medium...holding her interest at school, which they will only do if she's challenged. If she had to bumble along at the bottom end of the scale, then it wouldn't be enough to hold her interest.*

**Safia's Father:** *When we first arrived in England, I couldn't speak a word of English...and I spent about five years at Banbury School...and then only about 9 months at the technical college, I started work because my father had to go to India. Somebody had to find a job to pay for the housekeeping, then what I did, I thought to myself well look, your standard of education is still low, I can't go to school, I must study at home.... So this is where I thought well my children they are going to have the best of education, I'm going to support them all the way, and that's why I've encouraged them always to do with that.... that was a starting point but you know, if I've missed it I don't want my kid to miss it. Read as much as you can and then when we go into town, don't buy ridiculous toys and stuff, just get some reading books.*

**Deepa's Mother:** *I am a single parent and I am suffering from depression and anxiety. It sometimes makes Deepa worried. But I always tell her not to worry and assure her that I will do everything possible to help her to get a good education. I always push her to do better. I told her I don't want you to be like me. I regret that I am not educated. As I don't understand English, I have to ask people to do many things. I have to depend on others for many jobs. She must not be like.....*

### Positive learning dispositions

In an earlier section of this report it was reported that the strongest effect on children's resilience was found to be their level of 'Self-regulation' ('Independence and Concentration') at the start of school. The items used to measure this included the child's willingness to 'work things out for themselves', 'seeing task through to end' and 'perseveres in face of difficulty'. Presenting data on the positive learning dispositions being developed by children Dweck and Leggett (1988) categorise learners as 'mastery oriented' or 'helpless' according to their response to failure or difficulty. 'Helpless' children tend to be less persistent, they give up easily as they worry about their lack of ability. But when 'mastery oriented' children experience a setback; they tend to focus on effort and strategies instead of worrying that they are incompetent. These dispositions to learn are very powerful and are associated with the development of positive personal and social identities. Positive dispositions provide resilience (Werner & Smith, 1982; Claxton, 1999) and lead to positive lifelong 'learning trajectories' (Gorard et al., 1999).

As Deslandes (2001) has observed, family members become involved when they come to believe that their own (and the child's) efforts will be rewarded. But if they consider the child's educational success to be dependent less upon effort and more upon the child's (or their own) innate ability, then they are much less likely to involve themselves. We explicitly asked the parents why they thought some children did better at school than others and most told us that they thought that it was the result of being more attentive in the classroom and making more of an effort:

**Daniella's Mother:** *She is very hardworking as well, she is very serious in her work you know, she is that kind of person she has got the (word unclear), she loves a challenge as well so I think, you know, that if she puts her heart to it she'll be able to do anything. That is how she is, very focused and organised. Very determined.*

**Yosola's Mother:** *I think she puts in a lot of effort, she's that way inclined, she puts in a lot of effort, she reaps what she puts in.*

We also asked the children why they thought some children did better at school and the most capable children in the sample who benefited from better HLEs showed masterful learning orientations, and the responses of children with lower HLEs and attainment suggested learned helplessness:

**Lorraine:** *I'm one of those people who keep trying to do what they wanted until they actually got it done.*

**Louis:** *Some people don't listen and some people just stay up, like, younger than me. I go to bed about nine o'clock and they'll be outside and I'm trying to sleep about eleven o'clock and stuff like that.*

**Daniella:** *Because some people don't listen and they just do their own thing while teachers are trying to explain things.*

**Leilani:** *Cause they listen, maybe do their homework more often. That's probably why.*

**Tanya:** *Concentration, paying attention. Make the effort to listen, and do their homework, extra work at home, parents encourage more.*

Others told us it was because some of the children missed classes or 'play around'. One of the 'comparison' children explained this was not so much because they found it hard, but rather because they were bored:

**Faiza:** *Some people in my class would drive me up the wall.*

**Yosola:** *some people don't listen and they just do their own thing while teachers are trying to explain things.*

**Desola:** *Because some people don't really like school...they don't really pay attention so they don't really understand it.*

Sally, one of the low HLE and lower attaining children suggested that children didn't do so well when it was 'too hard' for them, and she also told us *they 'get bored'*. Another child, Daniel, who was underachieving and displaying some behavioural problems provided a similar account:

**Int:** *Why do you think some people do better than others at school?*

**Daniel:** *It's just 'cos of their brain. Because people are brainier. I don't know, because people are brainier, and I'm not brainy.*

Some of the children showed a clear awareness of the contribution that their parents had made to their success:

**Lorraine:** *..my mum taught me the alphabet before I went to pre-school.*

**Int:** *So, you feel that gave you a bit of a head start?*

**Lorraine:** *Yes, because all the other children never knew theirs. And I think I could write it as well, couldn't I, really, by the time I was into nursery, which was a year later, I could write my alphabet.*

Some parent's also told us how they actively encouraged their children to be masterful:

**Safia's Mother:** *I think one of the things I've always encouraged my oldest as well as [Safia] to ask lots of questions. It's not good sitting in the middle row or back row not asking because at the end of the day you are trying to achieve something out of the subject that you are in, and if you are not sure of something just raise your hand and ask, or even if you feel that you feel a bit embarrassed and that, just stay behind after class and ask the teacher when she's on her own so and ... oh and a number of time she has to like come to me for things and I've helped her, over the years with that.*

#### **f) The active encouragement of parent participation by schools**

Hoover-Demsey and Sandler's (1995) model suggests that families decide to participate when they believe the child and the school want them to be involved. Epstein's (1996) participation types 2, 3 and 4 are all relevant here in considering the basic obligations of schools in communicating with families about program expectations, evaluations, and children's progress. The family's own involvement at the school (e.g. in volunteering in classrooms to support school and children) is relevant, as well as the school support for family involvement in the HLE.

In EPPE Technical Paper 10 (Siraj-Blatchford et al., 2003), we describe 14 case studies of Foundation Stage settings that were drawn from our overall EPPE sample of 141 settings. This investigation focused particularly strongly on the pedagogies that were employed in the settings that might explain their good to excellent outcomes.

In two of the Private day nurseries that were included in the EPPE qualitative case studies the value added scores on social/behavioural development were high. It was also interesting to note that the predominantly (upper) middle class parents in these settings consistently prioritised the importance of their children developing social skills in the pre-school. They were less concerned about the educational provisions as they were aware they were providing a strong educational environment in the home:

*She'd been looking at numbers at school then I'd do that at home. If she mentioned she liked a particular book at school we'd find that in the library and we do letters at home. So, yes I do try to follow it at home. (PDN parent)*

We were interested to see if the parents of children from more disadvantaged communities where the cognitive and social outcome scores were also high were supporting their children's learning at home, or whether it was entirely the setting's work with the children that gave them a 'head start'. We already knew from our observational analysis that some of the pre-schools had excellent pedagogical practices. EPPE conducted a total of 107 interviews with parents from the 14 case study settings and communication between parents and staff was, on the whole, found to be very consistent, but generally informal and responsive to the needs of the child in terms of their general welfare and well-being. We found that all of the 14 settings studied had policies to encourage parents to read with their children, but in those settings that encouraged continuity of learning between the early years setting and home, the children achieved better cognitive outcomes. Although the following example may not appear remarkable, the consistent approaches by staff to inform parents about their child's progress and to communicate what the settings were trying to achieve with individuals was emphasised over and over again by the parents of children achieving higher than might otherwise be expected:

*They suggest things you can do at home and you take home books. You've got the library and they suggest how to talk to them if you've got any problems you know how to approach it. They do really help. I know they learn quickly and I know I've got the setting to thank for that. I know I've done some hard work but they've done a lot as well. (EPPE Parent)*

This was not the kind of experience that parents reported to us on this occasion. In fact we found very little evidence of the schools or pre-schools providing sustained in depth support. Many of the parents were however quite proactive.

**Safia's Mother:** *Whenever I used to go to the parents meeting and that or any other kind of get together we'd have, I used to ask lots of questions and that, I always used to say to the teacher, if there's anything they want to know, here are my contact numbers.*

In only one case was it suggested that a school or pre-school might have been proactive in supporting the HLE:

**Int:** *Where do you think you learnt the alphabet, was that something you did at home or at school?*

**Louis:** *Both, really. Like first we learnt it really, and they told my mum to do it so my mum done it for a bit...so she done it a bit more...When I went to [Nursery School] it was like I had a head start really.*

The EPPE pre-school qualitative analysis identified an association between pre-school effectiveness, curriculum differentiation, and matching in terms of cognitive challenge, and 'sustained shared thinking'. But the evidence also showed that some settings might be effective even where these conditions were not strongly met. Our findings suggested that where a special relationship, in terms of shared educational aims, had been developed or agreed *with* parents, and pedagogical efforts were being made at home similar outcomes could be achieved.

Some very successful settings with good outcomes were providing regular information through records of achievement and monthly meetings with key workers. In the case of two of the settings weekly feedback was provided. What was distinctive about all of these settings was that they focused on the specific learning objectives that they were working towards with the children, and reported regularly to parents on their children's achievements in those terms. The settings were engaged in more regular on-going assessment of children's learning, and this supported the parents from these settings in engaging more in complementary educational activities in the home.

*The weekly report has a section on what activities the group has been doing we have talked about squirrels this week and things like that. She has mostly played this week with this type of material and she's learned the letter P and R she now knows numbers 1 to 4 for example. And the last bit is what she has enjoyed most. The end of report is like 3 or 4 pages, much more detailed and goes to cognitive development and social development of the child. What she has learned in terms of letters, drawing and ballet and French. (PDN parent)*

All three of the Integrated Settings (2 Early Excellence and 1 Daycare) that were included in the EPPE case studies provided excellent parent support, an open door policy, classes for parent development (e.g. computers, assertiveness) and a very friendly informal environment for parents to meet each other. EPPE found that these forms of provision were very successful despite operating in disadvantaged areas. The one exception to this pattern in our qualitative pre-school case studies was an Early Excellence Centre (EEC) which was achieving relatively poor cognitive outcomes. While it was providing excellent family services, it was found to be employing a less effective strategy by emphasising parents' needs above those of their children, rather than seeing the needs of children and parents as different but complementary. The setting also promoted social development and support above educational development, rather than seeing these as complementary.

*I think I probably don't follow things up from here as such. Again I haven't been coming in as much. I suppose if he becomes interested in something from the nursery then we will do something at home that follows on from it. (Early Excellence Centre parent)*

For families from more disadvantaged backgrounds, EPPE found that parental involvement (which was largely conceived by parents as 'helping out'), was not common or associated with children's learning outcomes. In fact, some of the highest scoring settings had no voluntary parent involvement at all. Parental support was common in the EECs and the Local authority day nurseries but where it was combined with shared educational goals the outcomes were higher.

In contrast to this, EPPE found that settings where the cognitive outcomes were worse than expected (although not the social), tended not to communicate the children's progress regularly to parents. Sometimes parents were given feedback in a daily chat (where requested by the parents), or a summative report, often at the end of year or term. Parents felt that settings, which were sensitive, responsive and consistent (in terms of staff), were more effective.



In this study where we have focused on individual children and their families, we found that some of the parents (all mothers) did spend some time 'helping out' in the pre-schools, mostly when requested in support of special projects, trips etc. For most this was not sustained into primary school. The parents also reported on the feedback that they received, which was usually either in response to specific (e.g. behavioural) problems or provided on an annual or termly basis providing a summary of their child's progress. None of the parents provided positive examples of feedback that might inform them in their efforts to provide additional support at home during the pre-school years.

Any serious mismatch of expectations between families and educators could be extremely problematic. It may be that some early childhood settings and schools expect all parents to intervene in their children's education, to be equally proactive and demanding. Where parents appear to take no interest in the child's educational progress such schools and pre-schools could abdicate responsibility themselves, seeing the parental attitude as the problem to be addressed rather than the child's education.

Research has shown that middle class parents *do* intervene in their children's education, and they often do this because they don't entirely trust the educational and care establishments (Vincent and Ball, 2001; 2006). There may be significant problems where some minority ethnic and working class parents put their trust entirely in the professionals, believing the experts know best, and that they are acting in the best interests of their children. Tragically, some parents may even lower their own expectations of their children's capabilities according to a pre-school, or school report on their child's progress. This is where the notion of combined care and education provision comes into its own. The best of our integrated or combined children's centres don't just wait for parents to become involved in pre-school education and care, they are proactive in this respect.

Crozier and Davies (2005) critique of home school communications have been referred to earlier and Siraj-Blatchford (2000), Caddell et al., (2000), and many others provide even broader criticism. But the point here is not to blame the schools, it is to find solutions for the broader problems:

*Many teachers have had little or no training in home-school relations and may not possess the knowledge and skills necessary for work with parents (Morris & Taylor, 1998). This raises the question as to whether schools are the best people to take on the task of educating parents. If working with parents is an important field of work are relationships with parents too important to be left solely to their untrained staff? Is this not a space for partnership between schools and family literacy/adult and community education to promote parental understanding? Liaison with other agencies who support families can help to identify factors which may influence parental involvement, build up a deep knowledge of parents' skills, knowledge and interests which can be drawn upon to develop and provide effective means of sharing information. (Caddell et al., 2000)*

### **g) Social capital and the development of reciprocal partnerships**

Here we are concerned with the kind of reciprocal partnership models referred to by Bouchard et al., (1998), and Dunst et al., (1992). Epstein's (1996) 5 and 6 type involvements are relevant. Those related to governance and advocacy and in collaboration at the community level. But in this study we found no evidence of these at all. A few of the parents were vaguely aware of the fact that some schools had parent governors but none of them had had any contact with them. All of the meetings that they attended in schools appeared to be either directly related to their child, to inform them of changes that had already been decided, or concerned with secondary transfer.

There is still a good deal of work to be done to identify the resources in terms of social capital that these families have been drawing upon in developing their HLEs. But it seems that as far as this particular sample is concerned, the contribution of schools and pre-schools to these processes may have been quite modest. The evidence would rather seem to provide support for the kind of work provided by Reynolds (2006a; 2006b) who has been documenting the ways in which Caribbean young people in the UK construct their ethnic identity, and the ways in which they apply transnational family and kinship networks and relationships as social and material resources.

Our study also support Deslandes' (1996) suggestion that family role expectations are developed predominantly in their membership of family, school, church, and other community groups. For a few parents, support has come from their religious community, but the strongest influence would seem to be from the role models and influences of extended families:

**Firoja's Mother:** *All of their aunties [paternal] are in good professions. We grew up in the same environment. Our parents always encouraged us to study.*

**Winston's Mother:** *...our families are professional people so Winston has role models within his family that he can reflect on.*

Many of the children's responses provided equally convincing evidence of the effect of role modelling, for example:

**Daniella:** *Because my brother and my dad and my mum were good at Mathematics and I wanted to be good at all subjects.*

Both the effect of the parental peer group reported in an earlier section of this report and our findings related to the impact of extended family members suggest that child and/or parent mentoring might be applied to support those families who lack these elements of social capital. Attachment theory tells us that a child's relation to adults is important for her (or his) cognitive and emotional development (Bowlby, 1969). Resilience research has also often found that children who do well in spite of disadvantage have had a close and nurturing relationship with a 'significant other', often an adult from outside their immediate family (Werner and Smith, 1982). Mentoring schemes aim to facilitate the creation of such relationships.

Educational disaffection develops gradually and it may be that in the case of those children who started off well, with very positive HLEs, early identification and support for their needs would have been effective. The potential role that might be played in this through the new 'Common Assessment Framework' (CAF) and Learning Mentorship initiatives could be substantial. Guidance provided by Sheffield Local Authority (2006) suggests that the CAF may be applied whenever a child is thought to have additional needs, which may be identified by 'a combination of relatively minor issues, which you feel you need to understand the impact of on the child' (*op cit*). The examples provided by the Sheffield LA include late attendance at school, deterioration in concentration and presentation, or failure to keep appointments. The CAF can be used to facilitate planning an intervention and ensuring that the outcome of that intervention is reviewed.

As Pope (2005) have suggested:

*Pupils of all ability levels can underachieve, and learning mentors target these pupils and help them to identify and address what it is that is getting in the way of their learning. These barriers can be wide ranging and often very personal to the individual pupil. They may include the need to develop better learning and study skills, personal organisation, difficulties at home, behaviour, bullying, or disaffection and disengagement from learning.*

As Brandon et al., (2006) have noted, one of the key purposes of 'Every Child Matters' has always been to 'mainstream preventative approaches' (DfES, 2003, 1.18):

*As part of this initiative, the common assessment framework is intended to shift thresholds downwards and change the focus from dealing with the consequences of difficulties in children's lives to preventing things from going wrong in the first place.*

But Brandon et al's. (2006) evaluation of the CAF has found, in the early stages of implementation at least, the thresholds for intervention may actually be rising in some areas. Clearly there are resource implications.

Arguably, the current evidence suggests that in terms of learning interventions we are dealing with a situation where *Rose's Theorem* might be considered to apply; where a very large number of children initially at relatively small risk may give rise to more serious problems in the future, than that smaller number who are at very high risk (Rose, 1992). While numerous mentoring projects have been set up for children and young people with existing behavioural problems we are aware of few projects with a strong educational focus providing early identification of learned helplessness combined with targeted intervention. Few systematic evaluations of mentoring schemes are available, although those that have been carried out (mostly concerned with older children) suggest that mentoring can be effective where it is provided for young people experiencing conditions of environmental risk or disadvantage (Dubois et al., 2002). As Morris et al., (2004) found there is sufficient evidence to support the 'mainstreaming' of learner mentors:

*...research has shown that pupils receiving support from learning mentors were one and a half times more likely to achieve five or more GCSEs at grades A\* to C than young people with similar prior attainment who had not been mentored.*

Although a greater clarity of objectives and a closer partnership between mentors and teachers may be required if effective initiatives are to be developed (St James-Roberts, and Samlal Singh, 2001).

As Mirza and Reay (2000) have argued, African and Caribbean supplementary schools provide evidence of thriving black communities and social capital that needs to be taken into account in the development of reciprocal partnerships. With the possible exception of our White UK respondents each of the communities that we studied does have similar resources and we believe these should be built upon. Some policy theorists may find this suggestion problematic. In Putnam's (2000, 2002) account of social capital a distinction is made between the 'bridging ties' in social capital that cut across social divides and enable a broader set of linkages, and the 'bonding ties' of social capital that are based on commonalities such as ethnicity. As a number of writers have recently observed (e.g. Mand, 2006; Goulbourne, 2006a; 2006b) for Putnam 'bridging ties' thus create social capital as 'bonded ties' may be seen to limit the span of social resources. Goulbourne (2006a; 2006b) therefore argues that social capital itself may be viewed positively or negatively, it can be a resource for individuals to draw upon and foster social integration, but it can also act as a social constraint and inhibit processes of integration.

In the active construction of their identities, children, as with all those family members who support them, distance themselves from 'others' (Siraj-Blatchford and Siraj-Blatchford, 1997). In this study we have identified a number of the terms that are being applied by these aspirant parents and children in their efforts to attain educational success and achievement. But as individuals we don't usually see ourselves primarily in terms of our family role as a parent or a child, or even in socio-economic, ethnic, or even gender terms, we tend to see ourselves holistically. So it isn't at all surprising that our respondents described their situations, their aspirations, challenges and frustrations as they cut across each of their multi-faceted identities

As Mirza and Sheridan's (2003) Equal Opportunities Commission (EOC) study on Black and minority ethnic women points out:

*For example, an older Asian widowed woman who has worked in the family business will have a very different identity and face different equality issues compared with a younger professional Somali woman refugee doctor unable to secure employment. Each woman therefore, has a different 'story' to tell. Just as their experiences are different so too multiple definitions of themselves have evolved in terms of everyday lived experience of gendered and racialised social relations. (Brah, 1996; Mirza, 1997)*

An Irish Equality Authority (EA) study conducted by Pierce (2003) made a similar point in the context of experiencing disability and as Zappone (2003) has argued:

*Taking a 'multiple identities' focus offers a more holistic understanding of the diversity within individuals and how they experience barriers to equality and discrimination in light of this. All individuals hold multiple identities, but the social significance of personal characteristics is what can determine their experience of equality or inequality, the fulfilment or violation of human rights.*

Having multiple identities allows a person to relate to different people in different situations and contexts in different ways at different times. It also means that their social relations can be multi-faceted and imbued with contradictions. It is notable in this context that in carrying out this study we have been particularly impressed by the resilience and strength of character of many of the 10-11 year old child respondents, as well as many of those siblings who often offered their support in the interviews with parents.

As Stipek et al., (1994) argued, children with home backgrounds that do not correspond with the norms, expectations and language of their schools negotiate two (or more) cultures on a daily basis. In the process of data collection we witnessed our respondents and their siblings taking on the role of *cultural brokers* and translators for their family. For many, this is a role that they continue to apply throughout their lives in interaction with their classmates, their teachers, and their neighbours. It may be that we need to consider more carefully the kinds of support that we can offer them in their efforts to move between their home and institutional environments.

We might also take their example seriously in our consideration of the alleged tensions (or contradictions) referred to earlier, that are considered to exist between 'bridging ties' and 'bonded ties'. In doing so we would need to recognise that society is itself multi-faceted, and that it isn't actually necessary for the social capital that we develop as effective citizens to be exactly the same as that developed by members of our particular ethnic or social group. If schools are to improve their performance when it comes to the development of reciprocal partnership it may be that they need to recognise first that multicultural identity is something that we must all achieve in our heads before we try to apply it in our institutional practices and policies.

## Summary

This research, commissioned by the Equalities Review, sought to expand the quantitative analyses, reported earlier by the EPPE Team, to address the following research question: "Why do some parents behave in more educationally supportive ways than others"?

The focus of the case studies is on low SES families from five ethnic groups: White UK, Pakistani, Black Caribbean, Black African and Bangladeshi. Interviews were carried out with 21 individual children and their parent/s with moderate or relatively high HLEs and attainment and relatively low SES from the range of diverse backgrounds, seven of these are boys. We also identified a further three children, from different ethnic groups with a 'typical' low HLE and attainment making the total sample 24. The case studies explored how and why some low SES families provide a higher quality HLE, which has been shown to reduce the adverse impact of poverty or minority status.

We developed a time line of each child's life history to act as an aide memoir for both the respondent and the researcher. Semi-structured interviews were employed and the analysis initially involved coding our data according to a series of broad categories, drawn from the work of Epstein (1996), Hoover-Dempsey and Sandler (1995) and Bouchard et al., (1998). This was followed by an iterative and incremental Nvivo (qualitative data analysis software) analysis.

As both Sammons (1995) and Siraj-Blatchford (1985) observed, while prior research has provided us with quite a lot of information about the factors associated with underachievement, we know rather less about the factors associated with high achievement. To some extent this small study may be seen to contribute to that end.

Three of the research questions addressed in this qualitative part of the study actually lent themselves most appropriately to quantitative analysis:

### **How does the home learning environment (HLE) affect children's experience of the transition between home and pre-school?**

EPPE found that the HLE is an independent influence on cognitive attainment at age three, and at pre-school and primary school. A better HLE gives a child a better start to school and sets them on a more positive learner trajectory in terms of social/behavioural development especially important for 'Independence and Concentration'. These effects are strong and independent of other predictors.

Our analyses also show that combining a good HLE with attendance at a high quality pre-school promotes better attainment at age 10 years. But our findings at age 10 suggest that for disadvantaged children attending a medium or high quality pre-school, or having a medium to good HLE on its own may not be enough. They really require both.

While the qualitative analysis was unable to identify any contrasting aims, values, philosophy, approaches etc. some possible tensions were revealed. We have argued that any concerns related to the different approaches to early literacy used by families and pre-schools may be misguided. However, different perceptions of children's needs related to individual support and behaviour management may be apparent at times. These suggest the need for improved communications and collaboration between families and schools.

The subject of the effect of the HLE on the children's further progress in primary school is dealt with more fully in the quantitative sections of this report.

### **Does the type of pre-school provision used affect transitions?**

The early EPPE evidence indicated an association between certain types of provision and both the quality of provision and effectiveness as measured by child outcomes at age 5. While all types of settings included some that were effective, this analysis showed that Integrated centres and Nursery schools did better overall but they served significantly more multiply disadvantaged children and those with lower HLEs. By age 10 this pre-school 'type' effect had washed out but the effect of pre-school 'quality' on children's outcomes remains very strong.

The EPPE analysis showed that centres classified as Private day nurseries showed more variation in effects and quality, than other types suggesting the effects of variation in educational philosophies or traditions. The EPPE study also showed that the clustering of disadvantaged children within specific centres may not be advantageous. Analysis, conducted for this report, now show that a similar effect exists in the case of parents. It may therefore be equally disadvantageous for a cluster of parents with limited educational backgrounds to use the services of a particular pre-school.

EPPE found that the 'Co-operation and Conformity' of children attending Nursery classes and Integrated Centres was significantly higher than those attending Playgroups, Private day nurseries and Local authority day nurseries. This may be of special importance given research evidence to suggest the importance of friendships, siblings and social skills in helping children settle into new settings more easily. There were indications that poorer outcomes in terms of 'Anti-social/worried' behaviour' (i.e. a worsening of 'Anti-social/worried' behaviour) were associated with both Private and Local authority day nurseries.

Our qualitative analysis of the experiences of higher than average HLE families suggest there is a need for improved communications and collaboration between families and schools in the context of transition between institutions.

### **Where a particular group is characterised by relatively low HLE are there any common factors?**

As has been seen in an earlier section of this report the common factors identified in our quantitative analysis of the EPPE data conducted for the Equalities Review were as follows:

- Poor mother's education,
- Larger families,
- Early developmental problems,
- Area of higher deprivation and
- If going to pre-school going to one that is homogeneous for low mother's qualifications.

The qualitative analysis provides answers to many of the other questions posed by the Equalities Review team:

### **Family constructions of the parental role**

We were asked to investigate what parents did practically to support the HLE, how parents and children saw the quality of HLE affecting their pre-school experience, and how this varied according to individual characteristics.

Our findings suggest that the minority ethnic and social groups that we studied have a good deal more in common than they have differences in the ways in which they supported their children in the home. We also found that a very wide range of family members provide support for children's learning. All of the families from each of the high HLE, low SES groups studied, provided their children with a good deal of structure; they read to their children in their early years and went on to listen to them read at an early age. Numerous other educational stimulus and activities were also provided. The children themselves were active in maintaining these practices. We found that our respondents from each of the target communities possessed a fairly broad understanding of education and a strong desire to benefit from the services available.

All but one of our high HLE sample had enrolled their child at pre-school. Even in that case the child's name had been 'put down' for it but it was oversubscribed and there were no other alternatives. While many of the case study parents informed us that that they were concerned to find the best educational placements for their children, first choices were often oversubscribed. As far as the pre-schools were concerned, most of the parents informed us that there was simply too little choice for them in the near vicinity that was available at prices that they could afford.

For parents with English as an additional language (EAL) the opportunities offered by a pre-school in supporting their children in learning English was clearly significant. Given the almost universal use of pre-school services by the case study families we were unable to provide any insight into the question raised in the Equality Review Seminar regarding the low take up of pre-school and early years services by Pakistani and Bangladeshi families. No clear view has therefore been reached in this case study as to whether this is down to inadequate service provision, discriminatory practices or cultural preference.

Several of the parents paid for private home tutorial support when a particular educational weakness was identified and in one case in preparation for an 11+ selection test. It was also clear from the data that the positive HLEs that we identified were provided as an alternative to other culturally appropriate educational provisions, community language or religious instructions. In some cases they clearly complement these provisions strongly (e.g. in African-Caribbean Supplementary Schools).

We asked the parents what they felt the barriers were to providing a positive HLE but the only reasons that they could give us were related to the time available and their personal circumstances such as health. Other family pressures made it very difficult for some families to provide support and even in the most diligent of households, the HLE provisions made for individual children sometimes changed when home circumstances changed (e.g. with the birth of an additional child).

For most parents any dip in the child's attainment was met with a new strategy, but for a few the problems that they were facing proved too difficult to overcome. In such cases there was a need for further support to be provided through family services.



## The family's sense of efficacy in supporting their children's learning

We were asked to investigate the key characteristics and motivations of the higher HLE/low SES families including their family aspirations and expectations. We were asked to identify the reasons children and their parents gave to explain their success, and to find out more about the parent's level of knowledge about the early years and primary education system.

A variety of reasons were given for parents supporting the education of their children at home but all of the parent responses showed that they had a very clear idea of the major benefits. Both the parents and the children from high HLEs were found to believe that the reason some children did better in school was because they were more attentive in the classroom and making more of an effort. For those families where there was a poor HLE, or where the children's progress was disappointing (for a variety of reasons) despite their positive beginnings, the reason for children's success was put down more to innate ability.

When we asked them what they considered the benefits of schooling and pre-schooling to be, most of the parents and the children demonstrated highly instrumental attitudes towards schooling. These may be seen to be closely in tune with the *Every Child Matters* agenda. The most frequent references were made to achieving economic independence, and to either specific or more general employment opportunities.

The parents' expectations for their children are extremely high with all of the higher HLE parents suggesting their children should attend higher education and then go on to professional careers. Many of the parents also referred to their own educational ambitions. To a large extent the children's aspirations mirrored these and were similarly instrumental (or performance) based – although they were more likely to suggest an alternative interest as well (e.g. becoming a sportsman/sportswoman, pop star, actor etc). Many of the parents also referred to their own educational ambitions.

Crozier and Davies (2005) found a similar pattern for the 591 Pakistani and Bangladeshi parents that they surveyed. Most had high aspirations for their children, wanting them to go to university and take up professional careers. For some of the African Caribbean parents in particular, in the EPPE case studies, their educational efforts were in part an attempt to overcome the disadvantages of racism and the negative influences of their local neighbourhood.

Family members become involved in the education of their children when they come to believe that their own (and the child's) efforts will be rewarded. If they consider the child's educational success to be dependent less upon effort and more upon the child's (or their own) innate ability, then they are less likely to become involved. We explicitly asked the parents why they thought some children did better at school than others, and most told us that they thought that it was the result of being more attentive in the classroom and making more of an effort. The children's responses were very similar with the most capable children in the sample who had benefited from better HLEs showing 'masterful learning' orientations. The responses of children with lower HLEs and attainment suggested 'learned helplessness'.

## **The active encouragement of parent participation by schools**

We were asked to investigate those external influences that supported or encouraged the development of the HLEs.

We found little evidence of any support being provided to parents apart from the application of reading schemes. For many parents, the anticipation of, and preparation for, secondary transfer was especially stressful and daunting. The case study evidence suggests that as Crozier and Davies (2005) also found, schools need to be doing more to encourage the involvement of the wider family in children's education. It may be that early childhood settings and schools expect parents to intervene in their children's education, to be proactive and demanding. Research has shown that middle class parents intervene in their children's education, and they do this because they don't trust the educational and care establishments. Much of the same attitude was evident in some of our parent responses.

While the EPPE study has shown that some pre-schools (particularly Integrated Centres and Nursery Schools) provide sustained support for parents in their development of an effective HLE little evidence of this was found in this more limited study.

We found that some of the parents spent some time 'helping out' in the pre-schools, mostly when requested in support of special projects, trips etc. For most this was not sustained into primary school. The parents also reported on the feedback that they received which was usually either in response to specific (e.g. behavioural) problems or provided on an annual or termly basis providing a summary of their child's progress. None of the parents provided positive examples of feedback that might inform them in their efforts to provide additional support at home during the pre-school years.

Middle class parents often provide very strong HLEs and argue for a less academic approach to learning in pre-schools (Vincent and Ball, 2001; 2006). They favour pre-schools that provide the maximum opportunity for their children to develop their capabilities in terms of social interaction and self expression. There may be a significant problem where some minority ethnic and working class parents put their trust entirely in the professionals, believing the experts know best, and that they are acting in the best interests of their children. Tragically, some parents may even lower their own expectations of their children's capabilities according to a pre-school, or school report on their child's progress.

Research on pre-school education in five countries evaluated by Sylva and Siraj-Blatchford (1996) for UNESCO also considered the links between home and school. The authors report the importance of involving parents and the local community in the construction and implementation of the curriculum. When they begin school or early childhood education, children and their parents "bring to the school a wealth of cultural, linguistic and economic experience which the school can call upon" (p.37).

Sylva and Siraj-Blatchford (1996) conclude that:

*“It therefore becomes the responsibility of the teacher to localise the curriculum and to enlist the support of the local community and families in framing school policy and practice and making the school and educational materials familiar and relevant to the children’s experience” (p.37).*

## **Social capital and the development of reciprocal partnerships**

In terms of broad definition, we consider our perspective on family partnership to be generally in line with that recently adopted by the Welsh Assembly Government. This is an account that recognises participation is a good deal more than simply providing information or consultation. It also recognises that different levels of participation exist, and that the highest level is not always the most appropriate level to begin in any particular initiative:

*Participation is about being involved in decision-making at all levels. There are a number of models of participation, but most highlight the difference between **information, consultation and participation**. Some describe levels of participation in terms of a ladder, with the power shifting from organisations to service users towards the top of the ladder. (Isaac, 2006)*

Community focused supplementary schools and classes would seem therefore to provide important educational resources, and every effort should be made to involve them fully in any future HLE support initiative.

We were asked to identify the social capital possessed by the higher than average HLE families. Our case study analysis provides support for Reynolds (2006a; 2006b) who has been documenting the ways in which Caribbean young people in the UK construct their ethnic identity, and the ways in which they apply transnational family and kinship networks and relationships as social and material resources. Extended family support and role modelling was found to be evident in all the communities studied. Given the difficulty of providing such resources externally this evidence would lend support to initiatives involving some element of mentoring. As Newburn and Shiner (2005) have suggested, the benefits of such schemes may not be restricted to educational gains alone. Mentees often speak of the benefits in terms of the better relations developed with parents and siblings (op cit). A substantial role might be played in this through the new ‘Common Assessment Framework’ (CAF) and through ‘mainstreaming’ Learning Mentorship initiatives.

Many of our respondents could be seen to be acting as *cultural brokers* who saw no particular problem in reconciling their cultural, religious and academic aspirations.

## **Key Findings**

### **Qualitative case studies of children and families**

This research, commissioned by the Equalities Review sought to expand the quantitative analyses, reported earlier by the EPPE Team, to address the following research question: “Why do some parents behave in more educationally supportive ways than others”?

## **The effect HLE has on children's experience of the transition between home and pre-school**

A better HLE helps a child adjust to both pre-school and primary school and sets them off on a more positive learner trajectory.

The combination of a good HLE with attendance at a high quality pre-school promotes even better attainment at age 10 years.

For many multiply disadvantaged children, neither a good HLE, nor a high quality pre-school, is enough. They require both.

A number of discontinuities are apparent in the transition from home to school. While research provides little evidence regarding the scale of these problems they do highlight the need for improved communication and collaboration between parents and schools in early childhood education.

## **The effects of pre-school 'type'**

Disadvantaged children do better, in terms of cognitive and social/behavioural developmental, in the early years when they attend Integrated centres, and Nursery schools that are generally committed to providing for parental partnership and family support.

Disadvantaged children benefit from a broad social mix. In the interest of their cognitive progress, as far as possible, they should therefore not be clustered in particular centres.

At age 10 the effects on children's outcomes of pre-school quality (as measured on environmental rating scales) remains very strong.

Some parents experienced particular difficulties at the stage of secondary transfer. Again this highlights the need for improved communication and collaboration between parents and schools.

## **The common factors characterising (relatively) low HLE groups**

Our qualitative evidence suggests that these groups have much more in common than sets them apart. The common factors identified in our quantitative analysis are all demographic:

- Poor mother's education,
- Larger families,
- Early developmental problems,
- Area of higher deprivation, and;
- If going to pre-school, going to one that is homogeneous for low mother's qualifications (i.e. where other mothers have equally low qualifications).

## **Family constructions of the parental role**

A very wide range of family members (i.e. not just parents) provide support for children's learning and the children themselves were active in maintaining these practices.

Respondents from each of the target communities possessed a fairly broad understanding of education and a strong desire to benefit from the services available.

For parents with English as an additional language (EAL) the opportunities offered by a pre-school in supporting their children in learning English was clearly significant.

The positive HLE respondents attended a range of other culturally appropriate educational provisions. In some cases they complemented the HLE strongly (e.g. in supplementary schools and community classes).

Family pressures sometimes made it very difficult for families to provide support and the HLE provisions made for individual children sometimes changed when home circumstances changed.

Where families require additional support the provision of a positive HLE may not be sufficient in providing for the child's needs. In such circumstances home learning activities might however be promoted in the direct support of families developing more constructive relationships with each other.

## **The family's sense of efficacy**

Both the parents and the children from high HLEs were found to believe that the reason some children did better in school was because they were more attentive in the classroom and making more of an effort.

Both the parents and the children held highly instrumental attitudes towards schooling that may be seen to be closely in tune with the *Every Child Matters* agenda. Frequent references were made to the achievement of economic independence, and to either specific or more general employment opportunities.

The parents' expectations for their children are extremely high with all of the higher HLE parents suggesting their children should attend higher education and then go on to professional careers.

## **The active encouragement of parent participation by schools**

Apart from the single case of an inner city Nursery School, little evidence was found of support being provided to the parents in developing the HLE apart from the application of reading schemes.

Schools and pre-schools need to be doing more to encourage the involvement of parents and the wider family, particularly in the education of disadvantaged children.

### **Social capital and the development of reciprocal partnerships**

Our evidence lends support to initiatives involving some element of family and/or child mentoring.

Further application of the 'Common Assessment Framework' (CAF) and the mainstreaming of Learning Mentorship initiatives may have strong roles to play in supporting the development of social capital.

Community focused supplementary schools and classes provide important educational resources, and every effort should be made to involve them fully in future HLE support initiatives.

Schools and pre-schools require further support in the development of family participation and reciprocal partnership.

## Part Four: The Pre-school and 'Home' Children

Authors: Brenda Taggart, Stephen Hunt, Kathy Sylva, Edward Melhuish, Pam Sammons, Iram Siraj-Blatchford

The following research questions are addressed in this part of the report:

- Who uses pre-school and who does not?
- What are the reasons for not using pre-school?
- Is it possible to identify which groups are more likely to use pre-school?
- How can parents be encouraged to use pre-school more?
- How does the quality of HLE affect the pre-school experience, and how does this vary according to individual characteristics?
- What is the quality of the HLE for children who do not attend pre-school?
- Do pre-school children have better outcomes than 'home' children at entry to school at 5?

### The Sample

This part of the report compares children who had pre-schooling (the EPPE children) and those who did not (the 'home' group). The 'home' sample consists of 315 children who were recruited from the primary schools (reception classes) attended by the EPPE children. The 'home' children had little or no centre-based pre-schooling before entering school. The recruitment of 'home' children proved very difficult, reflecting the increased access to, and take up of, pre-school provision (perhaps reflecting Government policy to expand pre-school provision from 1997 onwards). It should be borne in mind that although the 'home' group tended to be geographically clustered, EPPE analyses control for child, family and home background characteristics.

The principal concern of this section is to identify any differences in the two groups' cognitive attainment and to attribute the effect on attainment of having attended pre-school centres or not, along with the effect of any further differences between the groups. Of particular interest is difference in the quality of the two groups' HLE in supporting children's learning and contributing to better cognitive and social/behavioural development (at both aged 5 and later in the primary years).

### Who uses pre-school and who does not?

Descriptive statistics comparing pre-school children and the 'home' group were conducted. Table 4.1 below shows key background characteristics for both groups.

<b>Table 4.1 The Characteristics of 'Home' Children Compared with Children who attended a Pre-school Centre</b>				
	Children from target pre-schools centres		'Home' children	
	n	%	n	%
<b>Gender:</b>				
Male	1489	52.1	146	46.5
Female	1368	47.9	168	53.5
<b>Ethnicity</b>				
White UK heritage	2127	74.5	168	53.5
White European heritage	118	4.1	4	1.3
Black Caribbean heritage	116	4.1	0	0
Black African heritage	64	2.2	2	0.6
Black other heritage	22	0.8	0	0
Indian heritage	55	1.9	12	3.8
Pakistani heritage	75	2.6	102	32.5
Bangladeshi heritage	25	0.9	15	4.8
Chinese heritage	5	0.2	0	0
Other heritage	62	2.2	4	1.2
Mixed heritage	185	6.5	7	2.2
<b>Socio-Economic Status: (highest either parent)</b>				
Professional non manual	272	9.8	9	3.3
Other Professional non manual	748	26.9	28	10.2
Skilled non manual	925	33.3	49	17.8
Skilled manual	344	12.4	108	39.3
Semi-skilled	361	13	45	16.4
Unskilled	63	2.3	16	5.8
Never Worked	68	2.4	20	7.3
<b>English as a Second Language</b>	249	8.7	118	38.2
<b>Receiving free school meals (FSM)</b>	598	22.5	103	33.9
<b>3 or more siblings</b>	374	13.4	109	39.5
<b>Mother has no formal qualification</b>	501	18.1	146	57.0
<b>Area</b>				
East Anglia	559	19.6	91	29.0
Shire Counties	594	20.8	10	3.2
Inner London	656	23.0	11	3.5
North East	503	17.6	75	23.9
Midlands	545	19.1	127	40.4

The data indicate pre-school and 'home' children differ considerably in some of their background characteristics.

**Gender:** There were slightly fewer boys and more girls in the 'home' group than in the pre-school sample. This suggests girls were slightly more likely to be at home than in pre-school.



**Ethnicity:** The largest group of ‘home’ children were UK White representing just over half the ‘home’ sample (54 per cent). When considering minority ethnic groups the largest representation in the ‘home’ sample were children from Pakistani families (33 per cent). The Pakistani group also represent the biggest differential in pre-school attendance versus ‘home’: they represent three per cent of children in the pre-school group and a third of the ‘home’ sample. The ‘home’ group also had a much higher proportion of children for whom English is an additional language (38 per cent).

**Socio-economic status (SES):** There are a number of differences between the two groups in terms of SES. The SES groups most likely to use pre-school, in the EPPE sample, are Skilled Non Manual (33 per cent) and Other Professionals (27 per cent). The largest SES group in the ‘home’ sample are the skilled manual (39 per cent). The ‘home’ group also contain a higher proportion of children from non-working households (7 per cent as opposed to 2 per cent in the pre-school sample). ‘Home’ children were also much more likely to have mothers with no formal qualification (57 per cent as opposed to 18 per cent for the pre-school group).

A notably higher proportion of ‘home’ children are from larger families (3+ siblings) and a third of ‘home’ children, compared with just over a fifth of children who attended pre-school, receive free school meals (FSM). However, it should be noted that the FSM data for reception aged children provides only a partial measure of socio-economic disadvantage since many young children have home dinners at this age and therefore do not take up their entitlement to this benefit. This may be more likely for children from certain minority ethnic groups (e.g. Bangladeshi, Pakistani) where mothers are more likely to be at home.

The relative disadvantage associated with ‘home’ children is illustrated in Figures 4.1 and 4.2 below. Figure one shows the mean scores on the Index of Multiple Deprivation (IMD) associated with both the ‘home’ and pre-school children. The IMD is a geographically assigned nation wide measure of deprivation specifying an estimated deprivation score by Super Outcome area – areas of similar population size smaller than wards.

**Figure 4.1 ‘Home’ and Pre-School Children’s Families’ IMD Scores**

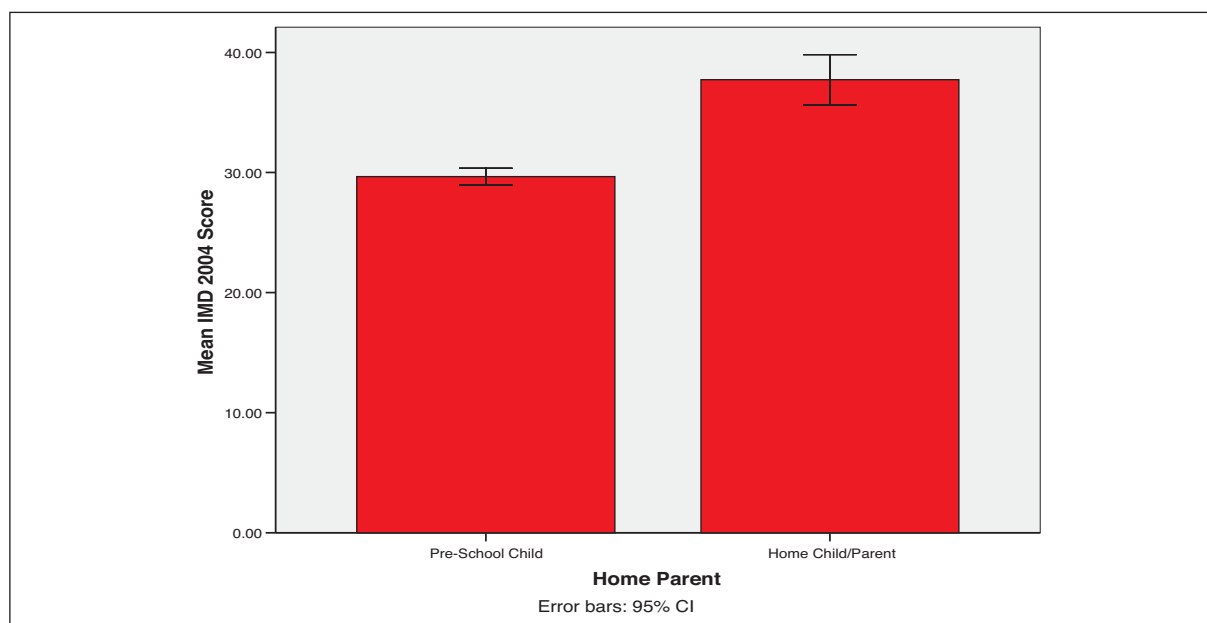
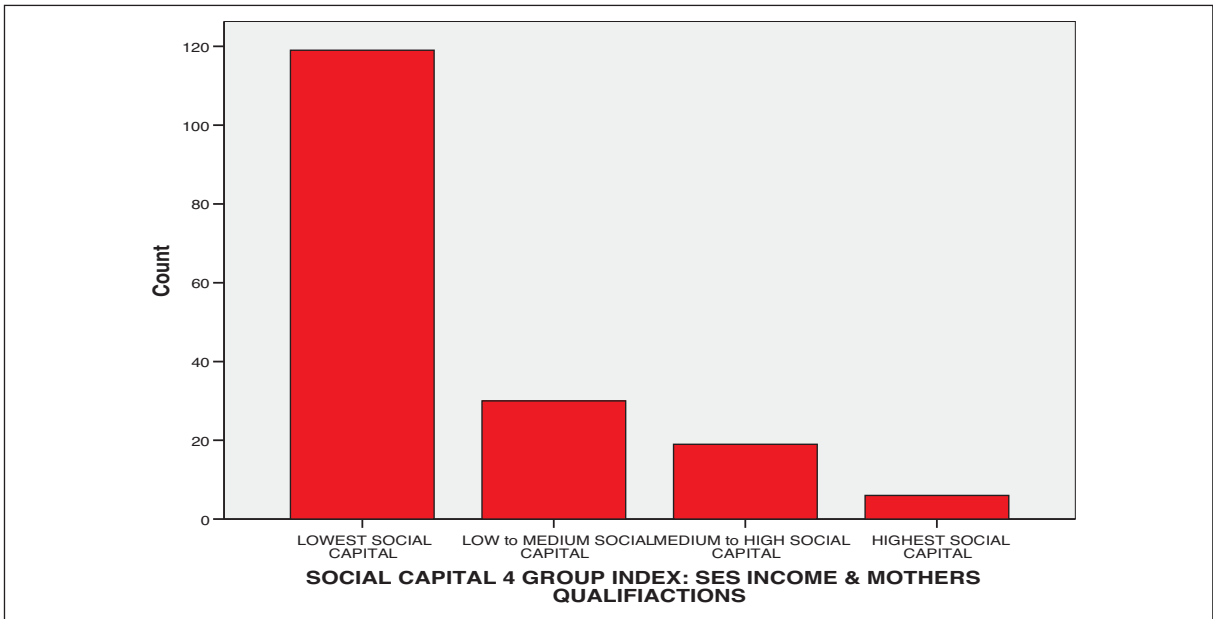


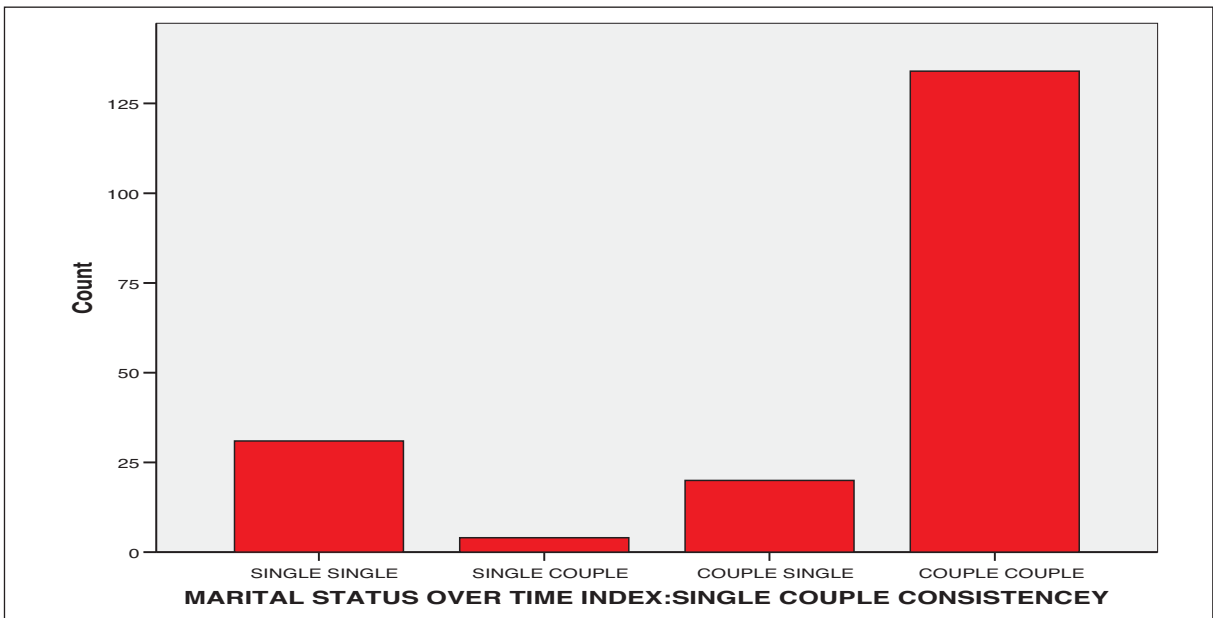
Figure 4.2 indicates that ‘home’ children belong predominantly to families with low social and economic capital – where social and economic capital is an index incorporating family SES, income, and mother’s qualifications.

**Figure 4.2 ‘Home’ Children’s Families’ Social Capital**



‘Home’ children however tend to be members of stable families. Figure 4.3 indicates that by far the majority of ‘home’ children have parents who have remained together between ages 3 and 7 years old (couple – couple).

**Figure 4.3 ‘Home’ Children’s Parents’ Marital Status over Time.**



## Why do some families keep their children at home?

The section above illustrates some of the background characteristics of children in the 'home' group compared to the pre-school users. When recruited to the project, at school entry, their parent(s) were given an extensive interview. One of the questions asked at interview for the 'home' group was why they did not use pre-school provision.

Table 4.2a below illustrates the range of answers given for not using pre-school.

<b>Table 4.2a Reasons Cited For Child Not Attending a Pre-School Centre</b>				
Type of Reason	Nature of Reason	Reason	n	% of 'home' children
<b>Barrier</b>	<b>External</b>	Unaware of provision	8	2.4
		No available provision close to hand	58	17.5
		No places available	35	10.5
		Unaffordable	9	2.7
		Provision conflicted with work patterns	15	4.5
		Had moved area/enrolment issues	6	1.8
	<b>Personal</b>	Didn't think pre-school necessary	7	2.1
		Thought child was too young	15	4.5
		Unhappy with local provision (staff)	9	12.7
		Child sickly or toileting problems	17	5.1
		Parents stated they were 'too lazy' (can't be bothered)	3	0.9
		Parents house bound or health issues	12	3.6
		Parental disability	7	2.1
<b>Domestic</b>	<b>Positive</b>	Wanted to teach child themselves	12	3.6
		Wanted to spend time with child	42	12.7
	<b>Negative</b>	Child unsettled/didn't want to go	37	11.1
		Had issues with siblings	3	0.9
	<b>Other</b>	Don't know	13	3.9
		No reason given	24	7.2

Availability of provision (and of a place) was the most frequently cited barrier (28 per cent). The move to increasing provision through the Sure Start and Children's Centre agenda may go some way to ameliorating this difficulty. Pilots currently being conducted in socially disadvantaged areas which provide free places for 2 year olds may also help with this difficulty.

Other frequently cited reasons were that parents were unhappy with their local provision (13 per cent) and their child didn't want to go (11 per cent). Improving the quality of pre-school could help reassure parents about the value of pre-school and make them feel less concerned about their child being in group care. Thirteen per cent of parents did not use pre-school because they wanted to spend more time with their child.

Table 4.2b below illustrates the range of answers given for not using pre-school by ethnicity.

<b>Table 4.2b Reasons Cited For Child Not Attending a Pre-School Centre by Ethnicity</b>										
Home Parents' Reason	White UK n (%)	White euro n (%)	Black Carib n (%)	Black African n (%)	Indian n (%)	Pakistani n (%)	Bangla-deshi n (%)	Other n (%)	Mixed heritage n (%)	n
no provision	18 (31)				3 (5)	29 (50)	8 (14)			58
wanted to spend time with child	33 (79)		1 (2)		1 (2)	5 (12)	1 (2)		1 (2)	42
stressed/ unsettled/ clingy	33 (98)				1 (3)	1 (3)	1 (3)	1 (3)		37
no places available	12 (34)	1 (3)			2 (6)	19 (54)	1 (3)			35
No reason given	18 (72)				1 (4)	4 (16)	1 (4)	1 (4)		25
sick child	9 (56)				2(12)	3 (19)	1 (6)	1 (6)		16
work patterns	9 (60)	1 (7)			1 (7)	2 (13)	1 (7)		1 (7)	15
too young	9 (60)	1 (7)		1 (7)	1 (7)	2 (13)		1 (7)		15
Don't Know	7 (55)					5 (38)			1 (8)	13
parents housebound	6 (50)				1 (8)	5 (42)				12
wanted to teach child	9 (75)			1 (8)		2 (17)				12
unhappy with staff	8 (89)						1 (11)			9
unaffordable	9(100)									9
unaware of provision	3 (37)	1 (12)			1(12)	1 (12)	2 (25)			8
parent regards pre-school as unnecessary	5 (63)					3 (37)				8
parental illness/ disability	2 (29)				1 (14)	3 (43)			1 (14)	7
no pre school/ parents had moved area/ or missed start date	3 (50)					2 (33)	1 (17)			6
didn't register in time	1 (33)					2 (67)				3
issue with siblings	1 (33)					2 (67)				3

Table 4.2b above shows reasons for not attending pre-school broken down by ethnic group. Although the numbers of respondents are very small in some groups it is interesting to note that only the White UK group ever reported pre-school as unaffordable, and were much more likely to report a 'clingy' or unsettled child as a reason for not using pre-school. The Pakistani group were more likely to report having no provision available to them.

## The Home Leaving Environment (HLE)

EPPE also gathered information from interviews (and questionnaires) with parents about the learning opportunities available to children in the home. This was then developed into a HLE index. This index has been useful in exploring the contribution of the home (as well as pre-school) to children's cognitive and social/behavioural development as described in detail in earlier sections. The HLE covers a range of learning opportunities such as exposure to songs, nursery rhymes and poems, being read to, visiting libraries etc (for the HLE items see Appendix 6).

### HLE and SES

Much of this report addresses the importance of the HLE. The quality of the HLE a child experiences exercises a significant influence on attainment and progress from the age of 3 and throughout the pre-school period. It is interesting to note that the index is only moderately correlated ( $r=0.3$ ) with family SES or mother's qualification levels, and is therefore not simply a reflection or redundant reiteration of either of these characteristics.

Table 4.3 presents HLE index scores by group and indicates home children are far more likely to be associated with a low HLE score than pre-school children. This reflects the higher incidence of disadvantage amongst this group.

HLE Score Grouped	Pre School Child n	Pre School Child %	'Home' Child n	'Home' Child %
0–13	257	9.4	51	19.8
14–19	591	21.5	74	28.7
20–24	667	24.3	60	23.3
25–32	898	32.7	62	24.0
33–45	335	12.2	11	4.3

Approximately half of 'home' children have an HLE score of 19 or below, while the equivalent figure for pre-school children is just below a third.

The 'home' group is, on a number of background indicators (SES, mothers qualifications etc.), a more disadvantaged group. Table 4.3 indicates that they also experience less favourable HLE opportunities. The combination of disadvantage plus a poorer quality HLE means that these children are doubly vulnerable to having a poorer start to school. The particular importance of the HLE on children's cognitive and social/behavioural development is described below.

## The importance and impact of HLE

Analyses were conducted to explore the relationships between the HLE and child outcomes at entry to primary school. Five outcome measures were used to analyse the impact of the HLE: Non-verbal reasoning, Spatial awareness/reasoning, Language, Pre-reading and Early number concepts.

Results indicate that the greater frequency with which parents taught their child songs or nursery rhymes showed a greater positive impact on Language scores at school entry controlling for other factors.

Similarly the frequency with which parents 'taught' the alphabet at home, compared with the never category, shows a strong positive relationship with children's attainment in Language, Pre-reading and Early number concepts. It should be noted that such alphabet 'teaching' would often be informal, through drawing attention to letters in a range of different contexts (e.g. books, adverts, magazines, food labels, etc).

The greater frequency with which parents reported reading to the child was associated with higher scores in four of the five outcomes (the exception being Spatial awareness). Higher frequencies (daily, twice daily) showed the most positive impact compared with the group who reported they never or rarely read to their child.

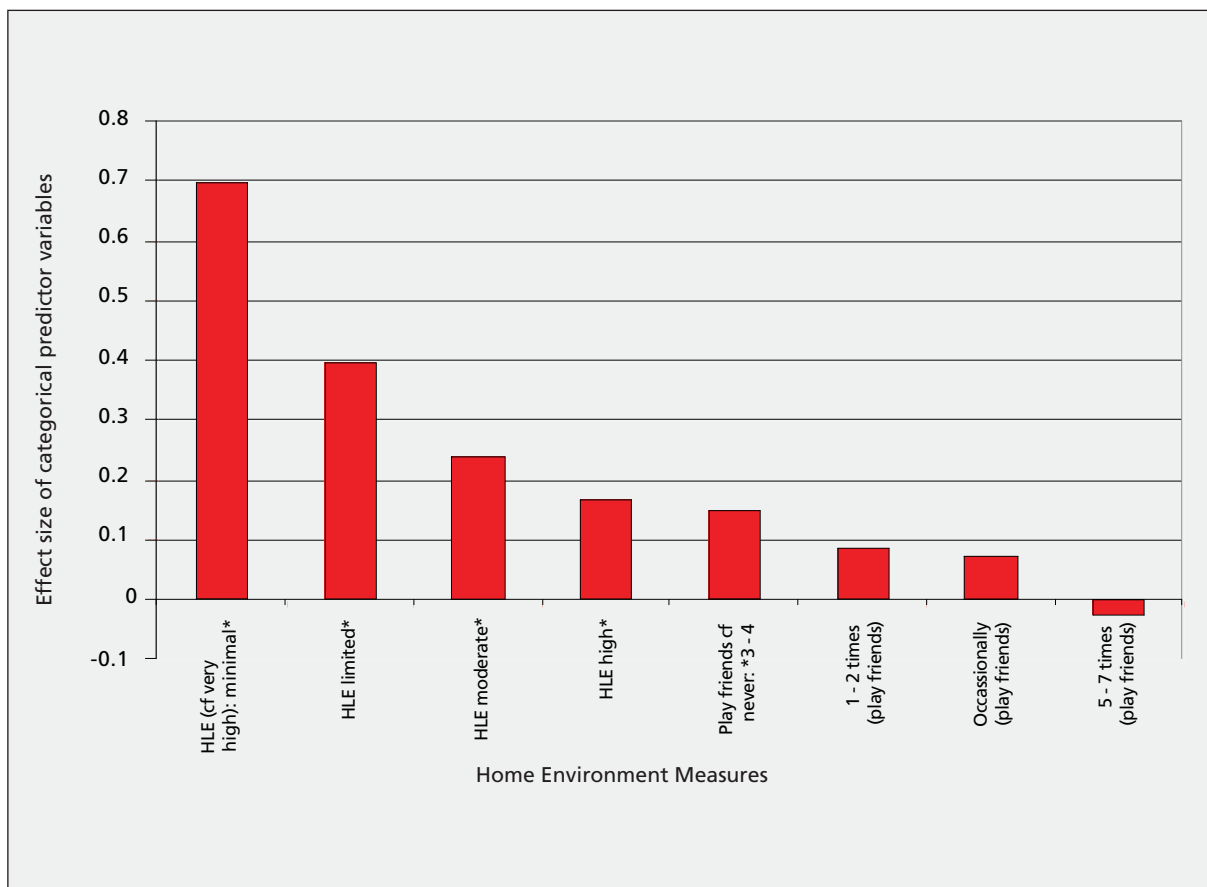
Playing with letters/numbers was significant for Pre-reading and Early numbers concept outcomes. Additionally, the greater frequency with which the child paints and draws shows a positive relationship (compared with never/infrequent category) with attainment in the Early numbers concept measure.

Library visits also show a small but significant positive impact on Pre-reading, Early number and Language attainment.

Family HLE scores were divided into five groups; very high, high, moderate, limited and minimal.<sup>9</sup> These were tested in a contextualised model for Language, as Language was found to show the strongest relationship with child, family, and HLE background characteristics. Effect sizes were calculated to compare the strength of different groups of measures and are shown in Figure 4.4 below.

9 The number of children in these groups are as follows: very high n=335 (11.7%), high n=898 (31.4%), moderate n=667 (23.3%), limited n=591 (20.7%), minimal n=257 (9.0%).

**Figure 4.4. Fixed effect sizes for HLE measures as predictors of Language attainment at primary school entry for the whole EPPE sample.**



The net effect size for the HLE index (very high group compared with minimal) is large at 0.7. This is higher than that for family measures such as mother’s qualification level and SES (except for the very small group whose parents had never worked (n=60) which had a similar effect size of 0.86).

### Comparing pre-school and ‘home’ children’s attainment at entry to school – cognitive outcomes

The mean and standard deviation for the five cognitive assessments appear in Table 4.4. The ‘home’ children’s mean scores are markedly lower than those of children with pre-school experience on every measure.

	Children with Pre-school experience			‘Home’ children		
	n	Mean	sd	n	mean	sd
Pre-reading	2705	21.57	12.67	239	12.33	10.86
Early number concept	2711	18.50	5.66	240	13.19	6.20
Language	2725	42.13	7.68	239	34.94	8.79
Non-verbal reasoning	2733	22.38	4.54	313	19.30	5.12
Spatial awareness/reasoning	2585	11.60	7.27	271	6.92	5.40

The 'home' children are performing less well than the pre-school group at school entry. The previous sections, however, have indicated that the 'home' group are a more disadvantaged group on a range of background factors. Multilevel analyses were conducted to determine if these lower scores are a direct result of lack of pre-school experience, or can only be explained in terms of a complexity of disadvantages associated with 'home' children.

**Pre-school and 'Home' Children's Cognitive Attainments at Primary School Entry: Multilevel Analysis.**

These analyses compared 'home' children to all children with pre-school provision regardless of type, and then to children identified by the type of pre-school centre or provision.

Table 4.5. shows the results of multilevel analyses after controlling for the influence of child, parent and HLEs influences.

<b>Table 4.5 Multilevel results showing the effect of no pre-school provision on attainment at primary school entry</b>			
	<b>Pre-reading</b>	<b>Early number concepts</b>	<b>Language</b>
No pre-school centre provision (compared to any pre-school centre provision)	-2.685* (0.943)	-1.999* (0.425)	-2.541* (0.526)

\* statistically significant at 0.05 level

Standard error given in brackets

A child with pre-school centre experience attains on average a pre-reading score 2.7 points higher than a child without such experience. By way of comparison, having a mother with academic qualifications at age 18 adds 2.4 score points on a child's pre-reading attainment compared to children whose mothers are without qualifications.

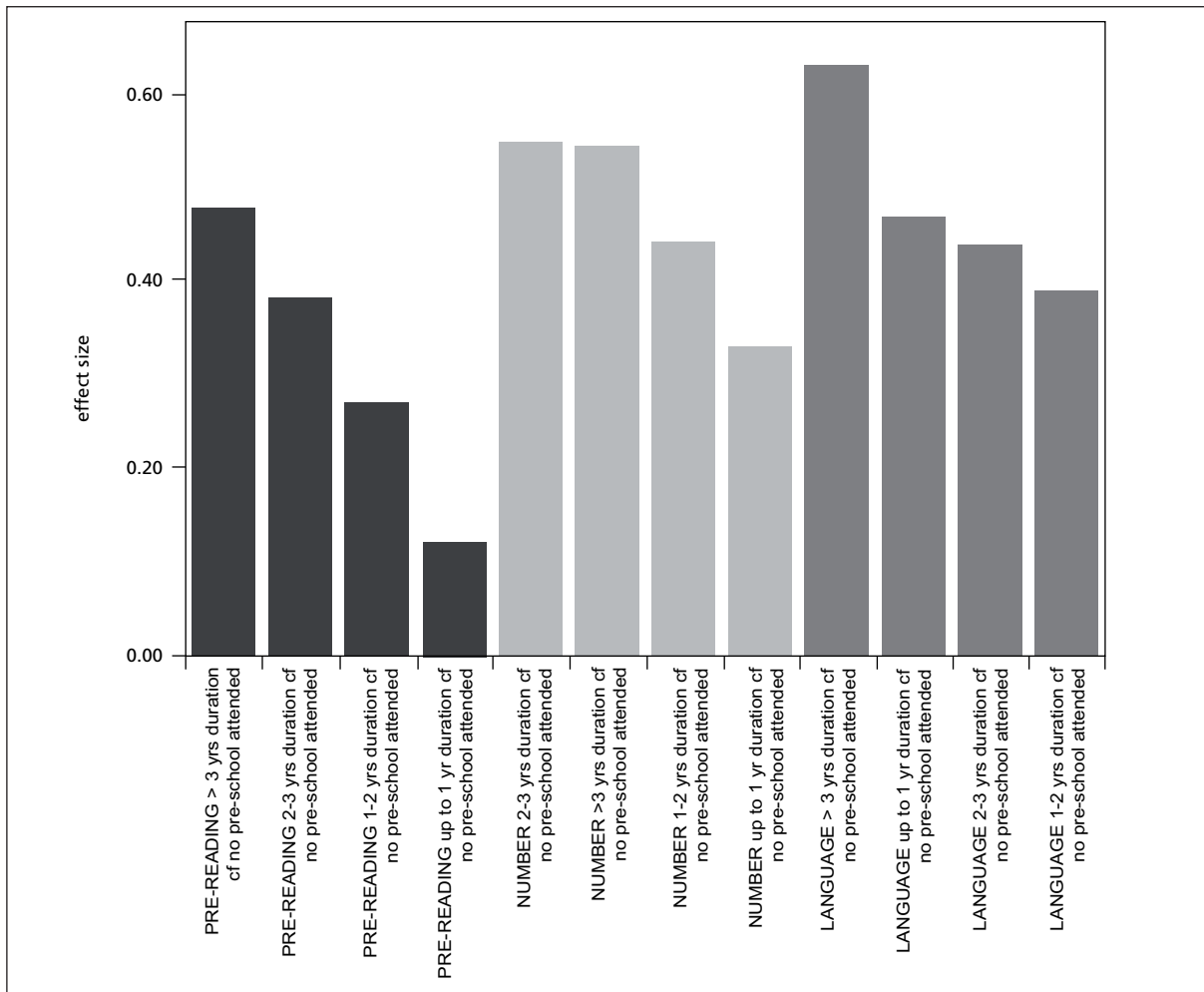
Similarly, data for Early number concepts show an increase of 2.0 points for pre-school against 'home' children, as compared with a 1.5 point increase for having a mother with academic qualifications at age 18. Therefore for the early Literacy and Numeracy outcomes, the effect of attendance at pre-school is similar in size to the effect of a mother's academic qualifications (at age 18). There were no significant differences for attainment in the two Non-verbal measures.

The impact of no pre-school provision is statistically significant for attainment in three cognitive outcomes; Pre-reading, Early number concepts and Language attainment at entry to primary school. In terms of effect sizes the strongest impact of any pre-school experience against none is on Language development (0.44) and Early number concepts, (0.44), with a moderate effect for Pre-reading (0.28).

Multilevel analyses of attainment illustrate that, in terms of effect sizes, the longer a child was in a target pre-school centre, the stronger the positive impact on attainment. Effect sizes for those with 2-3 years or more than 3 years in a target pre-school tend to be strongest (ranging from Language 0.44-0.63, Early number concepts 0.54-0.55 and Pre-reading 0.38 to over 0.48).



**Figure 4.5 Effect sizes for amount of pre-school experience compared with none (the ‘home’ group) for attainment at primary school entry in Pre-reading, Early number concepts and Language assessments**



As a group the ‘home’ children differ from the EPPE pre-school sample in terms of their background characteristics (being generally more disadvantaged), but these differences do not fully account for their lower attainments. After controlling for the impact of child, parent and HLEs influences, the attainment gap between ‘home’ children and those who have had pre-school experience remains. For the outcomes Pre-reading, Early number and Language skills, pre-school experience is shown to confer a significant cognitive advantage with attendance at *any* pre-school provision showing a positive impact in terms of child cognitive development.

### **Comparing pre-school and ‘home’ children’s attainment at entry to school – social/behavioural outcomes**

EPPE children’s social/behavioural development was measured by four factors: ‘Independence & Concentration’, ‘Co-operation & Conformity’, ‘Peer Sociability’ and ‘Anti-social/worried’ behaviour. The mean and standard deviation for the four social/behavioural primary school entry factors are shown below for both ‘home’ and pre-school groups.

<b>Table 4.6 Descriptive Statistics of Primary School Entry Factors for 'Home' Children compared with children who attended Pre-school</b>						
	Children with Pre-school experience			'Home' children		
	n	Mean	sd	n	mean	sd
Independence & Concentration	2562	3.54	0.83	304	3.16	0.88
Co-operation & Conformity	2570	3.92	0.68	308	3.62	0.78
Peer Sociability	2568	3.65	0.71	308	3.12	0.84
Anti-social/Worried	2567	1.74	0.66	308	1.72	0.63

For 'Independence & Concentration', 'Co-operation & Conformity' and 'Peer Sociability' the 'home' children's mean factor scores are lower than those of children with pre-school experience. Children without pre-school experience show poorer social/behavioural development in these outcomes than children who attended pre-school. In contrast, for the 'Anti-social/worried' outcome, 'home' children are rated slightly lower in their 'Anti-social/worried' behaviour by their teachers (note that the difference between raw ratings for this outcome between the 'home' and pre-school groups is very small and smaller than raw differences on the other social/behavioural outcomes). This suggests that home children may exhibit slightly less 'Anti-social/worried' behaviour at entry to primary school than EPPE children who experienced pre-school. However, without further analyses, it cannot be concluded that these lower factor scores are a direct result of lack of pre-school experience due to the different characteristics of the 'home' child sample which are also likely to influence their social/behavioural development. Nonetheless the data would suggest that there is an association that is worth further exploration to separate the impact of no pre-school centre experience from other factors.

The Table 4.7 shows the results of multilevel analyses after controlling for the influence of child, parent and HLEs influences.

<b>Table 4.7 Multilevel results showing the effect of no pre-school provision on social/behavioural development at primary school entry</b>				
	Independence & Concentration	Co-operation & Conformity	Peer Sociability	Anti-social/Worried
No pre-school centre provision (compared to pre-school centre provision)	-0.217* (0.068)	-0.118* (0.057)	-0.359* (0.058)	-0.061 (0.056)

\* Statistically significant at 0.05 level

Standard error given in brackets

Table 4.7 indicates that after controlling for the impact of child, parent and HLE influences, 'home' children remain at a social/behavioural disadvantage in terms of 'Independence & Concentration', 'Co-operation & Conformity' and 'Peer Sociability' compared with children who have had pre-school experience. The findings reported in Table 4.7 suggest that there is no statistically significant difference between the 'home' and pre-school groups in terms of 'Anti-social/worried' behaviour.

## Summary

Comparisons between the children who had pre-school experience and those who did not (the 'home' group) indicates that 'home' children were more likely to be girls, with Pakistani families making up the largest minority ethnic group. The 'home' group also had a higher proportion of children with EAL.

There were a number of differences between the two groups in terms of SES. The largest SES group in the 'home' sample was the skilled manual, and the group as a whole had a higher proportion of children from non-working households and larger families. A third of the 'home' sample was in receipt of FSM. 'Home' children were also more likely to have mothers with no formal qualification, although these children tend to be in stable families with parents who remained together during their early years.

Availability of provision (and of a place) was the most frequently cited barrier to using pre-school. Other frequently cited reasons were that parents were unhappy with their local provision and their child didn't want to go. However, the move to increasing provision through the Sure Start and Children's Centre agenda coupled with improving quality may go some way to ameliorating these difficulties.

The quality of the HLE available to a child exercises a significant influence on attainment and progress from the age of 3 and throughout the pre-school period. Higher ratings on the HLE are related to better child outcomes, on a range of cognitive measures, at entry to school. The HLE only moderately correlates with family SES or mother's qualification levels. The HLE of the 'home' children was significantly lower than the pre-school group and 'home' children were performing less well at entry to school.

Although the 'home' group tended to be geographically clustered, EPPE analyses control for child, family and home background characteristics. After controlling for the impact of child, parent and HLE influences, the attainment gap between 'home' children and pre-school children remains. This gap is not merely accountable in terms of differences in background characteristics. In particular, for the outcomes Pre-reading, Early number concepts and Language, pre-school experience is shown to confer a significant cognitive advantage with attendance at *any* pre-school provision showing a positive impact in terms of child cognitive development. Similarly for the social/behavioural measures of 'Independence & Concentration', 'Co-operation & Conformity' and 'Peer Sociability' those children who had pre-school were showing advantages over the 'home' children at entry to school.

## Part 5: Summary and reflections

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This research report provides an evidential base for recommendations that can enhance the life chances and academic success of children who are likely to be at risk of underachievement and social exclusion. The research was targeted specifically to inform 'action points', i.e. those services or institutions that can be changed in the interest of children from all ethnic groups, especially those from poverty backgrounds, boys and children with English as an additional language (EAL). In addition to the research findings, the authors have used suggestions from the delegates at the Equalities Review Seminar (Appendix 8) to formulate policy recommendations.

### Over-arching Aims of the research on Early Years

One over-arching aim of EPPE's work for the Equalities Review is to identify differences in children's cognitive and social/behavioural development associated with ethnicity, gender and socio-economic status (SES) and to explore the role of other background influences that may shape inequality. The report sheds new light on the important question of why some children and families succeed 'beyond the odds' and how understanding such resilience can lead to transformed policies and services. The second overarching aim is to provide evidence for practical change.

### Summary of the evidence

The EPPE Project has demonstrated convincingly that:

1. There are major achievement gaps in educational and 'personal' outcomes in the pre-school and primary years that are associated with ethnicity, SES and to a lesser extent gender. It should be noted that the gender effects are small, SES factors (parents' qualifications) are moderate and birth weight and developmental problems are stronger.
2. The achievement of many children is compromised by *clusters* of disadvantage factors, i.e., a child from an ethnic minority family may have English as an additional language (EAL), may come from a large family, have parents with low educational levels, live in an area of high poverty, and have had a low birth weight. EPPE has used complex statistical modeling to tease out the 'relative effects' of different disadvantage indicators and found, for example, that the differences in attainment between ethnic groups are often smaller than seems at first after taking into account important demographic influences such as parental education, SES and language differences.

3. EPPE has shown that the environment exerts a powerful impact on the child's developmental trajectory through two important 'educational inputs': the Home Learning Environment (HLE) and the Pre-school Learning Environment. Both are capable of lifting the child's developmental trajectory closer to those of relatively more advantaged peers. The effects of the home and pre-school environments are most powerful at entry to primary school but can be seen up to the age of 10 years.
4. However, the early years HLE and pre-school experience are only beneficial if they are of medium-to-high educational quality. Low quality learning environments at home and pre-school, quite simply, have no extra benefit to longer term attainment and development.
5. Some families offer a rich HLE and some pre-schools offer an excellent pre-school learning experience. When either is the case the child can be 'protected' from the usual disadvantaging impacts of ethnicity, poverty, etc. Quality is central to both the home and pre-school learning environments and those children who experience high quality learning at home and at pre-school benefit most.
6. Although both the HLE and the pre-school can be beneficial, we know more about the quality in pre-school and how to achieve it than we know about the HLE. Our understanding of quality in Early Childhood has come from (a) the literature, (b) the case studies in EPPE Technical Paper 10 (Siraj-Blatchford et al. 2003), (c) the centre profiles created by the ECERS-R, (Harms et al., 1998), ECERS-E (Sylva et al., 2003) and the CIS (Arnett, 1989) and (d) The Researching Effective Pedagogy in the Early Years (REPEY) Project (Siraj-Blatchford et al., 2003b), an associate project of EPPE. The ECERS-E is a particularly good measure of the characteristics in the pre-school that promote children's academic skills and their dispositions to learning.
7. A vital link between learning at home and learning in the pre-school is the relationship between parents and pre-school staff. When this is characterised by respect, openness, and a "learning exchange", children are more likely to prosper. The exchange of information and ideas related to learning between staff and parents can have two effects: the parents can enrich their child's learning environment at home and the pre-school staff can tailor ('personalise') the child's learning experiences in the centre.
8. In addition to the influence of pre-school and HLE the research points to the importance of the school learning environment. Independently calculated measures of the academic effectiveness of the primary school attended by the children in the sample (based on value added analyses of National assessment data sets for three cohorts matched from KS1-KS2) show that the primary school makes a difference to cognitive attainment and social/behavioural development. This is especially important for disadvantaged and initial low attaining children.
9. The powerful effects of the HLE and pre-school experience interact with the effectiveness of the primary school each child attends. Very effective primary schools can compensate, to some extent, for weaker pre-school experiences. A strong HLE or pre-school can lead to children's resilience in the face of an ineffective primary school.

## Four recommendations

The four recommendations below are strategic recommendations for actions at national, local authority and centre/school level.

1. Improve the quality of education in Early Childhood settings; low quality will not foster resilience in conditions of adversity.
2. Support parents to provide a rich home learning environment (HLE), with sustained opportunities for learning during everyday family activities.
3. Target enhanced services to the most disadvantaged.
4. Improve the quality and effectiveness of primary education. (*Although this is outside the scope of this report on the Early Years, ways to do this are summarised in 'Maintaining Momentum' paper submitted by Pam Sammons to the IPPR conference 2005, this includes the role of school effectiveness and improvement and the role of inspection.*)

These bold and global recommendations will contribute to detailed improvements in services and their reorganization. First, however, it is important to consider 'focus'. The Early Years landscape has seen revolutionary change and impressive investment over the last decade (Sylva and Pugh, 2005). There have been many large scale government initiatives, for example local Sure Start programmes and Neighbourhood Nurseries, not to mention the new Foundation Stage curriculum for children from birth to five. Local government services have been re-organised in keeping with the Every Child Matters agenda and there has been a welcome move to multi-agency work in services for young children and their families – especially the 'joining up' of health, social care and education. Where in this vast landscape of changing services are the most important and efficient levers for changing the lives of disadvantaged children? We suggest a renewed focus in two areas: improvements in the *educational* quality of Early Years provision and improvements in the ways centre based services *support parents in their role as educators*.

The research evidence supports a focus on children's learning, and by this we mean their social and dispositional learning as well as the acquisition of academic skills. The most direct way to alter the developmental trajectories of children living in circumstances of disadvantage is to support them in acquiring the cognitive skills they need to make a good start to school as well as the emotional regulation and capacity to focus on a task that will make them powerful learners. But intellectual skills and dispositions are not enough; children need support to develop high aspirations and the confidence to realise them.

The research evidence reported here supports the introduction of the centre based Children's Centre programme rather than unfocused community initiatives, such as many of the Sure Start local programmes. This is not to recommend a general abandonment of services targeted more generally at families or communities, only to reassert that the most powerful way to spend government money is to focus it on services that impact directly on the child. The most assured way to 'lift' a child's development is through 'educating' the child (in the broadest sense) and supporting their parents to educate as well. This is not to heartlessly 'train' children in formal academic skills – nor to turn their parents into clones of middle-class, 'pushy' parents. The working-class parents we interviewed had acted often as advocates for their children; however many encountered structured obstacles that their middle class counterparts did not meet. Our findings documented the commitment of disadvantaged families to support their children's learning.

Many of the 21 case-study parents (who were providing good HLE despite disadvantaged SES backgrounds) told us how they taught their children early literacy skills at home, encouraged them to concentrate at school and expect school success, and engaged with them in interactive ways that benefited learning. These parents would have welcomed genuine partnerships with pre-school staff in the shared education of their children. Much more needs to be done in supporting parents' efforts at home to educate their children. There is good practice guidance on these techniques from the Penn Green Children's Centre (Corby) and Thomas Coram Children's Centre (Camden). Note also the PEEP and PEAL programmes for parents. All of these put children's learning at the heart of innovative work with parents in partnerships.

We now turn to some concrete recommendations for ways to improve the quality of learning in early education and the support of parents as their children's most important educators. These are aimed at national level, local authority level, centre/school/level, and the workforce development. They are just a few of the many examples that came to light during Equalities Review seminars and informal discussions with policy makers and practitioners after publication of our interim findings.

## **1. Specific recommendations for improving children's learning in centre based provision**

### **National Level**

- Enhance the qualifications of Foundation Stage staff because higher qualifications, especially qualified teacher status (QTS), are related to better quality of teaching and learning. That in turn fosters better outcomes for children.
- Inspection should focus more explicitly on key aspects of the quality of learning.
- The Teacher Development Agency should ensure that Initial Teacher Education, continued professional development (CDP) and professional leadership qualifications provide good training for working with parents on developing children's learning.

- Focus the Foundation Stage (FS) curriculum very clearly on promoting the skills of oracy, literacy, numeracy, and problem-solving. EPPE has shown that a focus on developing young children's academic learning skills is compatible, and even promotes, a focus on social/behavioural development.
- Mount a public awareness campaign about the importance of the HLE. The internet and TV can be used interactively to support parents as educators of their children.

### **Local Authority Level**

- Ensure that an 'education' focus is not lost in multi-agency working partnerships.
- Strengthen Local Authority (LA) systems for monitoring the effectiveness of their programmes for parents, with particular attention to the HLE and its contribution to children's outcomes.
- Sharing good practice at LA level in configuring the early year's advisory staff. How are 'hub and spoke', 'pyramid', 'cluster', 'family of settings' models working? Strengthen the mechanisms for sharing good practice.
- Introduce mechanisms which monitor how qualified staff are used effectively across different types of settings – how do we prevent the 'jam being spread too thinly' with regard to qualified 'teacher' input?

### **Work Force Development: National initial training and CPD**

- Assessment for learning – Staff need training to use daily observations to plan for children's personalised learning, with a focus on cognitive challenges.
- Adult/child interactions – Develop training packages that focus on the role of questioning, problem-solving, sustained shared thinking and cross curricular links.
- Curriculum – Using the Quality Framework/Foundation Stage in a focused way; cognitive goals should not become lost in the 'whole child' approach in the Quality Framework. Training and CPD needs to be explicit and start from child-initiated activities to develop an appropriate curriculum that maximises *learning* opportunities for children that are compatible with 'play'.
- Focus on "the child" as much as on "what the child should learn" – There is a need to develop substantial training programmes (National Strategies) that focus on the 'learner' and how we develop personalised learning packages for individual young children.
- Training to work with parents – Develop materials and training (National Strategies) on what works with parents in sharing 'ethos' and activities to support the HLE.
- Behaviour management – Extend training (National Strategies) on what works with specific behaviour management in early years. Make accessible (across sectors) information on early intervention packages that have proven to be successful.
- Recognise that some groups, often of the most disadvantaged children, need more and that there is a role for targeted intervention for children most at risk of showing poor development at entry to primary school.



## 2. Specific recommendations for improving support to parents as their children's most important educators

### National Level

- Expectations will have to be realistic; it may take inter-generational change. Raising the qualification levels and employment prospects of today's children is likely to improve outcomes for their children in the future.
- Focus on work with parents that are centred on children's *learning* and how to support it. Global 'support' work with parents is less successful at improving children's learning. Use the Every Child Matters agenda to target funds to support parents in having an impact on children's long term achievement.
- Parents vary in their cultural traditions and work must be flexible to suit their needs and preferences. The PEEP project has been particularly successful with audio tapes of music and games in many languages.
- If parents are prohibited in developing their children learning by 'other' factors e.g. depression, multi-agency working should provide support for the parental needs in order to help these parents become better home educators.
- Parents are a powerful resource for teaching children. However if they experience difficulties such as depression, this will have to be dealt with if the parent is to be an effective home educator.
- Further support for the role of Health Visitors to promote 'learning' as well as health issues. Evidence indicates that they wish to move in this direction, and are already doing so.
- Counter the Daily Mail arguments about the 'nanny state' and government interfering in parenting with empirical evidence on the programmes that work, especially in behaviour management and in promoting oracy and literacy.

### Local Authorities

- Extended families, especially grandparents, have an important role. Local authorities must consider the role of the extended family when designing training materials or approaches to parents.
- Look beyond families to the community. Support cultural associations or community schools in educating child in their local area. Again, local authorities will vary and good practice needs to be shared.
- Fund staff who have the specific remit in centre based provision to work with families. They will be similar to SENCO's in status and remuneration.
- Each institution should have an institutional development plan about how they work with parents/community and in outreach work which builds on shared good practice, so as to be context specific without having to 'reinvent the wheel'.

- Publicise good practice in working with parents. There are already settings which can demonstrate good practice in this area (e.g. The Penn Green Children's Centre in Corby, the PEEP programme around the country and also PEAL). We need to promote the imaginative ways that materials and workshops can be disseminated to a wide group of practitioners (e.g. DVDs, websites etc.).

#### **Further research**

- More research on what practices in the HLE are most appropriate to different cultures – which are universal/culturally specific?

### **3. Recommendations for targeting services to those most vulnerable**

#### **National Level**

- Fund more teachers in pre-school settings in disadvantaged neighbourhoods; aim at 50 per cent QTS of staff who work directly with children in these settings.

#### **Local Authority**

- Renew efforts to reach those who do not enrol their children. Families in our study who did not enrol did not have psychological barriers; many of them had instrumental reasons such as family illness or shift-work. Because reasons vary, pre-schools need to be more accessible and flexible in hours.

### **4. Recommendations for improving the quality and effectiveness of primary education**

These are beyond the remit of this report. School effectiveness and improvement research (see Sammons, 2005) and Ofsted analyses of professional practice provide guidance.

## References

- Agostin, T. M. and Bain, S. K. (1997), Predicting early school success with developmental and social skills screeners. *Psychology in the Schools*, 34, 219–228.
- Alexander, K. L., Entwisle, D. R. and Horsey, C. S. (1997), From first grade forward: Early foundations of high school dropout. *Sociology of Education*, 70, 87–107.
- Arnett, J. (1989), 'Caregivers in Day-Care Centres: Does training matter?' *Journal of Applied Developmental Psychology*, 10, 541–552.
- Ball, S. (2003), *Class Strategies and the Education Market*. London: Routledge Falmer.
- Bandura, A. (1997), *Self-Efficacy. The exercise of control*. New York: W. H. Freeman.
- Barnes, J. and Freude-Lagevardi, A. (2003), *From pregnancy to early childhood: early interventions to enhance the mental health of children and families*. London: Mental Health Foundation.
- Barnett, W.S. (2001), Preschool education for economically disadvantaged children: Effects on reading achievement and related outcomes. In S. Neuman and D. Dickinson (Eds.) *Handbook of Early Literacy Research* (pp. 421–443). New York: Guilford Press.
- Bastiani, J. (1987), *Parents and teachers: perspectives on home school relations*. Windsor: NFER-Nelson.
- Belsky, J., Vandell, D.L. Burchinal, M., Clarke-Stewart, K.A., McCartney, K., Owen, M.T. and the NICHD Early Child Care Research Network (2006), Are there long-term effects of early child care? *Child Development*, 77 (6), 1854–1855.
- Bernstein, B. (1970), Education cannot compensate for society, *New Society*, 387, 344–7.
- Blair, T. (2006), *Our Nation's Future – Social Exclusion*. Lecture to the Joseph Rowntree Foundation.
- Bloom, B. (1964), *Stability and Change in Human Characteristics*. New York: Wiley.
- Bouchard, J.-M., Talbot, L., Pelchat, D. and Sorel, L. (1998), Les parents et les intervenants, où en sont leurs relations? (deuxième partie). *Apprentissage et Socialisation*, 17 (3), 41–48.
- Bourdieu, P. (1983), 'Forms of capital' in J. C. Richards (ed.) *Handbook of Theory and Research for the Sociology of Education*. New York: Greenwood Press.
- Bowlby J. (1969), *Attachment and loss*. London: Hogarth Press.
- Bradley, R.H. and Caldwell, B.M. (1984), 174 children: A study of the relationship between home environment and cognitive development during the first 5 years. In A.M. Gottfried and A.E. Gottfried (Eds.), *Home environment and early cognitive development* (pp. 5–56). New York: Academic Press.
- Bradley, R. H. and Corwyn, R. F. (1999), Parenting. In L. Balter and C. S. Tamis-LeMonda (Eds.), *Child psychology: A handbook of contemporary issues* (pp. 339–362). Philadelphia: Taylor and Francis.

- Bradley, R.H., Corwyn, R.F., Burchinal, M., McAdoo, H. P. and Coll, C.G. (2001), The home environments of children in the United States Part II: Relations with behavioral development through age thirteen. *Child Development*, 72, 1868–1886.
- Bradley, R. (2002), Environment and Parenting. In M. Bornstein (Ed.) *Handbook of Parenting*, 2nd Ed. Hillsdale, N.J.: Lawrence Erlbaum Associates.
- Brah, A. (1996), *Cartographies of Diaspora: Contesting Identities*. London: Routledge.
- Brandon, M., Howe, A., Dagley, V., Salter, C., Warren, C., and Black, J. (2006), Evaluating the Common Assessment Framework and Lead Professional Guidance and Implementation. In 2005–6, Department for Education and Skills. *Research Report RR740*. Nottingham: DfES Publications.
- Brooks-Gunn, J., Duncan and G., Aber, L., (eds). (1997), *Neighborhood Poverty: Context and Consequences for Children, Vol. 1*. New York: Russell Sage Foundation.
- Bronfenbrenner, U. (1986), Ecology of the family as a context for human development: Research perspectives. *Developmental Psychology*, 22 (6), 723–742.
- Brown, A. (2000), Positioning, pedagogy and parental participation in school mathematics: an exploration of implications for the public understanding of mathematics, *Social Epistemology*, 14 (1), 21- 31.
- Brown v. Board of Education of Topeka*, 347 U.S. 483 (1954)  
[http://www.law.cornell.edu/supct/html/historics/USSC\\_CR\\_0347\\_0483\\_ZS.html](http://www.law.cornell.edu/supct/html/historics/USSC_CR_0347_0483_ZS.html)
- Bruner, J. (1996), *The Culture of Education*, Cambridge, Mass.: Harvard University Press.
- Bryant, P. and Bradley, L. (1985), *Children's reading problems*. Oxford: Blackwell.
- Buswell Griffiths, C., Norwich, B., and Burden, B. (2004), Parental agency, identity and knowledge: mothers of children with dyslexia, *Oxford Review of Education*, 30 (3), 417–433.
- Card, D. and J. Rothstein (2006), *Racial Segregation and the Black-White Test Score*.
- Caddell, D., Crowther, J. O'Hara, P., and Tett, L. (2000), *Investigating the roles of parents and schools in children's early years education*, Paper presented at the European Conference on Educational Research, Edinburgh, 20–23 September.
- Civil, M. (1996), 'Connecting Home and school: Funds of Knowledge for Mathematics Teaching'. In PME 19, PME 20, published by the Working Group: Cultural Aspects in the Learning of Mathematics, 20<sup>th</sup> Conference of the International Group for the Psychology of Mathematics Education, University of Valencia, Spain. July 8–12.
- Clarke, C. And Sharpe, P. (2003), Transition from preschool to primary school: An overview of the personal experiences of children and their parents in Singapore, *European Early Childhood Education Research Journal*, Themed Monograph Series, 1, 15–23.
- Claxton, G. (1999), *Wise up: The challenge of lifelong learning*, London: Bloomsbury.

- Clay, M. (1993), *An observation survey of early literacy achievement*. Portsmouth, NH: Heinemann.
- Conger, R.D., Conger, K., Elder, G., et al. (1992), A family process model of economic hardship and adjustment of early adolescent boys. *Child Development*, 63, 526–541.
- Corsaro, W.A. and Molinari, L. (2000), Priming events and Italian children's transition from pre-school to elementary school: representations and actions, *Social Psychology Quarterly*, 63 (1), 16–33.
- Cotton, K. (1989), *Expectations and student outcomes (SIRS Close-Up No. 7)*. Portland, Oregon: Northwest Regional Educational Laboratory. Available at: <http://www.nwrel.org/scpd/sirs/4/cu7.html>
- Croll, P., (2004), Families, Social Capital and Educational Outcomes, *British Journal of Educational Studies*, 52 (4), 390–416.
- Crowley, M. (2006), *Early Years: Parents helping their children to learn – Getting the intervention right*, Parenting UK Paper dated November 1<sup>st</sup> distributed at the Equalities Review Seminar, London.
- Crozier, G. and Davies, J. (2005), British Bangladeshi and Pakistani Families and Education Involvement: Barriers and Possibilities, *Research Digest*.
- Dauber, S. L. and Epstein, J. L. (1993), Parents' attitudes and practices of involvement in inner-city elementary and middle schools. In N. F. Chavkin (Ed.), *Families and schools in a pluralistic society* (pp. 53–71). Albany: State University of New York Press.
- Davie, R., Butler, N. and Goldstein, H. (1972). *From Birth to Seven: A report of the National Child Development Study*. London: Longman.
- DeGarmo, D. S., Forgatch, M. S. and Martinez, C. R. (1999), Parenting of divorced mothers as a link between social status and boys' academic outcomes, *Child Development*, 70, 1231–1245.
- Denton, K., West, J. and Walston, J. (2003), *Reading – Young children's achievement and classroom experiences*. Washington, DC: U.S. Department of Education, NCES 2003-070.
- Department for Education and Skills (2003). *Every Child Matters*, London: Stationery Office.
- Department for Education and Skills (2004) *Every Child Matters – Change for Children*, Nottingham: DfES Publications.
- Department for Education and Skills (2006), *Ethnicity and Education: The Evidence on Minority Ethnic Pupils aged 5–16* (Research Topic Paper: 2006 edition), London: DfES Publications.
- Deslandes, R. (2001), A Vision of Home-School Partnership: Three complementary conceptual frameworks. In F. Smit, K. van der Wolf and P. Slegers. (Eds). *A Bridge to the Future – Collaboration between Parents, Schools and Communities*, proceedings of the ERNAPE Conference, Katholieke Universiteit to Nijmegen NL.

Dockett, S. And Perry, B. (2002), '*Beliefs and expectations of parents, prior-to-school educators and school teachers as children start school.*' Paper presented at the Australian Association for Research in Education Conference, Brisbane, Queensland, 1–5 December.

Dubois, D., Holloway, B., Valentine, J. and Harris, C. (2002), Effectiveness of mentoring programs for youth: A meta-analytic review, [Special Issue], *American Journal of Community Psychology*, 30 (2), 157–197.

Dunst, C. J., Johanson, C., Rounds, T., Trivette, C. M. and Hamby, D. (1992), Characteristics of parent professional partnerships. In S. L. Christenson and J. C. Conoley (Eds.), *Home-school collaboration: Enhancing children's academic and social competence* (pp. 157–174), Maryland: The National Association of School Psychologists.

Dweck, C. S. and Leggett, E. L. (1988), A social-cognitive approach to motivation and personality, *Psychological Review*, 95, 256–273.

Edwards, R. and Alldred, P. (2000), A Typology of Parental Involvement in Education Centring on Children and Young People: negotiating familialisation, institutionalisation and individualisation, *British Journal of Sociology of Education*, 21(3), 435–455.

Edwards, R. and David, M. (1997), Where are the Children in Home-school Relations? Notes Towards a Research Agenda, *Children and Society*, 11 (3), 194–200.

Einarsdottir, J. (2003). '*Towards a smooth transition from pre-school to primary school in Iceland.*' Paper presented at the Annual Meeting of the British Educational Research Association, Heriot-Watt University, Edinburgh, 13 September.

Elementary and Secondary Education Act (1965) USA Government  
<http://usinfo.state.gov/usa/infousa/educ/educover.htm>

Elliot, C., with Smith, P. and McCulloch, K. (1996), *British Ability Scales Second Edition (BAS II)*. Windsor: NFER-Nelson Publishing Company Limited.

Epstein, J. L. (1987), Toward a theory of family-school connections: Teacher practices and parent involvement. In K. Hurrelmann, F. Kaufman and F. Loel (Eds.), *Social Intervention: Potential and Constraints* (pp. 121–136). New York: Walter de Gruyter.

Epstein, J. L. (1996), Family-school links: How do they affect educational outcomes? In A. Booth and J. Dunn (Eds.), *Family-School Links: How do they affect educational outcomes?* Hillsdale, NJ : Lawrence Erlbaum Associates.

Epstein, J. L. and Dauber, S. L. (1991). School programs and teacher practices of parent involvement in inner-city elementary and middle schools. *Elementary School Journal*, 91(3), 289–305.

Estrada, P., Arsenio, W. F., Hess, R. D. and Holloway, S. D. (1987), Affective quality of the mother-child relationship: Longitudinal consequences for children's school-relevant cognitive functioning. *Developmental Psychology*, 23 (2), 210–215.

- Evangelou, M., Brooks, G., Smith, S. and Jennings, D. (2005), *Birth to School Study: A Longitudinal Evaluation of the Peers Early Education Partnership (PEEP) 1998–2005*. Research Report SSU/2005/FR/017. Nottingham: DfES Publications. [http://www.surestart.gov.uk/\\_doc/P0001747.pdf](http://www.surestart.gov.uk/_doc/P0001747.pdf).
- Fabian, H. (1998), *Induction to school and transitions through Key Stage one. Practice and perceptions*, Unpublished PhD thesis: University of Coventry.
- Feinstein, L. and Symons, J. (1999), Attainment in secondary school, *Oxford Economic Papers*, 51(2), 300–321.
- Gagnon, N. (1981), 'On the analysis of life accounts.' In Bertaux, D., (Ed.) *Biography and Society: The Life History Approach in the Social Sciences*, London: Sage.
- Gap, NBER Working Paper 12078.
- Galton, M., Gray, J. and Rudduck, J. (1999), *The Impact of School Transitions and Transfers on Pupils Progress and Attainment* (DfEE Research Report 131), London: DfEE.
- Gergen, M., and Gergen, K. (1984), 'The social construction of narrative accounts'. In Gergen K., and Gergen, M. (Eds) *Historical Social Psychology*, London: Lawrence Erlbaum Associates.
- Goldstein, H. (2003), *Multilevel Statistical Models (3rd edition)*, London: Arnold.
- Goodman, R. (1997), 'The Strengths & Difficulties Questionnaire: A Research Note'. *Journal of Child Psychology & Psychiatry*, 38, 581–586.
- Gorard, S., Rees, G, and Fevre, R. (1999), Patterns of Participation in Lifelong Learning: do families make a difference?, *British Educational Research Journal*, 25 (4), 517–532.
- Goulbourne, H. (2006a), Editorial, *Community Work and Family*, 9 (3), 227–223.
- Goulbourne, H. (2006b), Families, minority ethnic social capital in Britain, *Community Work and Family*, 9 (3), 235–250.
- Great Britain. (1989), *Children Act 1989*. London: HMSO.
- Griebel, W. And Niesel, R. (2000), 'The children's voice in the complex transition into kindergarten and school.' Paper presented at the 10th European Conference on Quality in Early Childhood Education, London, 29th August –1st September.
- Hann, C. (2003), Young Minority ethnic Men In Britain, in Zappone, K. (Ed.) op cit.
- Hannon, P., Nutbrown, C. and Morgan, A. (2005), *Early literacy work with families*, London: Sage.
- Harms, T., Clifford, R. M. and Cryer, D. (1998), *Early Childhood Environmental Rating Scale, Revised Edition (ECERS-R)*. New York: Teachers College Press.
- Harpham, T. Grant, E. and Thomas, E. (2002), Measuring social capital in health surveys, *Health Planning and Policy*, 17(1), 106–111.
- Heckman J. and Wax, A. (2004), Home Alone, *Wall Street Journal – Eastern Edition*, January 23, 2004, A14.
- Hendy, L. and Whitebread, D. (2000), Interpretations of independent learning in the early years, *International Journal of Early Years Education*, 8 (3), 243–52.

Hess R. D, Holloway S., Price G. and Dickson W. P. (1982), Family environments and the acquisition of reading skills. In L.M. Laosa and I.E. Sigel, (Eds.). *Families As Learning Environments of Children* (pp. 87–113), New York: Plenum.

Hewison, J. (1988), The long term effectiveness of parental involvement in reading: A follow-up to the Haringey reading project, *British Journal of Educational Psychology*, 58 (2), 184–190.

Hoover-Dempsey, K. and Sandler, H. (1995), Why do parents become involved in their children's education? *Review of Educational Research*, 67 (1), 3–42.

Hunt J. M. (1961), *Intelligence and Experience*. New York: Ronald Press.

Isaac, J. (2006), *Parent participation: Practice Guide for Children and Young People's Partnerships*. DELLS Information Document No: 019-06 Cardiff, Welsh Assembly Government.

Jones, L. and Allebone, B. (1998), Researching 'Hard to Reach' Groups: Some Methodological Issues, presented at the First Mathematical Education and Society Conference, Nottingham University, September: revised paper published 1999 in the *International Journal of Inclusive Education*, 3, (4) / October 1, 353-62 <http://www.nottingham.ac.uk/csme/meas/papers/jones.html>

Korenman, S., Miller, E. J. and Sjaastad, E. J. (1995), Long-term poverty and child-development in the United-States – results from the NLSY. *Children and Youth Services Review*, 17, 127–155.

Love, J.M., Kisker, E.E., Ross, C., Constantine, J., Boller, K., Chazan-Cohen, R., Brady-Smith, C., Fuligni, A.S., Raikes, H., Brooks-Gunn, J., Tarullo, L.B., Schochet, P.Z., Paulsell, D. and Vogel, C. (2005), The effectiveness of Early Head Start for 3-year-old children and their parents: Lessons for policy and programs, *Developmental Psychology*, 41, 885–901.

McBride, B., Bae, J., and Blatchford, K. (2003), Family–School–Community Partnerships in Rural PreK At-Risk Programs, *Journal of Early Childhood Research*, 1(1), 49–72.

McCall R.B (1981), Nature-nurture and the two realms of development: a proposed integration with respect to mental development, *Child Development*, 52, 1–12.

McGrew, K. S. and Evans, J. (2003), *Expectations for students with cognitive disabilities: Is the cup half empty or half full? Can the cup flow over?* (Synthesis Report 55), Minneapolis, MN: University of Minnesota, National Centre on Educational Outcomes. Retrieved from the World Wide Web: <http://education.umn.edu/NCEO/OnlinePubs/Synthesis55.html>

McLoyd, C. V. (1998), Socioeconomic disadvantage and child development. *American Psychologist*, 53, 185–204.

Macbeath, A. (1996), *Parent Teacher partnership in the individual child's learning: Research Implications*. Paper presented at the Education is Partnership Conference, Copenhagen, Denmark, November 21–24.

Magnuson, K., Meyers, M., Ruhm, C. and Waldfogel, J. (2004). Inequality in preschool education and school readiness. *American Educational Research Journal*, 41, 115–157.



- Mand, K. (2006), Social Relations Beyond The Family? *Community Work and Family*, 9 (3), 309–323.
- Margetts, K. (2000), 'Children's adjustment to the first year of schooling: indicators of hyperactivity, internalizing and externalizing behaviours.' Paper presented at the Australian Association for Research in Education Conference, Sydney, 4–7 December.
- Margetts, K. (2003), Children bring more to school than their backpacks: starting school down under, *European Early Childhood Education Research Journal*, 1, 5–14.
- Mason, J. and Allen, J. B. (1986), A review of emergent literacy with implications for research and practice in reading, *Review of Research in Education*, 13, 3–47.
- McBride, B., Bae, J., and Blatchford, K. (2003), Family–School–Community Partnerships in Rural PreK At-Risk Programs, *Journal of Early Childhood Research*, 1(1), 49–72.
- McCall R.B (1981), Nature-nurture and the two realms of development: a proposed integration with respect to mental development, *Child Development*, 52, 1–12.
- McGrew, K. S. and Evans, J. (2003), *Expectations for students with cognitive disabilities: Is the cup half empty or half full? Can the cup flow over?* (Synthesis Report 55), Minneapolis, MN: University of Minnesota, National Centre on Educational Outcomes. Retrieved from the World Wide Web: <http://education.umn.edu/NCEO/OnlinePubs/Synthesis55.html>
- McLoyd, C. V. (1998), Socioeconomic disadvantage and child development. *American Psychologist*, 53, 185–204.
- Melhuish, E. C., Sylva, K., Sammons, P., Siraj-Blatchford, I. and Taggart, B. (2001), *The Effective Provision of Pre-School Education (EPPE) Project: Technical Paper 7 - Social/Behavioural and Cognitive Development at 3-4 Years in Relation to Family Background*. London: DfEE / Institute of Education, University of London.
- Melhuish, E., Romaniuk, H., Sammons, P., Sylva, K. and Siraj-Blatchford, I. (2006a), *Effective Pre-school and Primary Education 3-11 (EPPE 3-11) Tier 1: The Effectiveness of Primary Schools in England in Key Stage 2 for 2002, 2003 and 2004*. Suffolk: DFES Publications.
- Melhuish, E., Quinn, L., Hanna, K., Sylva, K., Siraj-Blatchford, I., Sammons, P. and Taggart, B. (2006b), *The Effective Pre-School Provision Northern Ireland (EPPNI) Project: Summary Report*. Belfast, N.I.: Stranmillis University Press.
- Melzi, G. (2000), Cultural Variations in the Construction of Personal Narratives: Central American Mothers' and European Mothers' Elicitation Styles, *Discourse Process*, 32 (2), 153 –177.
- Mercy J. A. and Steelman L. C. (1982), Familial influence on the intellectual attainment of children. *American Sociological Review*, 47, 532–42.
- Miller, B. C., Norton, M. C., Fan, X., Christopherson, C. R., (1998), Pubertal development, parental communication and sexual values in relation to adolescent sexual behaviors. *Journal of Early Adolescence*, 18, 27–52.
- Mirza, H. (1997), 'Mapping a Genealogy of Black British Feminism.' In H. Mirza (ed.) *Black British Feminism*. London: Routledge.

Mirza, H. and Reay, D. (2000), Spaces and Places of Black Educational Desire: Rethinking Black Supplementary Schools as a New Social Movement, *Sociology*, 34, 521–544.

Mirza, H., and Sheridan, A-M., (2003), Black and Minority Ethnic Women: Understanding Identity, Access and Equality in the Health Services in Zappone, K. (Ed.) op cit.

Morris, V. and Izumi Taylor, S. (1998), Alleviating Barriers to Family Involvement in Education: The role of Teacher Education, *Teaching and Teacher Education*, 14 (2), 219 – 231.

Morris, M., Rutt, S. and Eggers, M. (2004), *Pupil Outcomes: The Impact of EiC*. Slough: NFER.

National Children's Bureau (NCB)/Thomas Coram Children's Centre/Camden. (2006), *Parents, Early Years and Learning (PEAL): A reader*. Nottingham: DfES Publications.

Newburn, T. and Shiner, M. (2005) *Dealing with Disaffection: Young People, Mentoring and Social Inclusion* by Cullompton: Willan Publishing.

NICHD Early Child Care Research Network. (2005), Duration and developmental timing of poverty and children's cognitive and social development from birth through third grade, *Child Development*, 76, 795–810.

NICHD Early Child Care Research Network. (2006), Child Care Effect Sizes for the NICHD Study of Early Child Care and Youth Development, *American Psychologist*, 61, 99–116.

No Child Left Behind (2001) USA Government Public Law 107–110 115STAT. 1425 <http://www.ed.gov/policy/elsec/leg/esea02/107-110.pdf>

O'Brien (1991), *Promoting successful transitions into school: A review of current intervention practices*, Lawrence, KS: Kansas University Early Childhood Research Institute.

Office for Standards in Education (OfSTED) (2004). *Transition from the Reception Year to Year 1: an Evaluation* by HMI (HMI 2221), London: OfSTED <http://www.ofsted.gov.uk/assets/3655.pdf>

Parcel, T. and Menaghan, E. (1990), Maternal Working Conditions and Children's Verbal Facility: Studying the Intergenerational Transmission of Inequality from Mothers to Young Children, *Social Psychology Quarterly*, 53 (2), 132–147.

*Peers Early Education Partnership (PEEP) 1998–2005*. <http://www.peep.org.uk/>

Pierce, M. (2003), Disabled Minority Ethnic People in Ireland: The Need for Recognition in Zappone, K. (Ed.) op cit.

Pope, R. (Ed.) (2005) *Supporting the new agenda for children's services and schools: the role of learning mentors and co-ordinators* Department for Education and Skills, Nottingham: DfES Publications.

Potter, G. and Briggs, F. (2003), Children talk about their early experiences at school, *Australian Journal of Early Childhood*, 28 (3), 44–9.

Pourtois, J.-P. and Desmet, H. (1997), Les relations famille-école : Un point de vue partenarial. Dans V. Tochon. (pp. 139–148). *Éduquer avant l'école*, Montréal: Les Presses de l'Université de Montréal.

- Pugh, G., Aplin, G., De'Ath, E. and Moxon, M. (1987), *Partnership in action*, London: National Children's Bureau.
- Putnam, R. D. (2000), *Bowling Alone: The Collapse and Revival of American Community*, New York: Simon and Schuster.
- Putnam, R. (Ed.) (2002), *Democracies in Flux. The Evolution of Social Capital in Contemporary Society*, New York: Oxford University Press.
- Ramey, C. T. and Ramey, S. L. (1999), Beginning school for children at risk. In *The Transition to Kindergarten*, Baltimore, MD: Paul H. Brookes Publishing.
- Reynolds, T. (2006a), Caribbean young people, family relationships and social capital, Special Issue: Social capital, migration and transnational families, *Journal of Ethnic and Racial Studies*, 29 (6) November, 1087–1103.
- Reynolds, T. (2006b), Bonding social capital within the Caribbean family and community, Special Issue: Ethnicity and Social Capital, *Journal of Community, Work and Family*, 9 (3).
- Rogoff, B., Mistry, J.J., Göncü, A. and Mosier, C. (1993), Guided participation in cultural activity by toddlers and caregivers. *Monographs of the Society for Research in Child Development*, 58 (8).
- Rose, G. (1992), *The Strategy of Preventive Medicine*, Oxford: Oxford University Press.
- Runyan, D., Hunter, W., Socolar, R., and Amaya-Jackson, L. (1998), *Children who prosper in unfavourable environments: the relationship to social capital*. *Paediatrics* 101: 12–18.
- Rutter, M. (1985), Family and school influences on cognitive development, *Journal of Child Psychology and Psychiatry*, 26, 683–704.
- Sammons, P. (1995), 'Gender, ethnic and socio-economic differences in attainment and progress: a longitudinal analysis of student achievement over nine years'. *British Education Research Journal*, 21 (4), 465–485.
- Sammons, P., Sylva, K., Melhuish, E. C., Siraj-Blatchford, I., Taggart, B. and Elliot, K. (2002), *The Effective Provision of Pre-School Education (EPPE) Project: Technical Paper 8a – Measuring the Impact of Pre-School on Children's Cognitive Progress over the Pre-School Period*. London: DfES/Institute of Education, University of London.
- Sammons, P., Taggart, B., Smees, R., Sylva, K., Melhuish, E., Siraj-Blatchford, I. and Elliot, K. (2003a), *The Early Years Transition and Special Educational Needs (EYTSN) Project. DfES Research Brief No 431 June 2003*. Nottingham: DfES Publications.
- Sammons, P., Sylva, K., Melhuish, E. C., Siraj-Blatchford, I., Taggart, B. and Elliot, K. (2003), *The Effective Provision of Pre-School Education (EPPE) Project: Technical Paper 8b – Measuring the Impact of Pre-School on Children's Social/Behavioral Development over the Pre-School Period*. London: DfES/Institute of Education, University of London.
- Sammons, P., Elliot, K., Sylva, K., Melhuish, T., Siraj-Blatchford, I. and Taggart, B. (2004), 'The Impact of pre-school on young children's cognitive attainments at entry to reception'. *British Education Research Journal*, 30, 691–712.

- Sammons, P., Siraj-Blatchford, I., Sylva, K., Melhuish, E., Taggart, B. and Elliot, K. (2005), Investigating the Effects of Pre-school Provision: Using mixed methods in the EPPE research. *International Journal of Social Research Methodology*, 8, 207–224.
- Sammons, P. & Sylva, K., (2005b) Maintaining the Momentum paper presented at IPPR Conference. London.
- Sammons, P., Sylva, K., Melhuish, E., Siraj-Blatchford, I., Taggart, B. and Grabbe, Y. (2007), *Effective Pre-school and Primary Education 3–11 Project (EPPE 3–11): Influences on Children’s Attainment and Progress in Key Stage 2: Cognitive Outcomes in Year 5. Full Report*. London: Institute of Education, University of London. <http://www.ioe.ac.uk/schools/ecpe/eppe/eppe3-11/eppe3-11pubs.htm>
- Sanders, D., White, G., Burge, B., Sharp, C., Eames, A., McEune, R., and Grayson, H. (2005), *A Study of the Transition from the Foundation Stage to Key Stage 1, Research Report SSU/2005/FR/013*, DfES Publications.
- Saudino, J. K. and Plomin, R. (1997), Cognitive and temperamental mediators of genetic contributions to the home environment during infancy. *Merrill-Palmer Quarterly*, 43, 1–23.
- Sheffield Local Authority (2006), Common Assessment Threshold and Application, In Sheffield, accessed from the www at: <http://www.standards.dfes.gov.uk/learningmentors/downloads/exfourb.doc>
- Siraj-Blatchford, I. (1995), ‘Expanding Combined Centre Provision: Bridging the gap between care and education’. In P. Gammage and J. Meighan (eds), *The Early Years: The Way Forward*. Nottingham: Education New Books.
- Siraj-Blatchford, I., and Clarke, P. (2000), *Supporting Identity, Diversity and Language in the Early Years*, Buckingham: Open University Press.
- Siraj-Blatchford, I., and Brooker (1998), *Parent Involvement in Primary Schools Project: Final Report*, Institute of Education, University of London.
- Siraj-Blatchford, I and Siraj-Blatchford, J. (1997), ‘Reflexivity, Social Justice and Educational Research’, *Cambridge Journal of Education*, 27, (2), 235–248.
- Siraj-Blatchford, I., Sylva, K., Muttock, S., and Gilden, R. (2002), *Effective Pedagogy in the Early Years*, Research Report 356, DfES: London.
- Siraj-Blatchford, I., Sylva, K., Taggart, B., Sammons, P., Melhuish, E. C. and Elliot, K. (2003), *The Effective Provision of Pre-School Education (EPPE) Project: Technical Paper 10 – Intensive Case Studies of Practice across the Foundation Stage*. London: DfES/Institute of Education, University of London.
- Siu-Chu, E. H. and Willms, J. D. (1996), Effects of parental involvement on eighth-grade achievement. *Sociology of Education*, 69, 126–141.
- Spreadbury, J. (1995), Why parents read to children. *Australian Journal of Early Childhood* 20 (1), 1–6.
- St James-Roberts, I., and Samlal Singh, C. (2001), *Can mentors help primary school children with behaviour problems? Final report of the three-year evaluation of Project CHANCE carried out by the Thomas Coram Research Unit between March 1997 and 2000*, Home Office Research Study 233, London: Home Office Research, Development and Statistics Directorate, November.

- Stephen, C. And Cope, P. (2001), *Moving on to Primary 1: an Exploratory Study of the Experience of Transition from Pre-School to Primary (Insight 3)*. Edinburgh: Scottish Executive.
- Stipek, D. (Chair) (1994), *Workshop Report: Cultural Diversity and Early Education, Commission on Behavioral and Social Sciences and Education*, National Research Council, USA.
- Sylva, K. and Pugh, G. (2005), 'Transforming the early years in England'. *Oxford Review of Education*, 31, 11–27.
- Sylva, K., and Siraj-Blatchford, I. (1996), *Bridging the Gap between Home and School: Improving achievement in primary schools*, Paris: UNESCO
- Sylva, K., Siraj-Blatchford, I., Melhuish, E. C., Sammons, P., Taggart, B., Evans, E., Dobson, A., Jeavons, M., Lewis, K., Morahan, M. and Sadler, S. (1999), *The Effective Provision of Pre-School Education (EPPE) Project: Technical Paper 6A – Characteristics of Pre-School Environments*. London: DfEE/Institute of Education, University of London.
- Sylva, K., Siraj-Blatchford, I. and Taggart, B. (2003), *Assessing Quality in the Early Years: Early Childhood Environment Rating Scale Extension (ECERS-E): Four Curricular Subscales*. Stoke on Trent, UK and Stirling, USA: Trentham Books.
- Sylva, K., Melhuish, E., Sammons, P., Siraj-Blatchford, I. and Taggart, B. (2004), *The Effective Provision of Pre-School Education (EPPE) Project: Technical Paper 12 – The final report*. London: DfES / Institute of Education, University of London.
- Taggart, B., Sylva, K., Siraj-Blatchford, I., Melhuish, E. C., Sammons, P. and Walker-Hall, J. (2000), *The Effective Provision of Pre-School Education (EPPE) Project: Technical Paper 5 – Characteristics of the Centres in the EPPE Sample: Interviews*. London: DfEE / Institute of Education, University of London.
- The Equalities Review. (2006), *The Equalities Review: Interim Report for Consultation*. <http://www.theequalitiesreview.org.uk/>.
- Tikly, L., Haynes, J., Caballero, C., Hill, J., and Gillborn D. (2006), *Evaluation Of Aiming High: African Caribbean Achievement Project*, October Dfes Research Brief (RB801), London: DfES.
- Tizard, B. and Hughes, M. (1988), *Learning at Home: Living and talking together*. In Cohen, A. (Ed). *Early Education The Parents' Role*. A Source book for teachers.
- Vincent, C. (1996), *Parent Empowerment? Collective Action and Inaction in Education*, *Oxford Review of Education*, 22, (4), 465–482.
- Vincent, C. and Ball, S, (2001), *A Market In Love? Choosing Pre-School Childcare*, *British Educational Research Journal*, 27, (5), 633–651.
- Vincent, C. and Ball, S. (2006), *Childcare, Choice and Class Practices: Middle class parents and their children*, London: Routledge.
- Vincent, C. and Tomlinson, S. (1997), *Reflexive Accounts of Educational Reform*, *British Educational Research Journal*, 23 (3), 361–377.
- Vygotsky, L.S. (1978), *Mind in Society*, Cambridge, MA: Harvard University Press.
- Wachs, D. and Camli, O. (1991), *Do ecological or individual characteristics mediate the influence of physical environment upon maternal behavior*, *Journal of Environmental Psychology*, 11, 249–264.

Werner, E. and Smith, R. (1982), *Vulnerable but Invincible: A Longitudinal Study of Resilient Children and Youth*, New York: McGraw-Hill Book Company.

White K.R. (1982), The relation between socioeconomic status and academic achievement. *Psychological Bulletin*, 91, 461–81.

Wood, D. (1988), *How children think and learn*. Cambridge, MA: Blackwell.

Wood, E. and Bennett, N. (2001), Early Childhood Teachers' Theories of Progression and Continuity, *International Journal of Early Years Education*, 9 (3), 229–243.

Zappone, K. (Ed.) (2003), *Re-Thinking Identity: The Challenge of Diversity*, Commissioned by the Joint Equality and Human Rights Forum, June, 2003.

Zeitlin, M., Ghassemi, H. and Mansour, M. (1990), *Positive Deviance in Child Nutrition, with Emphasis on Psychological and Behavioural Aspects and Implications for Development*, Tokyo: The United Nations University.

Zellman, G.L. and Waterman, J.M. (1998), Understanding the impact of parent school involvement on children's educational outcome, *The Journal of Educational Research*, 91, 370–380.

# Appendix 1: Research Questions

## Part 1: Progress and achievement in primary school

The information in Part 1 addresses the following questions:

- 1 How well do children progress in primary education?
- 2 What are the characteristics of children who do well and those who fail to keep up with the average?
- 3 How does the HLE during the pre-school period affect children's further progress in primary school?
- 4 How do characteristics of pre-school education affect children's academic attainment and progress?
- 5 How do characteristics of primary education affect children's academic attainment and progress?

## Part 2: The HLE (HLE) of the full sample of children

### Quantitative data analyses

The focus on the HLE addresses the following research questions:

Are there any factors which characterise low SES children who:

- 1 had higher HLE,
- 2 go on to relatively high attainment or progress (in English and Mathematics) in pre-school/primary, and
- 3 Where a particular group are characterised by relatively low HLE, e.g. Pakistani children and low SES White boys – explore common factors they may share.

## Part 3: Qualitative case studies;

The qualitative case studies will enable us to investigate **why** some parents behave in more educationally supportive ways, for instance,

- What are the key characteristics and motivations of these high HLE/low SES families?
- What social capital do these families possess?
- What external influences (e.g. pre-school staff, work colleagues media etc.) have supported or encouraged the development of the HLE?
- What family aspirations and expectations exist and how do these support, maintain or constrain achievement?
- What level of information or understanding of the early years and primary education system do these parents have, what do they understand of the benefits?

- What is it that parents do practically to support the HLE and how do they support their children?
- How do parents and children see the quality of HLE affecting the pre-school experience, and how does this vary according to individual characteristics?
- How does HLE affect children's experience of the transition between home and pre-school?
- Does the type of pre-school provision used affect transitions? (or: Do particular patterns of pre-school use support transitions?).
- What do the children and their parents think are the reasons for their children's success?
- Where a particular group is characterised by relatively low HLE, e.g. Pakistani children and low SES White boys – are there any common factors?

## **Part 4: Using pre-school**

Quantitative information from the complete EPPE data answers the following questions:

Who uses pre-school and who does not?

- 1 What are the reasons for not using pre-school?
- 2 Is it possible to identify which groups are more likely to use pre-school?
- 3 How can parents be encouraged to use pre-school more?
- 4 How does the quality of HLE affect the pre-school experience, and how does this vary according to individual characteristics?
- 5 What is the quality of the HLE for children who do not attend pre-school?
- 6 Do pre-school children have better outcomes than 'home' children at entry to school at 5?

## **Part 5: Practical implications of this research**

**For:** The HLE

Encouraging the use of pre-school and parent programmes (Centre based)

Expectations of 'learning' at home and school

Changing expectations of schools, teachers and Early Years staff.



## Appendix 2: EPPE Project – Technical Papers in the Series

*Please note that some papers are now into re-prints which are slightly more expensive than their original price.*

Technical Paper 1 – An Introduction to the Effective Provision of Pre-school Education (EPPE) Project

ISBN: 085473 591 7    Published: Autumn 1999    Price £8.50

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## **Related Publications**

The Early Childhood Environment Rating Scale: Revised Edition (1998). Harms, Clifford and Cryer ISBN: 08077 3751 8 Available from Teachers College Press. Columbia University. 1234 Amsterdam Avenue. New York. NY10027

Assessing Quality in the Early Years, Early Childhood Environment Rating Scale Extension (ECERS-E): Four Curricular Subscales (2003) Sylva, Siraj-Blatchford and Taggart (2002) Trentham Books

Early Years Transition and Special Educational Needs (EYTSEN) Technical Paper 1: Special Educational Needs across the Pre-school Period.

EYTSEN Technical Paper 2: Special Educational Needs in the Early Primary Years: Primary school entry up to the end of Year One.

EYTSEN Technical Paper 3: Special Educational Needs: The Parents' Perspective

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publication and quantities ordered.

## Appendix 3: Details of Selected Measures used in the EPPE Study

### A.3.1 The Multiple Disadvantage Index

The Multiple Disadvantage Index was developed as part of the Early Years Transitions and Special Educational Needs (EYSTEN) Project which focuses on the identification of children 'at risk' of SEN. An index was created based on 10 indicators in total: three child variables, six parent variables, and one related to the home learning environment. All the variables were chosen because they related to low baseline attainment when looked at in isolation. Where indicators were closely related, such as first language and ethnic groups, only the most significant was included.

#### **Child variables**

- First language: English as an additional language (EAL)
- Large family: 3 or more siblings
- Pre-maturity/low birth weight

#### **Parent variables**

- Mother's highest qualification level: no qualifications
- SES of father's occupation: Semi-skilled, unskilled, never worked, absent father
- Father not employed
- Young Mother (Age 13–17 at birth of EPPE child)
- Lone parent
- Mother not working/unemployed
- Low HLE

## **Appendix 4: How accurate are indicators of the current measures of progress in primary education?**

### **A.4.1 The measurement of cognitive attainment and the problem of the measurement of progress**

In contrast to the situation in the natural sciences where we can often measure the characteristics of objects with objective and accurate measuring instruments on absolute scales, in educational studies we are faced with the problem of the measurement of complex constructs where measuring instruments have to be adjusted over time. So it is easier to measure any physical characteristics like the height and weight of a child over years than to measure Reading, Mathematics or social/behavioural development over time. To have “good reading skills” means something different for a child at age 6 than for a child of age 10, whereas the meaning of “a height of 150 cm” remains the same over years.

Cognitive ability tests have been constructed that usually consist of a set of tasks or questions that are adjusted (standardised) to the expected skills of child at a certain age. Obviously the tests cannot be the same at different time points. Children achieve discretionary scores in these tests, which are then transformed into standardised scores which are comparable irrespective of the age. A common standardisation is the use of IQ format scores, where the mean is 100 and the standard deviation is 15. The advantage of the use of these scores is, that they are easy interpretable and comparable. This means that a child who has a score of 115 is one standard deviation above the average in this specific sample at this specific time point whilst taking age effects into account. A child that achieves a score of 85 points is one standard deviation below average. With these standardisation procedures, performance is always measured relative to the norm for the sample. This has some advantages but also some disadvantages. For example, it is fairer to children who are relatively young for their year (e.g. summer born pupils) but no longer provides a criterion referenced measure of what children have achieved in terms of specific skills at a particular point in time.

It also imposes some problems on the measurement of progress due to the lack of an absolute scale. If you look at standardised test scores of the same child at different time points, you can also only obtain progress relative to the sample. For example, if a child has a score of 100 at age 6 and age 10 that means that this child has made average progress, but not that raw attainment is the same at the two time points. Also, if a child had a score of 100 at age 6 and a score of 90 at age 10 this means, that the progress of the child was relatively less than the average of the sample as a whole, but it does not mean that this child did not make any progress at all.

These facts are important to get the right interpretation on standardised cognitive test scores at different time points.

### A.4.2 Cognitive measures in the EPPE 3-11 study

EPPE has collected various cognitive outcomes at different time points (Table A4). During the pre-school period the British Ability Scales (Elliot, et al., 1996) in verbal and non-verbal measures have been used. This proposal focuses on progress of the children in primary school education where Reading and Mathematics outcomes are available for the EPPE children at age 6 (end of Year 1), age 7 (end of Year 2) and age 10 (end of Year 5). These are highlighted in red and green in the Table A4.1. At age 6 and age 10 teacher administered NFER-Nelson assessments have been used, whereas for the age of 7 National Assessment data have been collected for the sample.

<b>Table A4 Cognitive outcomes in the EPPE-study</b>						
	Pre-School Measures at Entry to the EPPE Study	Exit from Pre-School (Entry to Reception) – Baseline	End of Reception	Year 1	Year 2	Year 5
Age	3.0 to 4 years 3 months	rising 5 years	age 5	age 6	age 7	age 10
Verbal	BAS – Scales: Verbal Comprehension, Naming Vocabulary	BAS – Scales: Verbal Comprehension, Naming Vocabulary	BAS – Scales: Word Reading	Primary Reading standardised score (Level 1/NFER-Nelson)	National Assessments: Reading, Writing (decimalised)	Primary Reading standardised score (Level 2/ NFER-Nelson)
		Letter Recognition, Phonological Awareness (Pre-Reading)	Letter Recognition, Phonological Awareness, Dictation Tests			
Non-Verbal	BAS – Scales: Block building, Picture Similarities	BAS – Scales: Block building, Picture Similarities, Early Number Concepts	BAS-Scale Early Number Concepts	Mathematics 6 Standardised score (Level 1/ NFER-Nelson)	National Assessments: Math (decimalised)	Mathematics 10 Standardised (Level 2/ NFER-Nelson)
Cognitive General		GCAS	GCAS			

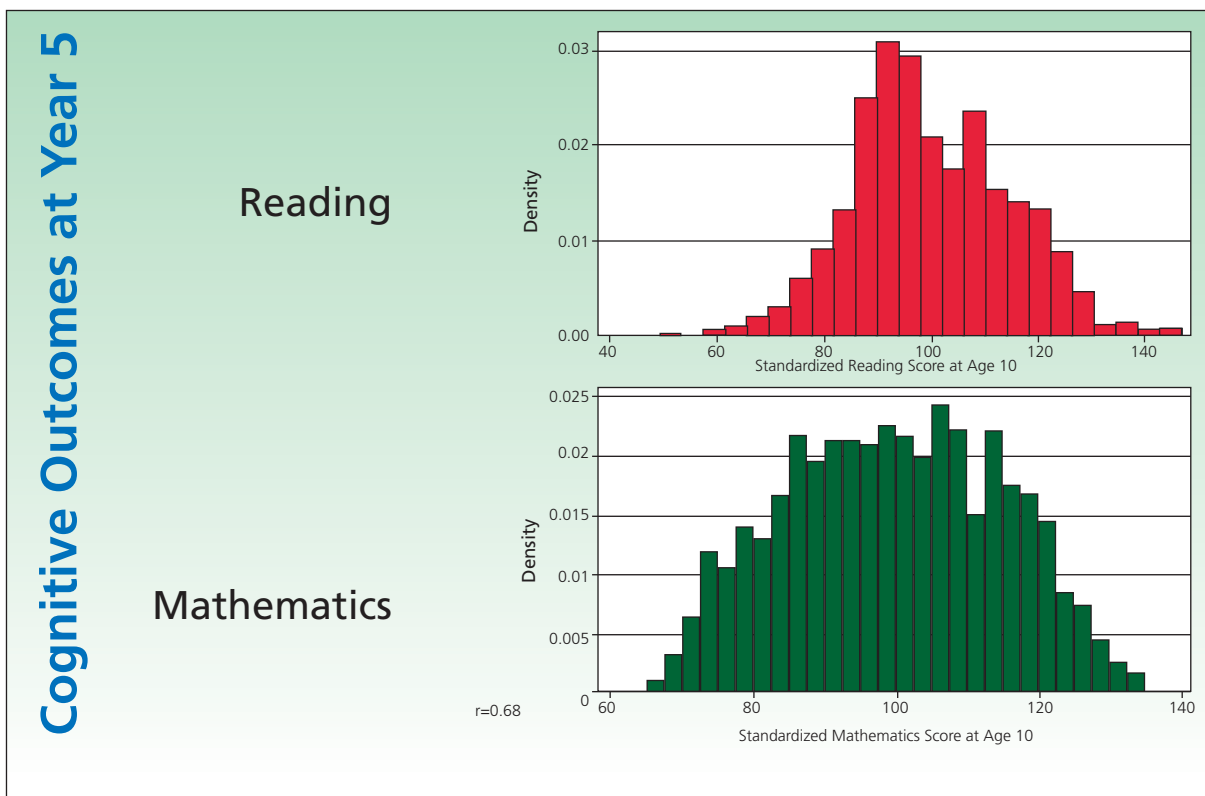
### A.4.3 National assessment data

National assessments are usually reported in levels which are fairly broad and categorise children only into a small number of attainment groups (6 groups from working towards Level 1, Level 1, through 2c, 2b, 2a to level 3). Within each level there can be quite a range of attainment. Therefore EPPE collected data on test scores within levels from schools which allowed the creation of more finely differentiated outcome measures (decimalised levels). However, there remain a couple of measurement issues with this type of assessment as these scores do not account for age differences (within a school class) and are not normally distributed. EPPE has undertaken standardisation and normalisation procedures to overcome this problem. Still, analyses on comparability of the data over the years indicate that there might be different factors influencing outcomes in National

assessments compared to standardised assessments. As at this stage of the study there is no second time point of National assessment data available to explore this topic further, progress in primary school in this paper is investigated by looking at NFER-Nelson standardised test scores at age 6 and age 10. (EPPE is collecting National assessment data at the end of Key Stage 2 though, so at that point the research team will examine this question in further detail).

### A.4.4 NFER-Nelson assessment scores: Standardisation procedures, reliability and internal validity

Figure A.4.1: Cognitive outcomes at Year 5



The NFER-Nelson tests provide a manual to transform ‘raw’ test scores into age standardised scores. However, for the EPPE sample (which is not UK-representative but relatively underachieving due to slightly higher numbers of disadvantaged children in the sample) the manual standardisation procedure does not account for variation especially found in younger age and under average achieving groups. Therefore it has been decided to apply a complex internal age standardisation and normalisation procedure to the cognitive outcomes in Year 1 and Year 5. This resulted in approximately normally distributed outcomes which do not show a correlation with age.

Figure A.4.1 shows the distribution of the standardised and normalised Reading and Mathematics scores at age 10. The mean of the measures is 100 with a standard deviation of 15 (IQ format scores).

## Reliability

Reliability in the psychometric sense refers to the necessary requirement for a good test, that a test should measure exactly the same if applied several times on the same subject and should be consistent. Reliability is a necessary pre-condition for validity. However, as there might also be changes over time in the outcome to be measured the concept of retest-reliability hits its borders especially in developmental studies.

For Reading we find a correlation of 0.56 between the assessments of age 6 and year 10, for Mathematics the correlation between age 6 and age 10 assessments is 0.65. These results lead to two conclusions:

1. Prior cognitive attainments are fairly good predictors of later attainments.
2. We can assume good retest-reliability.

## Internal validity

The attainments in Reading and Mathematics show at age 6 a correlation of 0.58 and at age 10 a correlation of 0.68. These moderate to high correlations indicate that children who do well in Reading are more likely to also show high attainment in Mathematics and vice versa. The relationship is more distinct at age 10 than at age 6 years. As both measures are cognitive outcomes, these correlations are also indicators of high internal validity (in the sense of psychometric validity).

## Appendix 5: Methodology for the social/behavioural analysis

Overall, child profiles were not returned for 651 children. Of those children for whom the child profile was returned, 2079 had a complete set of scores for the social/behavioural items, i.e., a valid value for all 56 items. The remaining children (441) had one or more missing values in the 56-item set. For these 441 cases missing values were substituted with the child's own mean.

The social/behavioural instrument consists of a wide range of items (56) rated on a 3 point scale, (1 = not true; 2 = somewhat true; 3 = certainly true) some of which are measuring more adaptive social behaviour, e.g., 'considerate of other peoples feelings', and some measuring maladaptive behaviour e.g., 'has many fears, easily scared'. For the purpose of the missing substitution analysis, the items were divided into two sub-groups; of

1. Adaptive (29) and

2. Maladaptive behaviour (26 items) and questions were substituted with the child's mean of items belonging to the same sub-group. One item with substituted with the overall mean as it was considered neutral was, 'gets on better with adults than with children'. The items with the missing substitution were then used for all subsequent factor analysis.

A number of data reduction methods were applied to the data, these included Principal Components Analysis (PCA) with varimax (orthogonal) rotation and PCA with promac (opaque) rotation. The exploratory analysis yielded 8 factors explaining 54.9 per cent of the variance with both types of rotation. However, the last factor was relatively weak, i.e., with very few items loadings, consequently two further analyses were conducted forcing a 7 factor solution on the data. The resulting analysis accounted for 53.2 per cent of the variance. Structural equation modelling was used to compare between the different models derived. The best fitting model was the 7 factor solution with promac rotation (RMSEA=0.6; CMIN=14635.647 with 1463 df). The factor scores produced by this analysis were normalized and used in further analyses. For the whole sample the average factor score is 100 with a standard deviation of 15 (see Appendix 4 for details on normalization procedures).



	Component						
	1	2	3	4	5	6	7
<b>F1 – Hyper activity scale</b>							
2:restless, overactive, cannot stay still for long	.997						
10:constantly fidgeting or squirming	.995						
15:easily distracted, concentration wanders	.844						
21:thinks things out before acting	-.474						
25:sees tasks through to the end, good attention span	-.557		.498				
27:quickly loses interest in what she/he is doing	.671						
36:gets over excited	.817						
39:is easily frustrated	.496			.312			
45:is impulsive, acts without thinking	.787						
50:can behave appropriately during less structured sessions	-.468						
54:fails to pay attention	.751						
56:makes careless mistakes	.572		-.324				
<b>F2 – Pro-social scale</b>							
1:considerate of other people's feelings		.493					
4:shares readily with other children (treats, toys pencils, etc.)		.445					
9:helpful if someone is hurt, upset or feeling ill		.817					
17:kind to younger children		.743					
20:often volunteers to help others (teachers, other children)		.927					
51:offers to help others having difficulties with a task		.730					
52:is sympathetic to others if they are upset		.848					
29:apologises spontaneously		.448				.361	
<b>F3 – Self-regulation</b>							
32:likes to work things out for self; seeks help rarely	-.372	.791				.317	
35:does not need much help with tasks		.800					
38:chooses activities on their own		.715				.427	
41:persists in the face of difficult tasks	-.306	.575					
44:can move on to a new activity after finishing a task		.579					
46:is open and direct about what she/he wants	.414	.430					
47:is confident with others	.365	.503					
53:shows leadership in group work		.552					
55:can take responsibility for a task		.622					
<b>F4 –Emotional symptoms scale/Anxious</b>							
3:often complains of headaches, stomach-aches and or sickness				.504			
8:many worries, often seems worried			.703				
13:often unhappy, down-hearted or tearful			.470	.345			
16:nervous or clingy in new situations, easily loses confidence			.667				
24:many fears, easily scared			.726				

	Component						
	1	2	3	4	5	6	7
<b>F5 – Peer problems scale (Goodman)/</b>							
<b>Social isolation</b>							
6:rather solitary, tends to play alone					.677		
11:has at least one good friend					-.795		
14:generally liked by other children					-.619		
19:picked on or bullied by other children					.613		
23:gets on better with adults than with other children					.812		
34:can play or work easily with others					-.429		
<b>F6 – Positive social</b>							
5:often has temper tantrums or hot tempers (Goodman's conduct problems scale)	.337					-.403	
31:is calm and easygoing						.445	
33:shows wide mood swings	.310					-.466	
37:says 'please' and 'thank you' when reminded						.603	
40:gets over being upset easily						.708	
42:waits his/her turn in games and activities						.358	
43:co-operates with requests						.341	
<b>F7 – Conduct problems scale (Goodman)/Antisocial</b>							
12:often fights with other children or bullies him							.320
18:often lies or cheats							.477
22:steals from home, school or elsewhere							.729
26:vandalises property or destroys things							.676
28:shows inappropriate sexual behaviour toward others							.642
30:has been in trouble with the law							.663
<i>Less than 0.4 loadings</i>							
5:often has temper tantrums or hot tempers							
7:generally obedient, usually does what adults request (Goodman's conduct problems scale)	-.364						
48:teases other children, calls them names	.314						
49:in social activities just tends to watch others				.317	.346	.331	
Goodman items are in bold. All the Goodman factors fit well in this analysis, apart from the conduct problems scale keep together within the same factor, the conduct problems scale splits between 3 factors but 3 of the 5 items are together loading on the 'Anti-social' scale.							

## Appendix 6: The EPPE Project – Children’s activities at home

Does X have?

A regular bedtime

Rules about watching TV/videos

How often does X watch TV/videos in a typical weekday?

How many days in a typical week has X?

Played with friends at home

Does X have friends home to play?

Played with friends elsewhere

Does s/he go anywhere else to play?

Gone shopping with you

Gone on visits to friends or relatives

Sat down and eaten a meal with the whole family together

Does anyone at home ever read to X?

If yes, how often?

Does anyone at home ever take X to the library?

How often?

Does X ever play with letters or numbers?

How often?

Does X ever paint and draw at home?

How often?

Have you ever tried to teach X?

ABC/The Alphabet/  
letters?

Numbers?

How often?

Any songs/poems?

How often?

Can you tell me which?

Any nursery rhymes?

How often?

Can you tell me which?

The Effective Provision of Pre-School Education, 1997

## **Appendix 7: Definitions of different assessments at different time points**

At entry to primary school (aged 5) children were assessed in early Literacy and early Numeracy skills using the British Ability Scales (Elliot et al., 1996).

In Year 1 (aged 6 years) and Year 5 (aged 10 years) children were assessed using The Primary Reading Test (Level 1 and 2 respectively) and Mathematics (6 and 10 respectively) both produced by NFER-Nelson. The results reported at these ages are therefore measures of Reading and Mathematics.

In the second part of this report outcomes are referred to as Literacy and Numeracy which is a reference to both the early (age 5) and later (age 10) cognitive assessments.

## Appendix 8: Attendee List at the Equalities Review seminar on Early Years, 9th November 2006

John Abraham	Welsh Assembly Government Llywodraeth Cynulliad Cymru
Laura Barbour	The Sutton Trust
Helen Bennett	Department for Education and Skills
Claire Cooper	Commission for Racial Equality
Michael Daniels	London Borough of Southwark
Leon Feinstein	Research on the Wider Benefits of Learning, Institute of Education
Jenny Greenwood	London Borough of Westminster
Cynthia Knight	St Thomas Centre
Tessa Livingstone	BBC
Angela Mabhena	Comet Nursery
Caroline Maples	Wentworth Nursery School
Tony Martin	Department for Work and Pensions
Donald McGillivray	Scottish Executive
Ted Melhuish	Effective Pre-School and Primary Education 3-11 Project (EPPE)
Marcia Myers	St Thomas Centre
Gillian Pugh	Thomas Coram Research Unit
Pam Sammons	Effective Pre-School and Primary Education 3-11 Project (EPPE)
Kiran Sidhu	Department for Education and Skills
Peter Silva	Peers Early Educational Partnership
Gary Simpson	Westminster Children's Society
Iram Siraj-Blatchford	Effective Pre-School and Primary Education 3-11 Project (EPPE)
Pat Smart	Greet Primary School
Theresa Smith	Department of Social Policy and Social Work, University of Oxford
Matthew Stevenson	HM Treasury
Brenda Taggart	Effective Pre-School and Primary Education 3-11 Project (EPPE)
Gareth Todd Jones	Pen Pych Community Primary School
Pauline Trudell	The British Association for Early Childhood Education
Margy Whalley	Pen Green Research Development & Training Base
Jo White	Portman Early Childhood Centre
Stephen Witt	Department for Education and Skills

The proceedings of this seminar are published separately on the website of the Equalities Review [www.theequalitiesreview.org.uk](http://www.theequalitiesreview.org.uk)