
Performing against the odds: developmental trajectories of children in the EPPSE 3-16 study

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Introduction

The Effective Provision of Pre-School, Primary and Secondary Education (EPPSE 3-16) project is a large scale, longitudinal, mixed-method research study that has followed the progress of 3000+ children since 1997 from the age of 3 to 16 years. The EPPSE project uses a mixed-methods approach to investigate how child, family, pre-school and school characteristics interact and contribute to children's development up to early secondary age.

This research uses case studies to explore *why* and *when* certain children 'succeed against the odds' while others fall further behind, and also *when* and *why* some 'privileged' children fall behind despite their *positive* circumstances.

Key findings

Academic progress up to the first years of secondary school that defies the odds of disadvantage is:

- stimulated in homes where parenting is a process of 'active cultivation' that facilitates and nurtures children's cognitive and social skills allowing children to benefit from what the educational system has to offer;
- evident early in children's learning life-course but often becomes more apparent over time;
- nurtured through good or excellent quality pre-school settings, particularly for boys from families with low socio-economic status who, the EPPSE study has found, are more likely to experience a poor early years home learning environment;
- stimulated by teaching strategies that allow students to bond with teachers and to enjoy lessons, resulting in students feeling encouraged to work to achieve beyond their predicted attainment;
- stimulated when schools help children to deal effectively with difficulties through additional classes. These classes allow children to catch up with their peers and help them (re)develop a positive perception of school and learning and of their ability to deal with difficulties;
- stimulated through emotionally and practically supportive relationships with parents, peers/friends and significant other adults as these experiences nurture children's self-perceptions, sense of self-efficacy and effective learning strategies, which helps them to become 'active agents' in their learning life-course;

- stimulated by peers who offer positive role models and (sometimes) friendly competition;
- supported by social networks in the wider community through the social and cultural capital these networks provide to parents and children, and
- requires effort, determination and active agency from the children themselves as well as from the people around them.

The Child and Family Case Studies

Background

The Effective Provision of Pre-School, Primary and Secondary Education (EPPSE 3-16) project is a large scale, longitudinal, mixed-methods research study that has followed the progress of 3000+ children since 1997 from the age of 3 to 16 years. For details of the earlier phases of the study see Sylva et al., (2010) and <http://eppe.ioe.ac.uk>.

A focus for EPPSE has been the extent to which pre-school, compulsory education and children's home learning experiences (HLE) can reduce inequality. Earlier EPPSE research (Melhuish et al., 2001) found that what parents did with their children was important in terms of the children's outcomes, not simply 'who they were' in terms of social class and income. Following a pilot study with disadvantaged children who were 'succeeding against the odds' towards the end of primary school (Siraj-Blatchford, 2010), this study provides in-depth exploration and explanation of how 'risk' and 'protective' factors in the lives of children shape their learning life-courses, and why they lead to academic resilience for some but not for others.

Methodology

We have defined 'resilience' as the 'adaptive outcome of a developmental process' (Rutter, 2007). Successful adaptation follows from the cumulative effects of 'protective' factors when facing adversity (i.e. 'risk'). What qualifies as 'adaptive' behaviour will vary from context to context, but in our case 'resilience' refers to 'achievement beyond expectation', i.e. shown by those in the EPPSE sample who obtained high attainment levels at age 11 despite the presence of numerous 'risk' factors early in their learning life-course. These children, as well as children with few early risk factors from high SES backgrounds who obtain high attainment levels at age 11, are regarded as the 'academically successful' children in this study. The 'vulnerable' children in this study are those children who have attainment levels that are either below prediction or as low as predicted by disadvantageous personal or family characteristics.

Cognitive assessments collected as part of the EPPSE research from age 3 onwards were used to create individual learning trajectories for the children. Trajectory patterns were described separately for children's Literacy/English and Numeracy/Maths achievement in relevant tests and national assessments up to early secondary school (age 14).

Individual-level residual scores, that indicated differences between predicted and obtained academic achievement for English and Maths up to age 11 were created for each child in the EPPSE sample (n=2900) using multilevel modelling. These scores controlled for the following background factors (as measured when the children were aged 3/4): age, gender, birth weight, early developmental problems and parent education, socio-economic status (SES), and family income. Although the trajectories were selected on children's outcomes to age 11 we further added their outcomes in English and Maths for 45 of the 50 cases as these became available during the fieldwork. So for most of the children we have their trajectory pattern of outcomes to age 14.

Four groups of interest were then created that provided a framework for the selection of 50 case studies. This resulted in a sample that included:

- two groups with low SES children
 - Group 1, n=20, academically successful children who were 'succeeding against the odds'
 - Group 2, n=15, vulnerable children who were 'expected low achievers'

- and two groups of high SES children
 - Group 3, n=9, vulnerable children who were 'unexpected underachievers'
 - Group 4, n=6, academically successful children who were 'expected high achievers'

The sample consists of 24 girls and 26 boys; 23 of the children come from families with Indian, Pakistani, Black African, Black Caribbean, White European and mixed heritage backgrounds, the remaining 27 have a White UK heritage. These children, their families and some of their teachers were interviewed. The children were aged 14-16 when they were interviewed.

A review of international literature from the fields of psychology, sociology and education, was conducted to identify general themes and focus areas for the in-depth qualitative interviews with parents, children and teachers. Additionally, trajectory analyses, survey and questionnaire data available from the main EPPSE study and findings from the pilot study were used to create 'case specific' interview questions and retrographs, these provided a visual time line with a schematic overview of the child's family, school and learning history up to the first years of secondary and were used as memory aids during these interviews.

The interviews were coded and analysed in two ways: 'bottom-up' and 'top-down'. For the 'bottom-up' analysis, coding categories followed themes that emerged from the analysis of perceptions of the participants as expressed in the interviews. A sub-sample of children with 'ideal types' of trajectories was used to generate initial coding categories; these were subsequently reassessed using the complete case studies sample. For the 'top-down analysis' coding categories were created based on evidence from the EPPSE project and the literature review. Codes continued to be redefined as we moved back and forth between the different data sources.

We used the analysis of the academic trajectories up to age 14 to determine when the children from the four groups in our sample started to show differentiation in their learning life-courses. The analyses of the qualitative interviews were used to explore why certain children succeeded academically while others did not. Through the 'bottom-up' analysis we investigated the perceptions of participants taking into account the people, events and circumstances the children, parents and teachers identified as having had a *positive* or *negative* influence on the child's academic achievement over the years. Finally, through the 'top-down' analysis based on the literature review, we analysed the occurrence of well-established 'risk' and 'protective' factors and the specific interplay and constellation of these factors in the learning life-courses of the children.

Findings

1 Low SES families fostering academic achievement

In the homes of children 'succeeding against the odds' parenting practices took the form of 'active cultivation'. These parents engaged their young children in learning processes, for instance by reading with them, providing them with educational (computer) games and materials, talking with them about school and learning or other joint activities e.g. by cooking together. They continued this involvement throughout the child's learning life-course. Despite the fact that circumstances sometimes made it difficult for parents to provide a highly favourable early years home learning environment (HLE), these parents found ways to support their children through important learning experiences. Regardless of the child's actual early years HLE (which was measured during pre-school through parent interviews and subsequently developed into an index - for further details see Melhuish, Phan, Sylva, Sammons, Siraj-Blatchford, & Taggart, 2008), parents and children who 'succeeded against the odds' valued these activities as opportunities to develop cognitive skills that prepared the child for school; they believed these experiences had helped them to develop a positive attitude to, and interest for, school related activities. Because these parents felt they were supporting their children academically by offering or facilitating a broad range of educational experiences in addition to school, they were prepared to go to great lengths to provide these experiences and demonstrated determination and creativity in doing so.

As children got older these parents continued to provide a wide range of learning experiences as well as substantial emotional and practical support with learning. If they felt they were unable to provide these experiences to the extent they thought necessary, they found alternative ways to offer meaningful learning experiences, often by calling on their social networks and the limited cultural capital available in these networks, and by stimulating and facilitating children's participation in extra-curricular activities. Through support and guidance they fostered meaningful and strong emotional relationships with their children.

2 Characteristics of parents engaging in active cultivation

The parents of low SES children 'succeeding against the odds' set and reinforced high standards for behaviour and academic aspirations for the child. They explicitly expressed their high esteem for education. Although these parents acknowledged limits to their social, cultural and economic resources, this did not stop them from helping their children to succeed in school. They used their own experiences as *positive* or *negative* examples for the children and their resilience and perseverance in dealing with disadvantages often provided a positive role model. Despite some limitations to their cultural and economic capital these parents had a strong sense of self-efficacy regarding their ability to support their child's learning life-course. Their positive attitude towards school and learning, as well as their positive perception of the contribution they could make towards their child's academic success, was continuously present as children progressed from pre-school to primary school and on to secondary school.

3 Parenting in homes of low achievers

For children from low SES homes who did not 'succeed against the odds', the experiences in the home environment and attitude of parents were often less obviously aimed at the development of educational skills. Particularly for 'vulnerable' boys, the aspect of enjoyment seemed to be missing from many HLE experiences. Continuity of emotional and practical support for learning and education was uncommon. Often their parents expressed and displayed helplessness in their parenting. Many of them felt they were unable to provide support with school and learning or even to encourage their children to do well in school. This often left the children to sort out difficulties they encountered with school and learning. The cultural logic of child rearing experienced by children in these particular low SES families in many ways is similar to what Lareau (2003) has described as facilitating the 'accomplishment of natural growth'.

4 Early distinctions in the development of academic life-course trajectories

Despite similarities in background, the children who 'succeeded against the odds' started their academic trajectories with higher rankings for early literacy skills than their low SES peers, while 'vulnerable' high SES children started with lower early numeracy rankings than their academically successful high SES peers.

Once in pre-school, the trajectories of 'academically successful' low SES children often showed substantial improvement, suggesting they were able to gain greater benefits from the learning experiences these settings offered. The slower pace of development found for the academically less successful children, Groups 2 and 3, seemed to indicate a poor fit between the specific needs of these children for learning and the ability of schools, teachers and parents to tailor interactions and resources to these needs. Interestingly, these same children quite regularly showed substantial improvement during the early years of secondary school. This improvement was attributed to maturation but also to the reinforcement of the curriculum and concepts addressed at the end of primary school during these initial years of secondary school. A change in attitude towards school and learning in combination with repetition of the curriculum seems to provide some of those who previously struggled with a chance to fill in certain gaps in their existing skills and knowledge, at least for English and Maths.

5 Supporting children to become active agents of academic success

We found distinctive combinations of cognitive and social/behavioural characteristics in our children that

seemed to facilitate or constrain their adaptation to school and learning. Children who were seen as clever, with a positive attitude towards homework and an internal locus of control had a more positive image which was continually reinforced by people at home and in school. This helped them to establish and strengthen a positive self-image. They developed a strong sense of self-efficacy with regard to school and learning which in turn encouraged them to stretch their learning beyond what might be expected. As a result of these experiences these children became 'active agents' of their academic success.

In contrast, children who experienced learning difficulties or were not seen as particularly clever often developed a *negative* self-image, resulting in or reinforcing ineffective problem-solving strategies, diminished motivation for school and learning, and a sense of helplessness. This negative perception of children's ability was reinforced by the perception of parents and children that 'ability to learn' was 'a given' rather than something that could be shaped. This resulted in parents and schools making little effort to remedy the difficulties children experienced.

6 Gender specific parenting and differences related to ethnic cultural heritage

Consistent with findings for the whole EPPSE sample, far more girls than boys in our case studies had experienced a medium or high early years HLE. Although we did not find any indication of differences in parenting in the early years related to ethnic heritage in these qualitative case studies, our evidence showed that during adolescence parents with girls, and parents with African or Caribbean heritage, felt that children's 'self-regulation' abilities were also strongly related to their practices of teaching children practical life skills, and therefore they emphasised these practices as part of their child rearing strategies.

7 Foundations for academic success in the Early Years

Most parents, regardless of their SES, were motivated to send their child to pre-school because they believed that pre-schools offered children opportunities to learn to socialise with other children, a skill they believed would help the child later on in school. In addition, parents with more academically successful children believed that pre-school would provide an opportunity for their children to become accustomed to school routines and rules, and to develop basic literacy and numeracy skills, and would reinforce the child's positive attitude to school and learning. Parents of children 'succeeding against the odds', in particular, believed that pre-schools would offer their child something in addition to what they were able to offer at home and carefully evaluated the suitability of the setting for their child.

EPPSE has previously shown that pre-school education of average or better quality or effectiveness can help to alleviate the effects of social disadvantage and can provide children with a better start to school. In this small sub-sample the effect of high versus low quality pre-school settings seemed particularly important for low SES boys. First of all, these boys were more likely to have been enrolled in a low quality pre-school than boys with high SES families or girls from equally disadvantaged backgrounds. Secondly, when boys from disadvantaged families did find themselves in an excellent pre-school setting they seemed to experience longer-term benefits as all these boys went on to 'succeed against the odds' (by age 11).

In our case studies, few children from low SES families had the combined benefit of highly favourable early years HLE and excellent pre-school education. However, the relatively frequent occurrence of medium or high early years HLE with good pre-school experiences among the children 'succeeding against the odds', underlines the significance of this combination of experiences early on in children's learning life-course.

8 Teaching that promotes academic success

Students and parents from low SES families 'succeeding against the odds' as well as those from 'successful' high SES families, attributed part of their success to the quality of their teachers. For instance, both parents and students thought that good quality teaching meant that teachers were able to explain topics and lessons clearly, were enthusiastic about the subject they taught, were approachable when things were difficult to understand, were friendly, had control over the class and clearly communicated their

expectations and boundaries. Students bonded with these teachers; although they enjoyed the classes, more important was their feeling of being encouraged to work to achieve beyond their predicted attainment.

The 'vulnerable' children in particular mentioned that a high number of supply teachers and the disorganised lessons that came with this contributed significantly to their low attainment.

9 Schools' contribution to raising achievement

The one school-level factor that seemed to most clearly set apart the children who 'succeeded against the odds' from academically less successful children was their perception of the help they received from school when they were experiencing difficulties with academic work or behaviour. They felt schools had effectively helped them to deal with these difficulties through booster, remedial, homework, revision or behavioural classes. This helped children to catch up, (re)establish and reinforce a positive perception of school and learning and improved self-efficacy.

In contrast, the academically less successful 'vulnerable' children and their parents felt let down by schools and teachers. Some of these parents, particularly those from high SES families, had organised additional help for the child after school; many felt frustrated and even angry with school policies and headteachers for not dealing effectively with their children. Some of these negative perceptions were transmitted to children and might have reinforced a negative attitude to school and learning.

10 Empowering relationships with peers and friends

For the 'academically successful' children, peers, especially their friends, offered practical and emotional support with school and learning that benefited their attainment. The emotional support helped them to enjoy school and to deal with any difficulties they encountered. Practical support was often reciprocal as children helped each other out during lessons and with homework and revision. Not only did this offer children opportunities to take on the role of peer tutor, it also helped them to deepen their understanding of subjects either by rephrasing the teacher's explanations to clarify things for their friends or by receiving alternative explanations from their friends. These experiences appeared to contribute to children's positive self-perception, sense of self-efficacy, and use of effective learning strategies. These children's friends also further reinforced favourable attitudes towards school and learning through their positive perception of education. This in turn stimulated them to be 'the best they could' by providing positive role models and friendly competition.

Although some of the 'vulnerable' children also experienced positive peer influences, these students more often had friends and peers with negative attitudes to school and learning. In addition, it was often felt by them, as well as by parents and teachers, that their problematic or less effective behaviour and negative attitudes towards school and learning were reinforced by such friends.

11 Additional gateways to social and cultural capital

The low SES children who 'succeeded against the odds' and the 'successful' high SES children made good use of resources that helped with school work (such as written materials and computers) but also of peers, siblings and other adults. Their positive attitude towards books and computers and frequent use of these tools for school or as hobbies facilitated learning throughout their life-course and will stand them in good stead in the future.

Families with academically successful children perceived and valued extra-curricular activities as experiences that contributed to their children's development and school achievement. Low SES parents with children who did not 'succeed against the odds' usually regarded these activities as fun and relaxing, but did not consider any educational aspects or benefits that might follow. As a result, 'vulnerable' children were less likely to be encouraged to persevere with extra-curricular activities.

Support networks of extended family, family friends and religious communities played an important role in supporting parents as they could offer additional social and cultural capital. A positive contribution from support networks was particularly felt when this support went beyond practical help and offered parents a chance to further develop their parenting knowledge and skills and reinforced their sense of self-efficacy with regard to the child's academic success. This particular type of support was mentioned more often by the low SES families with children 'succeeding against the odds' and by high SES families in general.

Implications

- Implications of 'active cultivation' for parenting programmes/initiatives are substantial as our study shows that in these cases the home as an institution is a very powerful 'proximal' context. This helps children to establish masterful learning dispositions towards school and learning and stimulates the development of self-efficacy.
- Parents who show 'active cultivation' provide strong, child-centred emotional support that is sensitive to the children's developing needs. They do so, even in the face of difficulties, by being encouraging, persistent and consistent.
- As children who succeed start school with a better grasp of school relevant skills and knowledge there are implications for the early assessment of children entering school or pre-school in order that appropriate curriculum and pedagogy is personalised and adopted.
- The importance of teachers in supporting and encouraging 'vulnerable' children and avoiding negative expectations and stereotypes has implications for recruiting the best teachers into schools in disadvantaged communities.
- The importance of relationships with peers and friends has implications for teachers in promoting the 'communities of learning' in classrooms in which students can take some responsibility for their own and others learning and work towards shared goals.
- The importance of additional support classes has implications for early diagnostic assessment and individualised support and interventions in Key Stage 1.
- The importance of social and cultural capital has implications for schools and communities in fostering 'learning to learn' dispositions by providing support with educational experiences especially for 'vulnerable' children.

Additional Information

Further copies of this research brief, or the full report of the same name, can be accessed at <http://www.education.gov.uk/publications/> or from the EPPSE Website: <http://eppe.ioe.ac.uk>

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The views expressed in this report are the authors' and do not necessarily reflect those of the Department for Education.

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Additional Information

The full report can be accessed at <http://www.education.gov.uk/publications/>

Further information about this research can be obtained from

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This research report was commissioned before the new UK Government took office on 11 May 2010. As a result the content may not reflect current Government policy and may make reference to the Department for Children, Schools and Families (DCSF) which has now been replaced by the Department for Education (DFE).

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