

## **Evaluating models of lexical development in typical and atypical toddlers using CYLEX**

**Introduction:** One of the most influential models of lexical development is the four-stage model proposed by Caselli and her colleagues (2000), aiming to describe the manner in which the composition of children's early lexicons changes as more words accumulate. Although variation in lexical development is considered the norm, these four stages proposed by the model are thought to be universal across children and across languages. However, the model's hypotheses are based on the size of the lexicon, irrespective of age, and no predictions are made for children who develop less quickly than expected, i.e. late talkers. In the current investigation we tested Cypriot Greek toddlers with typical and atypical lexical development and tried to evaluate whether the model's predictions can be applied to both populations.

**Methodology:** we tested 27 toddlers divided in three groups: 9 typically-developing 24-month-olds (TD), 9 24-month-olds who are late-talkers (LT) and 9 typically-developing 14-month-olds, language-matched to the late-talkers (LM). In order to study their language abilities the CYLEX was used, a parental questionnaire designed for Cypriot Greek toddlers. We focused on word production and measured children's total expressive vocabulary, as well as the percentage of the following categories as part of their total vocabulary: Verbs, Nouns, Adjectives, Adverbs, Function Words and Other Words (Routines and Games).

**Results:** A non-parametric Kruskal Wallis test showed that the three groups differed significantly from each other in terms of total expressive vocabulary. Post-hoc tests showed that TDs differed from both LTs and LMs but the two latter did not differ from each other. Also Kruskal Wallis tests showed that the three groups differed from each other significantly in terms of the percentage of Verbs and Nouns in their expressive vocabulary. Interestingly, the percentage of Verbs differed between LTs and LMs, but not between LTs and TDs. Also the percentage of Nouns differed between all groups, with LMs having the highest percentage in their lexicons, followed by TDs and finally LTs. Pearson r correlation investigating the relationship between vocabulary size and the percentage of different categories showed a positive correlation with percentage of Adjectives and a negative correlation with percentage of Other Words.

**Discussion:** these findings are in accordance with the first and second stages of Caselli's model of lexical development. However children who are late talkers pose an interesting challenge to the model, since they seem to have their own peculiar semantic profiles, which differ from their age-matched typically-developing peers. This is also not the result of the size of their lexicon, as the model predicts, since language-matched but younger children show a different profile. Implications for the model, as well as for clinical practice will be discussed.