

PeerJ Review: Early prediction of language and literacy problems: Is 18 months too early?

This study demonstrates that dichotomising 18-month-old children into groups of late talkers (LT) and average talkers (AT) on the basis of parent-reported expressive vocabulary size alone is not predictive, at a group level, of children's longer term language and literacy outcomes. This result is broadly consistent with previous research in this area but importantly also provides new data demonstrating that predicting such outcomes can be improved by waiting until children are older — a finding that perhaps isn't surprising but one that nonetheless needed to be demonstrated empirically. For these reasons, I would like to see this paper published in a revised form, and invite the authors to consider the following points, which I believe will result in a stronger paper.

Introduction

line 18: Consider replacing the term 'infants' with either 'young children' or 'toddlers' throughout to maintain consistency with the literature on this topic. Personal choice, I know, but infants to many people signifies children much younger than those studied here.

lines 38-9: While it seems to be the case that 'the language difficulties of most LTs are short-lived' it certainly isn't true of every LT. Many would argue that research needs to pinpoint with greater accuracy those whose difficulties are not short-lived. Related to this, I suggest adding a qualifier to the end of the sentence on line 58: 'This might be achieved by waiting until later in development, once language may have become stable, or identifying better predictors early on.'

line 89: Clarify what is meant by 'productive vocabulary score'. I took this to mean the number of words produced on the OCDI, as appears to be the case in looking at the OCDI scores in Table 1. If that's right, there needs to be a bit more detail about how those scores were compared to the percentage scores in Figure 5 of Hamilton et al (2000), since they did not report raw vocabulary scores. Please also indicate whether Hamilton's fitted or observed vocabulary data were used to classify your groups.

line 90: If a score of '10 or less' is based on the number of words, then 10 would represent a score of 2.5% (10/404) in Hamilton's Figure 5, placing the highest scoring LTs at or below the 10th percentile. In my view, this is a better way of summarising that groups' vocabulary level than 'at least 1 SD below the mean', which gives a different impression. It is interesting to note that the mean productive vocabulary size of the AT group was about 35 words, which corresponds to about the 50th percentile of the Oxford normative group, but only the 10th-15th percentile of the US norm (Fenson et al., 2007: Table 5.7). I realise that data based on the OCDI cannot be directly compared to data from the US CDI:WG due to differences in the word lists and normative samples, but if we assume that parents are accurate at reporting which words their child can say when their children have such limited vocabularies, and that British and American parents don't differ in that ability, then many of the children in the AT group would be considered to be LTs in the US. Moreover, it appears from Table 1 that nearly all of the children in the study were within or just beyond the 50-word level of expressive vocabulary and therefore present as a reasonably homogeneous group of children, despite the statistical difference. If that argument has any merit, then it stands to reason that at 18 months of age, children with and without language difficulties — yet to be revealed — are not differentiated enough in terms of observable language that predictions can be made about who might have problems down the line.

In the last paragraph of the Introduction, the aims of the study should be explicitly stated and followed by the authors' hypotheses.

Methods

line 116: Measures at Time 2

I was surprised there was no measure of grammatical ability (comprehension or production) at t2, given that it is one of the hallmarks of a language impairment. Can the authors provide a rationale or it not, acknowledge it as a limitation of the present study? The rest of the measures used were appropriate.

There was no report of a priori statistical power in the full sample of 30 pairs. Is it possible that the lack of group differences at t2 might reflect low power? Could this be acknowledged as another study limitation?

Results

line 188: 'outcomes at age 8' should be 'outcomes at age 7' (cf. Table 1)

line 189: I suggest adding 'at the group level' at the end of the sentence.

line 189: 'Children with SLI went on to have lower scores on all outcome measures...' contradicts the next sentence where it is stated 'but not receptive vocabulary, phonological elision, or nonverbal IQ.'

line 197: Consider qualifying the opening sentence of the paragraph by adding 'at 18 months, defined on the basis of parent-reported expressive vocabulary,' between 'status' and 'on'.

lines 205-207: Delete the sentence beginning with 'Thus, identification of...'. It goes beyond the study's data and in any case is not a result, but a policy recommendation and an opinion.

Table 1: If allowed by the journal's editorial style, adding a note below the table indicating what the acronyms mean would make the information clearer.

All Tables: state what standardizer was used in calculating d (i.e., the denominator). It's important that readers know how d was calculated, particularly since paired t-tests were used.

I also suggest three amendments to the Abstract. (1) The conclusion that 'There were no significant differences between the LTs and ATs on any measure...' is not consistent with what is reported in Table 1 unless a qualifier regarding the use of the Benjamini and Hochberg correction is added. (2) Modify the wording of the third sentence from the end to: 'It would therefore not be appropriate to use expressive vocabulary measures alone to screen for language difficulties up to 18 months of age.' (3) Eliminate the final sentence, since it goes beyond the data presented and since the age of children at 'school entry' varies by country.

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