

Correspondence between direct assessment of speech and language impairment in 4- to 5-year-olds and LSAC measures of parent and teacher reported concern

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Measures of speech and language ability in the Longitudinal Study of Australian Children (LSAC) at age 4-5 years are reliant on parent and teacher reports and a direct assessment of receptive vocabulary. In Wave 1, 25.2% of parents had concerns about how their child talked and made speech sounds, and teachers reported that 22.3% of children were less competent in their expressive language ability than other children of a similar age (McLeod & Harrison, 2009). Although each of these measures is contextually relevant, the use of different questions makes it difficult to assess the correspondence between parent and teacher identification of children with communication difficulties.

Large epidemiological studies often rely on parent and teacher reports alone. It has been suggested that this may misrepresent prevalence rates through failing to identify more subtle impairments (Blum-Harasty & Rosenthal, 1992; Wake & Reilly, 2001) or through over-identifying mild impairments (Whitworth, Davies, Stokes, & Blain, 1993). In LSAC, parent and teacher reports of receptive language ability can be compared with the direct assessment of receptive vocabulary; however, no assessments of speech and expressive language status were conducted.

This poster reports findings from the Sound Effects Study, an ARC Discovery Project which used LSAC measures to identify a sample of 143 4- to 5-year-old children (96 boys, 46 girls) identified by parents and/or teachers as having difficulty talking and making speech sounds. Specifically, it examines the extent of correspondence between direct assessment of speech impairment and identification by parents, teachers and children.

Method

Speech pathology assessment

- 143 children were assessed

Measure

Diagnostic Evaluation of Articulation and Phonology - Phonology subtest (DEAP; Dodd, Hua, Crosbie, Holm & Ozanne, 2002)

- Standardised assessment that provides normative data for children aged 3;0-6;11 years
- Comprises 50 coloured pictures for children to label, such as "biscuits" and "elephant"

- Enables calculation of the percentage of sounds that the child produces correctly

Procedure

- Assessments conducted by qualified speech pathologist at 33 early childhood centre
- Child accompanied by familiar adult

Number of children identified

- 88.8% (127/143) were identified with speech impairment via direct assessment of percent phonemes correct

Parent report

- 138 parents completed screening questionnaires

Measure

Parent Evaluation of Developmental Status (PEDS; Centre for Community Child Health, 2000)

- Utilised in the LSAC Wave 1 parent interviews to identify concerns about children's communication skills
- Key question: "Do you have concerns about how your child talks and makes speech sounds?"

Number of children identified

- 92.7% (128/138) were identified with speech difficulties via report by the parent



Teacher report

- 29 teachers (17 preschools and 12 childcare centres) completed screening questionnaires for all children

Measures

Parent Evaluation of Developmental Status (Centre for Community Child Health, 2000)

- Key question: "Do you have concerns about how this child talks and makes speech sounds?"

LSAC language competency question

- Key question: "Rate how this child has compared with other children of a similar age over the past few months on expressive language (e.g., using language effectively, ability to communicate ideas)"

Number of children identified

- PEDS: 74.2% (106/143) were identified with speech difficulties via report by the teacher
- LSAC: 57.3% (82/143) were identified with expressive language difficulties via report by the teacher

Child report

- 133 children completed the child questionnaire

Measure

Kiddy-Communication and Attitude Test (KiddyCAT; Vanryckeghem & Brutton, 2007)

- Standardised child-report assessment that provides normative data for children aged 3-6 years
- Comprises 12 yes/no questions, including "Is talking hard for you?" and "Do you think that people need to help you talk?"

Number of children identified

- 27.1% (36/133) were identified with communication difficulties via report by the child



Results and Discussion

Correspondence between direct assessment and parent report

Speech impairment as reported by parent concern (using the PEDS) compared well with direct assessment of speech impairment (using percent phonemes correct). Of the 138 children with parent information, 115 (83.3%) were correctly identified as being assessed as having a speech impairment and a further 3 (2.2%) were correctly identified as having speech within the normal range. The remaining 20 were either incorrectly identified as being of concern (13, 9.4%) or incorrectly identified as being of no concern but assessed as having a speech impairment (7, 5.1%). These results support the use of parent reported concern as a means of identifying children with speech impairment.

Correspondence between direct assessment and teacher report

There was 65.9% correspondence between teachers' and parents' reports on the PEDS and the correspondence between teachers' reports and direct assessment was poorer than for parents' reports. Of the 143 children with teacher ratings on the PEDS, 96 (67.1%) were correctly identified as being assessed as below normal limits and a further 6 (4.2%) were correctly identified as having speech within the normal range. The remaining 41 were either incorrectly identified as being of concern (10, 7.0%) or incorrectly identified as being of no concern but receiving a speech pathology assessment of below normal limits (31, 21.7%).

Similar findings were seen for teachers' ratings of expressive language competence (LSAC): 76 (53.1%) children identified as less competent than others were assessed as below normal limits, and 10 (7.0%) identified as competent were assessed as within normal limits. Of the other 57 children, 6 (4.2%) were rated as less competent but assessed within normal limits and 51 (35.7%) were rated as competent but identified by a speech pathologist as having a speech impairment. These findings suggest that teachers were more likely than parents to fail to identify childhood speech impairments.

Correspondence between child report, direct assessment, teacher and parent report

Not surprisingly, given the small number of children who self-identified having communication difficulties, children's self-reports had low correspondence with direct assessment (22.6%), parents' PEDS reports (24.8%), teachers' PEDS reports (21.8%) and teachers' ratings of competence (21.1%). Two-thirds of children reported communication within the normal range on the KiddyCAT but were assessed as being below normal limits by a speech pathologist or their parents reported concern. Teachers' ratings had a better correspondence to children's self-reports than parents'.

Conclusions

- Parent reported concern for children's speech corresponded most closely to the diagnosis by a qualified speech pathologist of children with speech impairment, with a sensitivity of 83.3%. Applying this figure to the LSAC finding that 25.2% of children were identified by the parent PEDS, it could be extrapolated that 21.8% of 4- to 5-year-old children (83.3% of 25.2%) would be identified with speech impairment on direct assessment by a speech pathologist. Thus, one-fifth of the population of 4- to 5-year-olds requires access to appropriate speech pathology and educational services to minimize the impact of speech impairment on educational and social outcomes.
- Teachers' identification of communication impairment was less effective than parents', and in a significant proportion of cases, teachers failed to identify children who were diagnosed with speech impairment. Given the important role that early childhood services are expected to play in alerting parents and service providers to the need for additional or specialist support, this finding raises questions about the ability of staff to fulfil this role. Professional development for child care and preschool staff should highlight the area of children's speech and language.

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