
PARENTING BEHAVIOURS AND CHILDREN'S DEVELOPMENT FROM INFANCY TO EARLY CHILDHOOD: CHANGES, CONTINUITIES, AND CONTRIBUTIONS

*Leslie Morrison Gutman and Leon Feinstein
Centre for Research on the Wider Benefits of Learning*

Introduction/Background

There is already a considerable body of research on the relationship between parental behaviour and child development. However, there are many complexities to this relationship which remain only partially addressed, in particular:-

- How it changes over time
- To what extent and how parental behaviour affects contemporaneous child development, compared with development after a period of time
- Whether parenting behaviour is itself affected by and responsive to child development

Using data from the Avon Longitudinal Study of Parents and Children (ALSPAC), we therefore examined how children develop, how parenting behaviours change as children mature from infancy to early childhood, and the relationships between parenting behaviours and children's development. The latter we considered in three dimensions:-

- Concurrent relationships (i.e. effects on child development occurring at the same time as the observed parental behaviour)
- Future relationships (i.e. effects on child development occurring later than the observed parental behaviour)
- Bidirectional relationships (i.e. not only the effect of parenting behaviour on child development, but the reciprocal effects of child development on later parenting behaviour).

This research also investigated whether individual characteristics of socioeconomic status moderated (i.e., strengthened or weakened) these associations. Such information is important in determining the timing and effectiveness of parenting interventions as well as how they may vary according to the economic and educational circumstances of the families themselves.

Key Findings

Socioeconomic Effects on Parenting Behaviour

Mothers with higher levels of education and greater family income interacted more with their children, engaged their children in more outside activities, and provided more stimulation and teaching in the home environment.

Parenting Behaviour: Impact on Child Development

Parenting behaviour was related to child developmental outcomes. Controlling for other observed factors we found:-

- The frequency of mother-child interactions was significantly related to higher scores for children's **future¹ fine and gross motor development**.
- A more stimulating home environment was significantly related to higher scores on children's **concurrent social and fine and gross motor development**.
- Greater use of outside activities was significantly related to higher scores for children's **concurrent and future social and fine motor development**.

Moderating Factors

Some of the relationships were altered, or moderated, by socio-economic factors:-

- Maternal education had a particularly marked effect on the relationship between parenting behaviour and child development. In general the effect of parenting was stronger (i.e., more positive) for children of mothers with low levels of education.
- However in home environments where mothers provided more stimulation and teaching, child development on all measures was generally higher, regardless of maternal education level or economic circumstance.

Reverse Effects: Child Development and Its Impact on Parenting Behaviour

Parenting behaviour was found to be responsive to some aspects of child development, but the effects of child development on parenting were much smaller than those of parenting on child development.

Early Development: Relationship to School Attainment

Children's social development, fine motor development, and gross motor development at 42 months significantly related to children's key stage 1 scores in reading, writing, spelling, and mathematics. They explained relatively little of the variance in KS1 scores, however, suggesting that other aspects of cognitive development play a

¹ Future development here refers to development 12 months after the parental behaviour was measured.

larger role in determining school achievement.

Methodology

The Avon cohort data (ALSPAC) is an ongoing longitudinal study that includes families representing all demographic characteristics. The study includes 12,500 families and children born in the Avon area between 1991 and 1992. For the specific parenting behaviours and children's outcomes examined in this report, there were between 7,000 and 9,000 parents and children studied due to missing data. The researchers examined the sample characteristics of those who dropped out of the study and those who remained, but there was no sample bias. However, there is an under-representation of single parents in the ALSPAC sample and therefore the results for this group should be interpreted with caution.

Once the date of birth of the child was entered on the database, questionnaires were sent out at intervals specific to the child's age. Mothers completed questionnaires for themselves, for the household, and for the child. The following study used multivariate techniques to examine measures related to socioeconomic characteristics, parenting behaviours, and children's development. Socioeconomic characteristics including partner status, maternal education (by level of qualification), family income, and mother's working status were measured when the child was 18 months of age. Parenting behaviours and children's development were measured when the child was 6, 18, 30, and 42 months of age with the exception of mother-child interactions which was obtained at 6, 18, 38, and 42 months of age.

Parenting behaviours measured included:-

- **Mother-child interactions.** This measured one-to-one interactions such as the frequency with which mothers cuddled with, and read books to, their child
- **Outside activities.** This measured the extent to which mothers engaged their children in outings such as going to the shops and to the park.
- **HOME.** A measure of the amount of stimulating toys and objects in the home environment as well as the teaching behaviours of the mother. This was based on a widely used standard

measure known as the HOME (Home Observation for Measurement of the Environment) score.

Children's development included measures of social development, measured by both social interaction and socially appropriate behaviour (e.g. using a knife and fork), fine motor development including the ability to use a pencil and to pick up small objects, and gross motor development, including the ability to throw and kick a ball, and climb stairs.

Main Findings

Parenting Behaviours: Changes Between 6 and 42 months (3 years)

There were changes in levels of parental engagement with their children across time, with levels of mother-child interactions increasing from 6 to 38 months and then remaining fairly stable from 38 to 42 months. Levels of educational and stimulating behaviours in the home increased between 6 and 30 months before stabilizing from 30 to 42 months. However, the level of outside activities decreased over the same time period, falling markedly between 6 and 18 months before recovering slightly.

In line with other research, we found that mothers with higher education and family income levels reported more interactions with their children, undertook more outside activities with them and provided more stimulating home environments than mothers with less education and lower household income. Patterns also differed for mothers who worked and mothers with partners, both reporting lower levels of outside activities. These differences were evident from infancy to early childhood.

Children's Development: Changes Between 6 and 42 months (3 years)

As expected all the development measures showed an increase across time as children matured from infants to young children, although development on all measures stabilized at some point between 30 to 42 months-of-age. This reflects the uneven nature of child development generally, with periods of progress in skill acquisition followed by periods of consolidation.

Socioeconomic characteristics such as income had varying relations with children's development. For the most part, these socioeconomic differences were small and diminished as children approached early childhood.

The Effects of Parental Behaviour and Engagement on Child Development

The table below summarises the relationships for the sample as a whole. The figures show the unit increase in the development outcome for each unit increase in the measure of parental behaviour. Thus, increased parental engagement appears to have positive effects on children's development, but different parenting behaviours had different relations depending on the outcome and time frame examined.

Child outcome \ Parenting Behaviour	Social	Fine Motor	Gross Motor
Mother-Child Interactions		Positive future effect (0.71)	Positive future effect (0.66)
Outside Activities	Positive concurrent (0.69) and future (0.81) effect	Positive concurrent (0.85) and future (1.38) effect	
Stimulating Home Environment (HOME)	Positive concurrent effect (0.21)	Positive concurrent effect (0.18)	Positive concurrent effect (0.28)

As we can see, the level of mother-child interactions did not have significant relationships with any of the child concurrent development measures but did have an effect on the later development of fine and gross motor skills suggesting that the response to this form of parental engagement manifests itself over time.

In contrast, the home environment had a significant relation with children's concurrent social development, fine motor development, and gross motor development. However there were no significant future associations. This suggests that relation between the home environment and children's development occurs contemporaneously rather than at a later point in time. The effects of

this type of parenting behaviour are smaller relative to those for outside activities and mother-child interactions. This is perhaps not surprising, given that we might reasonably expect the provision of a stimulating home environment to benefit thinking and reasoning skills rather than the types of development outcome measured here.

Children whose mothers engaged them in more outside activities had substantially higher levels of both concurrent and future social and fine motor development.

Moderating factors

Many of these relationships were altered or moderated by other factors. The table below shows which relationships were affected by different factors.

ME = maternal education level; WS = maternal working status; FI = family income level;

Child Outcome \ Parenting behaviour	Social		Fine Motor		Gross Motor	
	Concurrent	Later	Concurrent	Later	Concurrent	Later
Mother-child interactions	FI		ME	ME	ME WS	
Outside activities	ME WS	ME	ME	ME		ME
Stimulating home environment (HOME)					WS	

Where cells are shaded, a significant positive relationship exists between parenting behaviour and child outcome for the sample as a whole.

The table clearly shows the importance of the level of maternal education in moderating the relationships between parenting behaviour and child development, many relationships were stronger (i.e., more positive) for children of less qualified mothers, namely:-

- mother child interactions and future fine motor development

- outside activities and social development (both concurrent and future)
- outside activities and fine motor development. (both concurrent and future)
- outside activities and future gross motor development

There were a few instances of moderation that strengthened a negative, concurrent relationship for more advantaged children. Although non-significant for the sample as a whole, the concurrent relationship between mother-child interactions and motor development became more negative for children of higher qualified mothers. In another instance, a positive but non-significant relationship between mother-child interactions and social development became negative with increasing family income. This may be a result of the contemporaneous nature of the analyses and may be an indication that parenting behaviour is responsive to the needs of the child. Parents who have more resources (i.e., more education and more income) may be able to provide more one-to-one interactions with their children if they have more difficulties.

The working status of the mother also had an effect on development, with the relationships between mother-child interactions and gross motor development and between the home environment and gross motor development being stronger for children of non-working mothers. This finding may result from the likelihood that children whose mothers are working spend more time in environments other than the home due to child care arrangements.

The positive relationships between the provision of a stimulating home environment and the various child development outcomes were constant across socioeconomic indicators (with the exception of working status and gross motor development). This finding suggests that children whose mothers provide more stimulating environments and teaching behaviours in their home also have more positive developmental outcomes, regardless of their family income and education level.

Reverse Relationships: Effects of Child Development on Parenting Behaviours

In addition to examining the effects of parental behaviour on child development, we also looked at the reciprocal relationship (i.e., the effect of child development on parenting behaviour). Here we found relationships between children's fine motor development and later levels of both mother-child interactions and HOME score. This finding suggests that mothers may respond to children's developing needs and abilities particularly in the area of fine motor development by providing more one-to-one interactions with, and more stimulating home environments for, their child at a later point in time. However, these effects were small.

There was no evidence that children's social development or gross motor development were related to later parenting behaviours and it seems likely therefore that parents respond more contemporaneously to these aspects of children's development.

Longer Term Effects and Signals

In order to determine the effects of these relationships on academic achievement, we tested whether these measures of children's development were related to later school outcomes. Further analysis showed statistically significant relationships between children's development at 42 months and their school attainment at key stage 1. The amount of variance for each child development indicator, however, was fairly small (between 1 and 3%) suggesting that other aspects of development may play a larger role in determining school achievement.

Conclusions and Implications

This project paints a picture of the complexity of the relationships between parenting behaviour and children's development. In general terms, a more engaged parenting style has benefits for children's development, but different aspects of parenting behaviour have different effects, and while some appear to have immediate impact, (e.g. the provision of a stimulating home environment), the positive effects of others, such as the general level of mother-child interactions, only manifest themselves over a period of time. Therefore, interventions that encourage continuous engagement may prove to

be more successful than those that focus on isolated incidents of engaged parenting.

There are important differences in parenting behaviour and its relationship to child development across socio-economic groups. In particular, mothers who have more education provide more interactive parenting both inside and outside of the home than their contemporaries with less education. A good level of education is therefore not only important for the individual, but also for their family and may have effects across generations. Additionally, where a good level of maternal education is lacking, the effects of parenting style appear more marked, with a strengthening of the relationships between some aspects parental behaviour and several child developmental outcomes. If we consider the mechanisms which might be at work here, we might suppose that higher levels of maternal education signal environments which offer a protective effect. Where this protective effect is absent, parenting behaviour becomes more important. Therefore, interventions which target mothers with less education may be more effective in promoting children's positive development. As our study indicates, such interventions may have both concurrent and long-term relations with children's later development and these associations may even extend to children's key stage 1 scores.

Thus, in conclusion, we suggest that interventions might be most effective when they (1) consider how to target mothers on basis of educational background, which may be a more discriminating indicator than merely income or work status; (2) encourage continuous engaged parenting from infancy to early childhood; and (3) focus on increasing parental engagement early in infancy.

Additional Information

To obtain the full report, visit the web-site: www.learningbenefits.net. This report can be freely downloaded. The web-site contains details of how to order a hard copy. . ISBN 978-0-9552810-2-0

Copies of this Research Brief (RC001) are available free of charge from DfES Publications, PO Box 5050, Sherwood Park, Annesley, Nottingham NG15 0DJ (tel: 0845 6022260). DfES Research Briefs and Research Reports can also be accessed at www.dfes.gov.uk/research/

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