

Study of Early Education and Development: Early Education Use and Child Outcomes up to age 5

Introduction and background

The Study of Early Education and Development (SEED) includes a major longitudinal study designed to provide evidence on the effectiveness of early years education and to identify any short- and longer-term benefits from government investment in early education which has significantly increased since 2004 when free early education was first introduced. The study is being conducted by a consortium including the National Centre for Social Research, the University of Oxford, Action for Children and Frontier Economics. SEED aims to study children at age 2, 3, 4, 5 and 7 years to seek information on how early childhood education and care is associated with cognitive and socio-emotional development. This latest report focuses on how early childhood education and care (ECEC) is related to children's development during the school reception year. It adds to the existing evidence that high quality early education has a considerable influence on school readiness, long-term school attainment and lifelong outcomes (e.g. Melhuish, 2004; Smith et al., 2009; Sylva et al., 2004, 2010).

The participants in this study were 3,186 children and their families on whom data were collected when children were 2,3,4 and 5. Additionally, data from the Early Years Foundation Stage Profile (EYFSP) was available for 4,942 children when they were in reception class. The aim was to have approximately equal numbers of children from 3 levels of disadvantage, as defined by family income and benefits received. In this study, ECEC settings eligible for government funding such as nurseries and nursery schools were labelled as 'formal'; those not eligible for government funding such as childcare with relatives or nannies were labelled as 'informal'.

Key findings

Impact of different amounts of ECEC

- More hours per week spent in informal individual ECEC (with relatives or friends) between age 2 and the start of school was associated with higher levels of verbal ability assessed during school year one.
- More hours per week spent in formal group ECEC (e.g. in nursery classes, nursery schools and playgroups) between age 2 and the start of school was not associated with any overall benefits for children. However, for children who had poorer home learning environments, more hours per week spent in formal group ECEC use was associated with higher levels of verbal ability assessed during school year one.
- More hours per week spent in formal individual ECEC (with childminders) between age 2 and the start of school was not associated with any overall benefits for children. However, for children in the moderately disadvantaged group, childminder use was associated with a higher total points score on the early years foundation stage profile (EYFSP). For children in the most disadvantaged group, childminder use was associated with a lower total EYFSP score.
- More hours per week spent in formal group ECEC between age 2 and the start of school was associated with poorer outcomes during school year one for externalising behaviour, internalising behaviour, prosocial behaviour, behaviour self-regulation and emotional self-regulation. Externalising behaviour is defined as behaviour which can harm others (verbal bullying, physical aggression). Internalising behaviour is behaviour which harms the self.

For internalising behaviour, the association was specifically for children with mean formal group ECEC use of greater than 35 hours per week. For externalising behaviour and emotional self-regulation, poorer results were found for children with mean formal group ECEC use of greater than 15 hours per week.

- More hours per week in formal individual ECEC use (with childminders) between age 2 and the start of school was associated with poorer teacher-assessed externalising behaviour and emotional self-regulation scores during school year one.
- Using a model which controlled for demographic and home environment variables, more hours per week spent in formal group ECEC between age 2 and the start of school was associated with a higher probability of children having socio-emotional problems during school year one.

Impact of the quality and type of formal group ECEC

- There was an association between children attending higher quality formal group ECEC between ages 2 and 4 and children having lower BAS (British Ability Scales) verbal ability; this may or may not be a true causal association. A conclusion in either direction can only be drawn in the light of further research.
- Given the information currently available, it is suggested that the most likely explanation is that this is a chance finding due to small sample size and also to the fact that



the overall quality of ECEC has significantly improved over the last 20 years.

- Subject to this assumption, the picture remaining is that there are no observable associations between the quality of the ECEC which children attend between ages 2 and 4 and their cognitive, socio-emotional and educational outcomes during reception / school year one.

Impact of the timing and combinations of formal ECEC

- Children from the 60 per cent least disadvantaged families who started using a mean of 10 or more hours per week formal ECEC aged up to 2 years and who had a mean of up to 2 hours per week formal ECEC between age 2 and the start of school had significantly better outcomes during reception / year one for sociability, prosocial behaviour and EYFSP numeracy than a reference group who used the same type and amount of care, but who started when aged over 3.
- Similarly, children from the 40 per cent most disadvantaged families who started using a mean of 10 or more hours per week formal ECEC between the ages of 2 and 3 and who had a mean of over 20 hours per week formal ECEC between age 2 and the start of school showed better verbal ability in the first year of school than a reference group who had the same amount and type of childcare but did not start until they were over 3. However, the children who started using the childcare at an earlier age also had poorer outcomes for externalising behaviour and emotional self-regulation.
- Children with a mean of up to 15 hours per week formal group ECEC between age 2 and the start of school and some individual ECEC (childminder, friends, relatives) during this period had better verbal ability measured during school year one than children who had a mean of up to 15 hours per week formal group ECEC between age 2 and the start of school and no individual ECEC during this period. Furthermore, the children who had not had any individual ECEC have poorer outcomes than the reference group on seven measures: externalising behaviour, sociability, prosocial behaviour, behavioural self-regulation, emotional self-regulation, EYFSP Personal, Social & Emotional Development and EYFSP total score.
- For the least disadvantaged children, the most beneficial trajectory would appear to be an early start in formal ECEC (a mean of 10 or more hours per week starting at some point up to age 2) combined with low to medium use of formal ECEC between age 2 and the start of school (a mean use of up to 20 hours per week).
- For children from the 40 per cent most disadvantaged families, the optimum trajectory for formal ECEC use would appear to involve an early start (a mean of 10 hours per week starting at some point up to age 2) combined with high use of formal ECEC between age 2 and the start of school (a mean of over 20 hours per week).

The effects of home environment

- Home environment factors, including the quality of the parent/child relationship exert a considerable influence on children's cognitive, socio-emotional and educational outcomes during reception / school year one.
- Higher home learning environment scores, lower levels of household chaos, higher levels of parental limit setting and higher levels of warmth in the parent/child relationship were generally associated with better outcomes on the EYFSP measures. Higher home learning environment scores were also associated with better verbal ability.
- Higher levels of household chaos were associated with poorer outcomes on all EYFSP measures during reception

and with poorer outcomes on almost all socio-emotional measures.

- Higher parental psychological distress was associated with lower child sociability.
- Higher levels of limit setting were associated with better outcomes on all EYFSP measures, with the exceptions of Personal, Social and Emotional Development and numeracy, and with better verbal and non-verbal ability. In contrast, higher levels of limit setting were also associated with higher externalising behaviour and with lower emotional self-regulation. In interpreting these negative associations, it is possible that poorer socio-emotional outcomes may be a consequence of higher limit setting, but also that the higher limit setting may be a response to children's challenging behaviour.
- Higher levels of warmth in the parent / child relationship were associated with better outcomes on all EYFSP measures and with better verbal ability. Higher levels of warmth were also associated with better outcomes on all socio-emotional measures.
- Higher levels of invasiveness in the parent / child relationship were associated with poorer outcomes for EYFSP communication and language.
- Higher levels of authoritarian parenting were associated with lower verbal ability, but higher levels of permissive parenting were associated with poorer outcomes for EYFSP literacy and numeracy, EYFSP good level of development and EYFSP total score.

Demographic factors

- The largest effect on BAS verbal ability during school year one was a positive association with the mother's educational level.
- Verbal ability tends to be lower where there were 3 or more siblings living in the same household as the child and where the family lives in a deprived area. It tends to be higher for girls than for boys and higher where the mother was older.
- The largest association with children's externalising behaviour during school year one was for child's gender, with girls being lower. Externalising behaviour tended to be higher for children from disadvantaged families and lower where the mother was older.
- The largest association with children's internalising behaviour scores during school year one was the mother's education, with higher levels of maternal education being associated with lower levels of children's internalising behaviour.
- Children's CSBQ (Children's Social Behaviour Questionnaire) sociability scores during school year one were linked to demographic and home environment factors. The largest effect was an association with parental social class: children's sociability scores tended to be lower where parental SES (socio-economic status) was professional / managerial.
- Demographic factors associated with higher levels of child's sociability were coming from a working household, the child's being female, the child being older in his / her school year and the child's having a higher birth weight. Children's sociability tended to be higher where the parent/child relationship exhibited higher levels of warmth.

The full document can be downloaded from:

<https://www.gov.uk/government/publications/early-education-and-outcomes-to-age-5>