

The Early Language in Victoria Study (ELVS): a prospective study of emerging communication skills in 8 and 12 month old infants.

Professor Sheena Reilly
Royal Childrens Hospital, Murdoch Childrens Research Institute, Associate Dean
(Research), La Trobe University, VIC, 3086. Australia
S.Reilly@latrobe.edu.au

Assoc Professor Edith Bavin
School of Psychological Science , La Trobe University, VIC, Australia. 3086.
E.Bavin@latrobe.edu.au

Ms Yin Barrett
Speech Pathology Department, Royal Childrens Hospital, Parkville, VIC, 3052. Australia
yin.barrett@mcri.edu.au

Dr Lesley Bretherton
Psychology Department, Royal Childrens Hospital, Parkville, VIC, 3052. Australia
lesley.bretherton@rch.org.au

Dr Patricia Eadie
School Human Communication Sciences, La Trobe University, VIC, 3086. Australia
P.Eadie@latrobe.edu.au

Professor Margot Prior
Department of Psychology
University of Melbourne, VIC. 3010. Australia
priorm@unimelb.edu.au

Assoc Professor Melissa Wake
Centre for Community Child Health, Royal Childrens Hospital, Murdoch Childrens
Research Institute, Parkville, VIC, 3052. Australia
melissa.wake@rch.org.au

Dr Joanne Williams
Centre for Community Child Health, Royal Childrens Hospital, Murdoch Childrens
Research Institute, Parkville, VIC, 3052. Australia
Joanne.Williams@mcri.edu.au

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Abstract

The importance of identifying children at risk for language delay can result in appropriate early intervention. Previous research has suggested that predictors for language delay can be identified in the first year (eg, Smith, 1998), and that gesture use is a good predictor of later language (Thal, Tobias & Morrison, 1991). Late talkers are at risk for language impairment; however, while some late talkers identified at age 2 are impaired in language at age 4, not all are (Rescorla, Roberts & Dahlsgaard, 1997).

In 2003, The Early Language in Victoria Study (ELVs) commenced in Melbourne, Australia. ELVs was funded by a 5 year grant from the National Health and Medical Research Council. ELVS is cross-disciplinary (speech pathology, psychology linguistics, paediatrics, epidemiology) and cross institutional (the Royal Children's Hospital, the Murdoch Children's Research Institute, La Trobe University, and the University of Melbourne).

ELVs is a prospective, longitudinal study of 1917 children (973 boys and 944 girls). The main aim of the study is to investigate if risk factors for language delay at four years can be reliably identified at 8, 12, 24 or 36 months. Infants were recruited through Maternal and

Child Health Centres in six districts of Melbourne; these represent three socioeconomic levels. At 8, 12, 24 and 36 months parent completed questionnaires will be mailed to all participating families. When the children are aged 4 years, all will have a face-to face assessment of their language development using standard assessment tools. Information has been and will be collected on communication and social-emotional development, developmental status, family background, parent-child interaction, family history of language difficulties, as well as general indicators of health and well-being.

This paper will focus on the communication skills of Australian infants at 8 and 12 months as measured by the Communicative and Symbolic Behavioural Scales Infant Toddler Checklist – CSBS (Wetherby & Prizzant, 2002). Comparison of communication development across the first 2 time-points will be compared via item analysis of the CSBS Infant-Toddler checklist. The proportional change calculated for each item will be reported. In addition, a range of biological and demographic will be examined in relation to communication skill at 12 months. The biological (eg. prematurity, singleton vs twin births) and demographic characteristics (eg. Maternal education, Maternal health and well-being, non-English speaking backgrounds) of the cohort will be described.

At 8 months of age Australian infants were using a variety of communication skills. The majority of infants were able to effectively use a range of social communication strategies (eg emotional indicators and eye-gaze to communicate). Gestures were emerging but for a smaller proportion of the cohort (4.9% - 45.1% across 5 indicators). Early indicators of sound development were used by 80%; 31.7% were reported to be using words meaningfully. Rapid progression was noted by 12 months when 95-99% of infants were demonstrating skills across all social composite subscales. All four speech sound development subscale items were reached by almost all the cohort and symbolic items tracking object use and understanding were achieved by 90% of the cohort.

The CSBS composite that demonstrated the greatest development across time was in the Social domain, in particular the subscale, Gestures. The following changes (increases) were noted: 60.9% - 'in pointing to objects', 59% - 'picking up objects and giving them to you', 54.1% - 'waving to greet people' and 43.4% - 'points to objects'. One item on each of the following subscales also demonstrated more than 40% change between 8 and 12 months including; social communication 'tries to get you to notice things; Speech: Words, 'words used meaningfully that you recognise' and Symbolic: Object Use, 'child can stack blocks'.

Data from Australian infants were compared to the United States normative sample and were found to be similar. Australian infants performed marginally better at 8 months.

Mean scores for the CSBS Total and Composite scores were significantly lower in children with a family history of speech, language and literacy problems (M 94.6 SD 13.4) compared to those who did not (M 97.0 SD13.0 $p=0.05$). Twins also achieved lower scores (M 85.0 SD 9.7) than singletons (M 96.7 SD13.1 $p=0.05$) and boys lower scores (M 94.1 SD12.4) than girls (M 98.7 SD13.4 $p=0.05$).

The results demonstrate evidence of significant measurable change in social communication, particularly gesture in a critical 4 month development period. Previously identified variables of interest with respect to language outcomes (eg gender, twinning and family history of speech language and literacy problems) were found to play a role in language development as early as 12 months in this population sample. Of interest was the consistent relationship between performance at 8 and 12 months. The critical tracking of this cohort over the pre-school years will enable us to determine whether these and other predictors are related to later language performance. It is hoped that they will inform early detection and the development of prevention and intervention programs. The value of the current study is its cross-disciplinary approach, scope and depth

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