

What About The Children?

RESEARCH SUMMARY



The contribution of early language development to children's emotional and behavioural functioning at 6 years: an analysis of data from the Children in Focus sample from the ALSPAC birth cohort

Clegg, J., Law, J., Rush, R., Peters, T.J. and Roulstone, S. (2015).
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Researchers working on child development and behaviour have often observed that children who have difficulty learning their own language may also have emotional and behavioural problems. This overlap has been observed both ways – that is, studies of language in early childhood have noted that difficulties there may lead to behavioural problems and those of children with emotional or behavioural problems have noted links with communication difficulties. However, researchers in this field do not agree whether the link between poor communication and poor behaviour is strong or weak, and many of the studies are of small numbers of children where such links are difficult to justify.

All these observations are based on clinical studies of children whose communication and/or behavioural difficulties had already attracted the attention of experts. There is no evidence yet to suggest that this association would persist in a general population of children, most of whose development would be placed in the “normal” range. Judy Clegg from the Department of Human Communication Studies at Sheffield University and co-workers from Newcastle, Edinburgh and Bristol set out to discover whether there is a link between early language skills and behaviour using over a thousand children chosen at random from a larger study of those born in the early 1990s.

The Avon Longitudinal Study of Parents and Children (ALSPAC) recruited children born to mothers whose pregnancy was registered in the county of Avon in 1991 and 1992 into a wide-ranging study of child development. Some children within this study were chosen at random to form the Children in Focus (CiF) sample, and these were examined closely three times during the first year and then at six-monthly intervals until the age of five. The ALSPAC cohort included about 14,000 children, 1,314 of whom were selected for the Children in Focus studies.

Clegg and her co-workers used questionnaire data supplied by all mothers in the ALSPAC group and results from examining the CiF subset to assess these children for language development at the ages of two and four, and for emotional development and behaviour at six. Parents of all two-year-olds in the larger study were asked how many out of a list of 123 simple words their children could say (i.e. their expressive vocabulary); how many of the same words they could understand (i.e. receptive vocabulary); and whether, and to what extent, they had begun to join words together logically (expressive grammar). The researchers combined this data from the CiF subset with observations of the extent to which each child was able to respond to and carry out spoken tasks. Four-year-olds were assessed using a combination of a similar test with a test of expressive language known as the ‘bus story test’. In this, children are told a simple story about a bus and then asked to re-tell it. Each child’s narrative is scored for both language complexity and information content. The researchers also recorded a set of other variables that might affect development for each child. These included general intelligence; biological variables, such as the child’s gender, birth weight and

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whether the mother had smoked during pregnancy; and a score for 'social risk' that combined factors related to deprivation.

The children's behaviour at the age of six was scored using a questionnaire that rates them for difficulties with emotion, conduct, hyperactivity and interaction with their peers, and, using reverse scoring, for pro-social behaviour. After combining all the scales, a total of 4.32% of the children were found to score in the abnormal range, and 5.02% to be on the borderline between normal and abnormal; these percentages are comparable to those obtained in similar studies.

The researchers then analysed all the data to investigate which of the language-based and other variables seemed to be associated with differences in the children's emotional development and behaviour as six-year-olds. They found that when each of the variables was assessed individually, without taking any of the others into account, twelve of the 15 variables seemed to have some association with behaviour. The three variables with no measurable affect on behaviour were the number of children in the family; the child's precise age; and the information content of language at age four, measured using the 'bus story test'. In contrast, the strongest associations with behaviour were seen with general intelligence, social risk, all the language variables measured at the age of two and the other language variables measured at four.

Clegg and her co-workers used a technique called multivariate analysis to combine the variables in different ways, to see which variables were dependent on others and which made the most important contribution to the children's behaviour. The final model included only two of the language variables: expressive (spoken) vocabulary at the age of two and receptive (understood) vocabulary at four. Three biological variables – gender, smoking during pregnancy and birth weight – were also found to be important. Interestingly, although social risk seemed to be very important when the variables were considered separately, it did not make a significant contribution to the final model. The researchers found that a combination of these three biological factors with receptive vocabulary at age four alone could account for 11.6% of the difference in behaviour recorded in this fairly representative sample of 1,314 six-year-old children.

These findings suggest that pre-school language development plays an important, but not a critical, role in determining a child's behaviour at the time they enter school. Interestingly, the nature of the relationship between language and behaviour seems to change with age, with expressive language at the age of two and receptive language at four being more strongly linked to behaviour than the other language variables. Receptive, or understood, language in the later pre-school years seems to be the aspect of language that is most closely linked to behaviour. Although many other factors are clearly involved, poor vocabulary development seems to be an important marker for children who are at risk of emotional and behavioural difficulties at the time they enter school.

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