

# Construction of Serbian Inventory of Communicative and Language Development

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## Introduction

The lack of standardized tests for the assessment of language development is a serious problem for parents, experts, and policy makers in Serbia, because there is no reliable and valid instruments for monitoring and evaluation of Serbian children's development. Our efforts are aimed at building an instrument for the assessment of early Serbian child language on the basis of adaptation of a parent report inventory which is widely in use in different languages – *The MacArthur-Bates Communicative Development Inventories (CDIs)* (Fenson, Marchman, Thal, Dale, Reznick & Bates, 2007).

The aim of this study was to validate The Preliminary Adapted Serbian Version of the MacArthur-Bates Communicative Development Inventory (CDI-I and CDI-II; Fenson et al., 2007).

## Materials and Methods

### Adaptation of MacArthur-Bates' CDIs to Serbian language

- The Preliminary Adapted Serbian Version of CDIs was based on two sources of data:
  1. The Serbian Corpus of Early Child Language (the CHILDES database) used to select and modify the items according to the local language and cultural context.
  2. Focus groups with experts and parents/caregivers aiming at:
    - a. qualitative evaluation of the pre-preliminary versions of the inventories;
    - b. improvement of the parents' understanding of the general instructions and individual grammar-related items;
    - c. ensuring more valid reports on morphological and syntactic properties of their child's language.
- The Preliminary Adapted Serbian Version (Andelković, Ševa, Savić, & Tutnjević, 2017) contains :
  - a. A larger number of items than the original version;
  - b. Some structural changes in the grammar sections;
  - c. Dialogical form of the inventory supporting parents/caregivers in evaluation of morpho-syntactic properties of his/hers child language.

### The Preliminary Adapted Serbian Version of CDIs

#### CDI I - Words and Gestures

Age range: 8-18 months

##### Part I Early Words

- A. First Signs of Understanding
- B. Phrases (28 items)
- C. Starting to Talk
- D. Vocabulary

##### Part II Actions and Gestures

6 sections

- New section about the first combinations of words and gestures

- 20 semantic categories

(19 categories in the original, separated semantic categories with words about locations and prepositions in Serbian version)

- 483 items
- 22% of new items
- 30% items different from the original list

#### CDI II - Words and Gestures

Age range: 19-30 months

##### Part I Words Children Use

- A. Vocabulary
- 20 semantic categories (2 categories: Pronouns and Helping verbs were moved to Grammar section)

- 797 items
- 17.2% of new items
- 27.1% items different from the original list

##### Part II Sentences and Grammar

9 sections

- 8 sections about morphology (instead of 3 from the original)
- The Complexity section was adapted according to morpho-syntactic properties the Serbian language

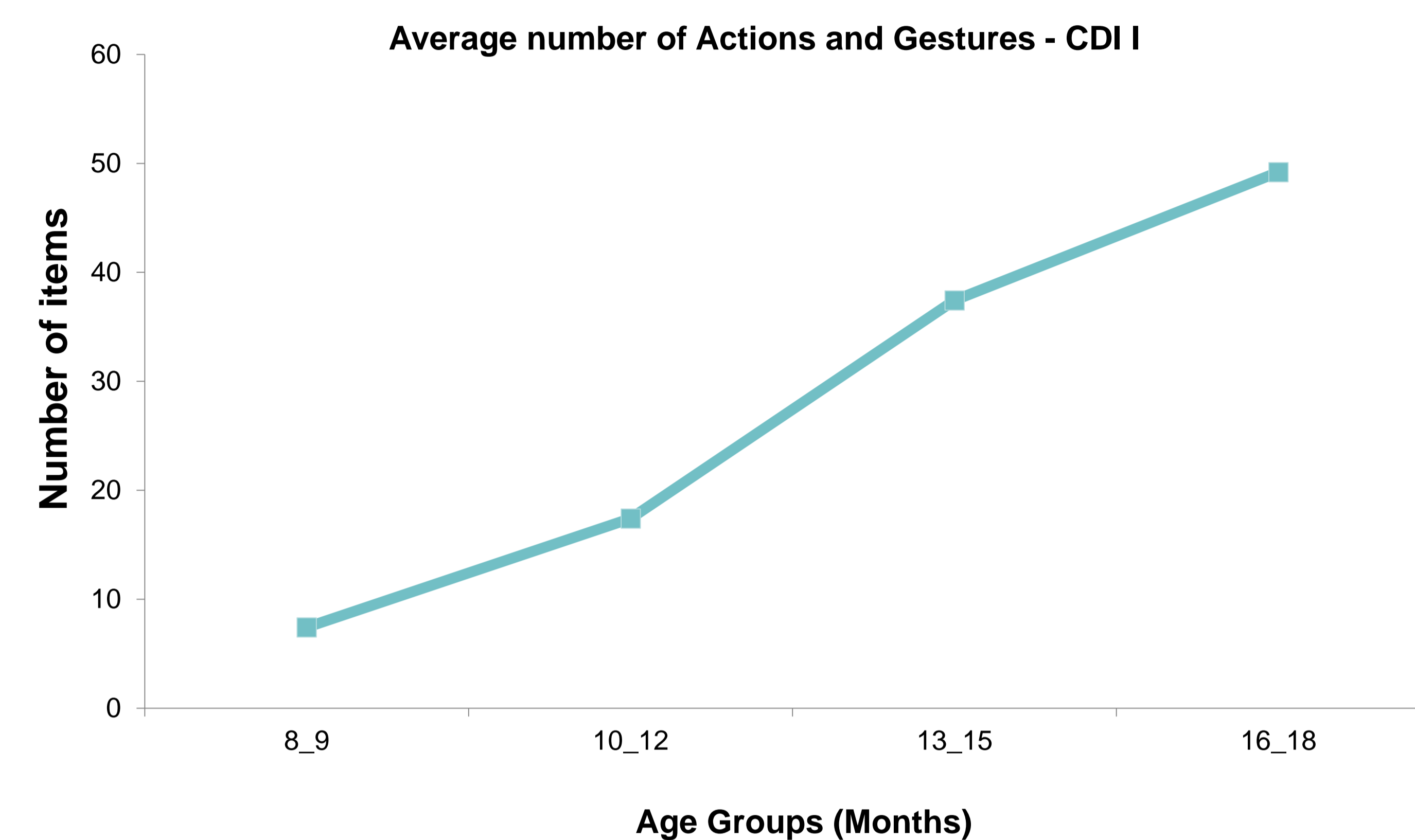
### Sample

A convenience sample of 123 mothers of children aged 8-18 months (N=62) and 16-30 months (N=61). The sample was equally distributed across different age groups (CDI-I: 8-9, 10-12, 13-15, 16-18 and CDI-II: 16-18, 19-21, 22-24, 25-27, 28-30) and gender (59 girls and 62 boys). The majority of mothers had secondary level education (high school) and the rest had higher level education or university. All the parents were from urban areas.

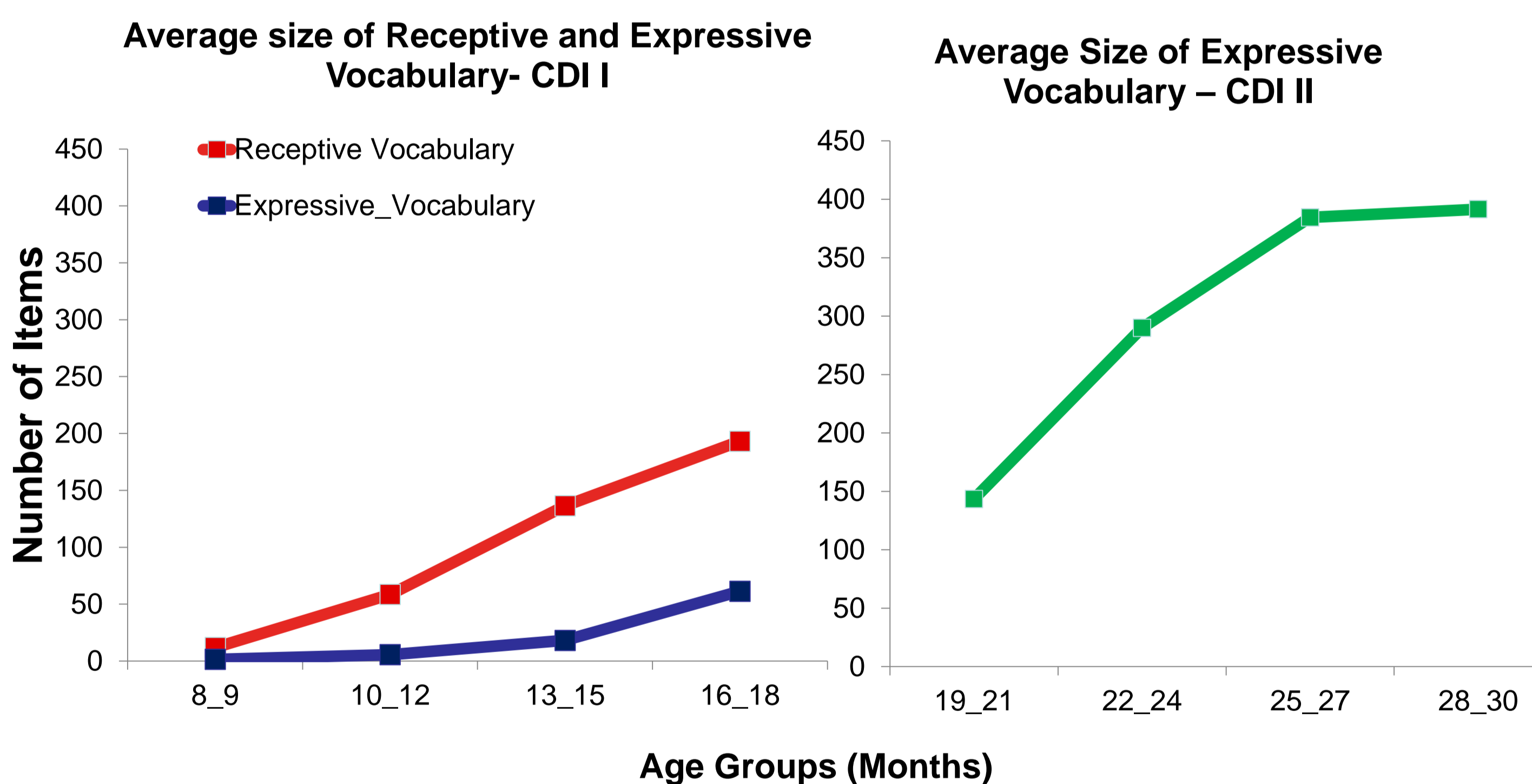
## Results

The results revealed that older children performed better on all CDI subtests, which was also followed by an expectedly increased variability.

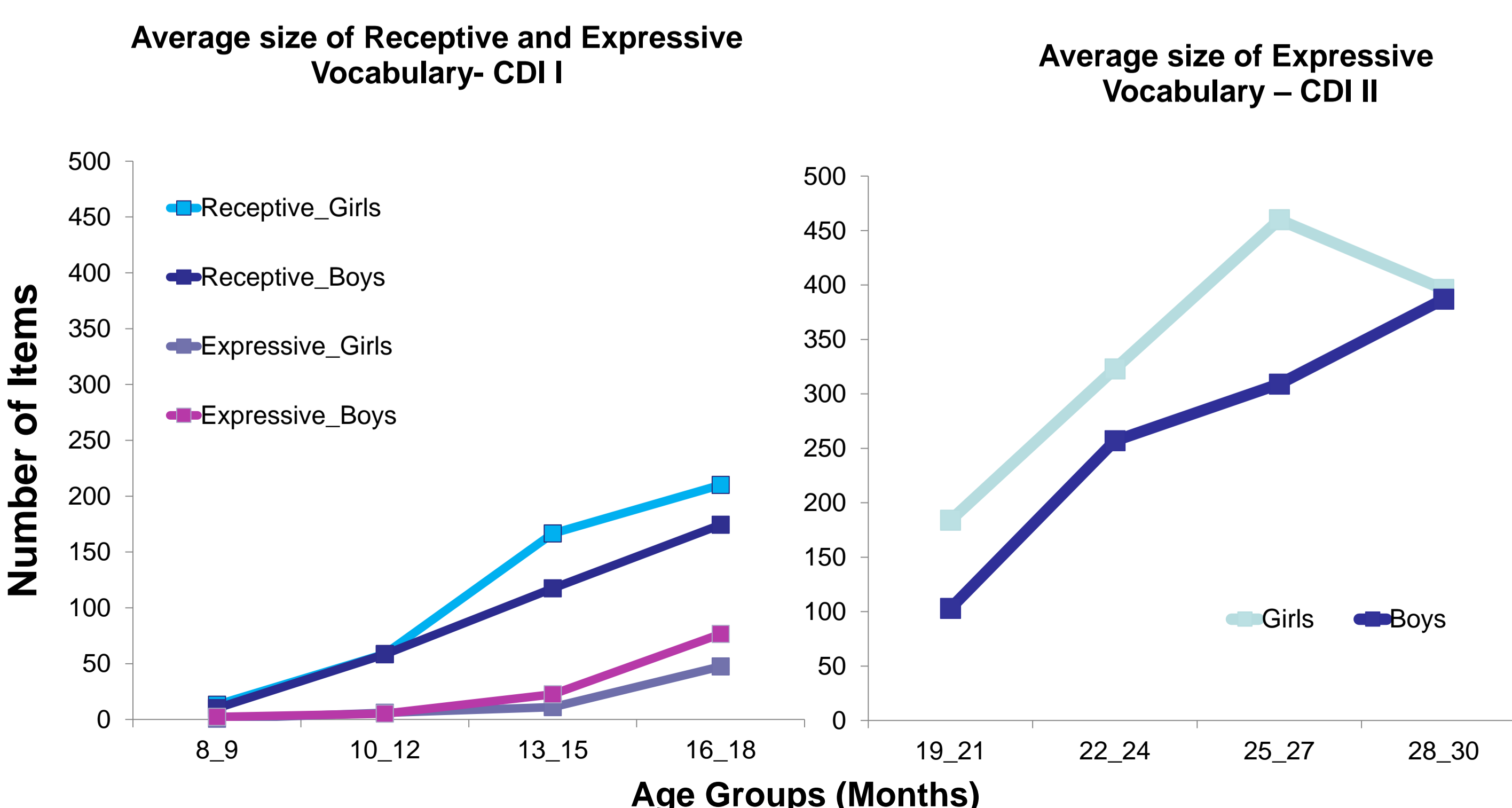
### Actions and gestures CDI-I



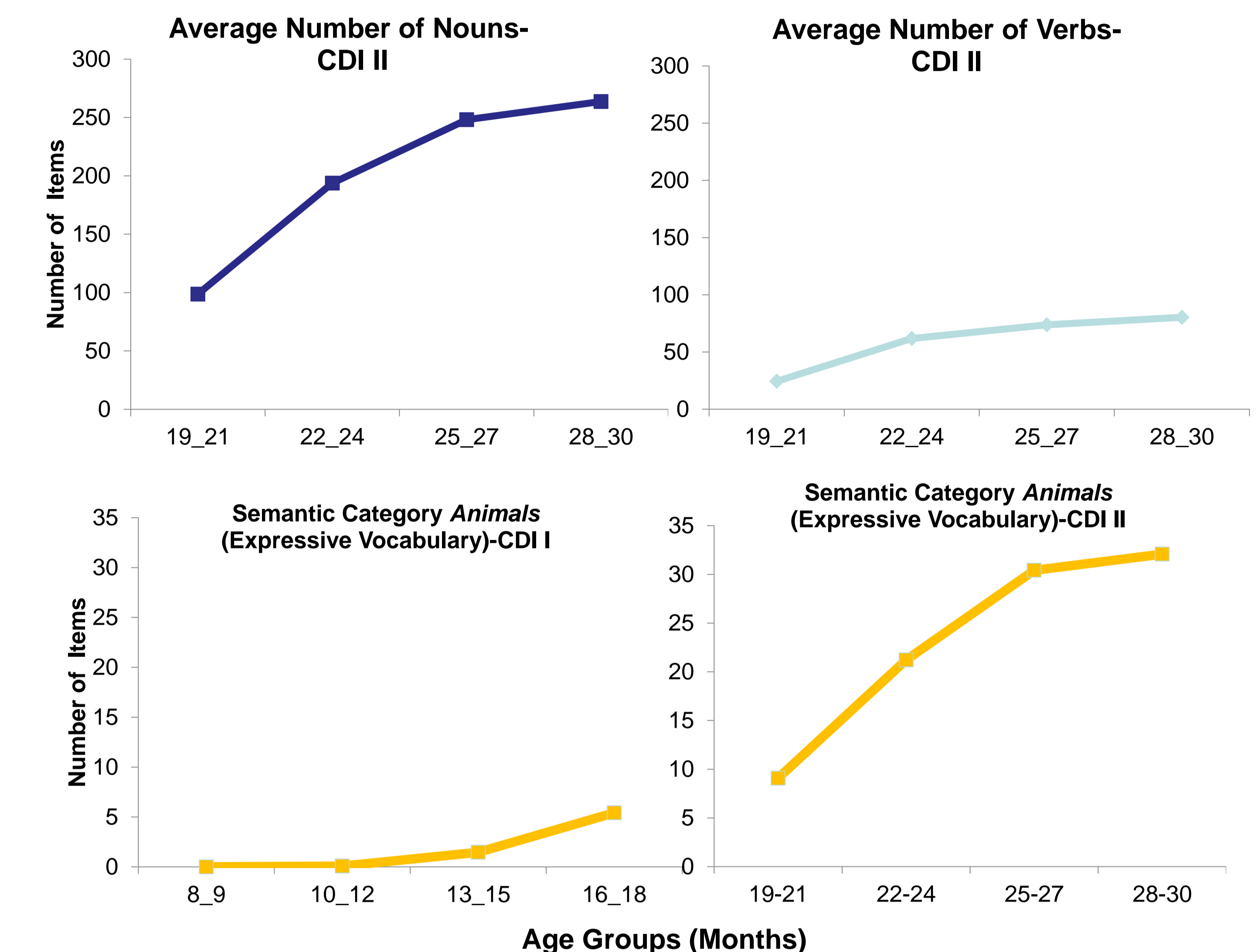
### Receptive and Expressive Vocabulary CDI-I and CDI - II



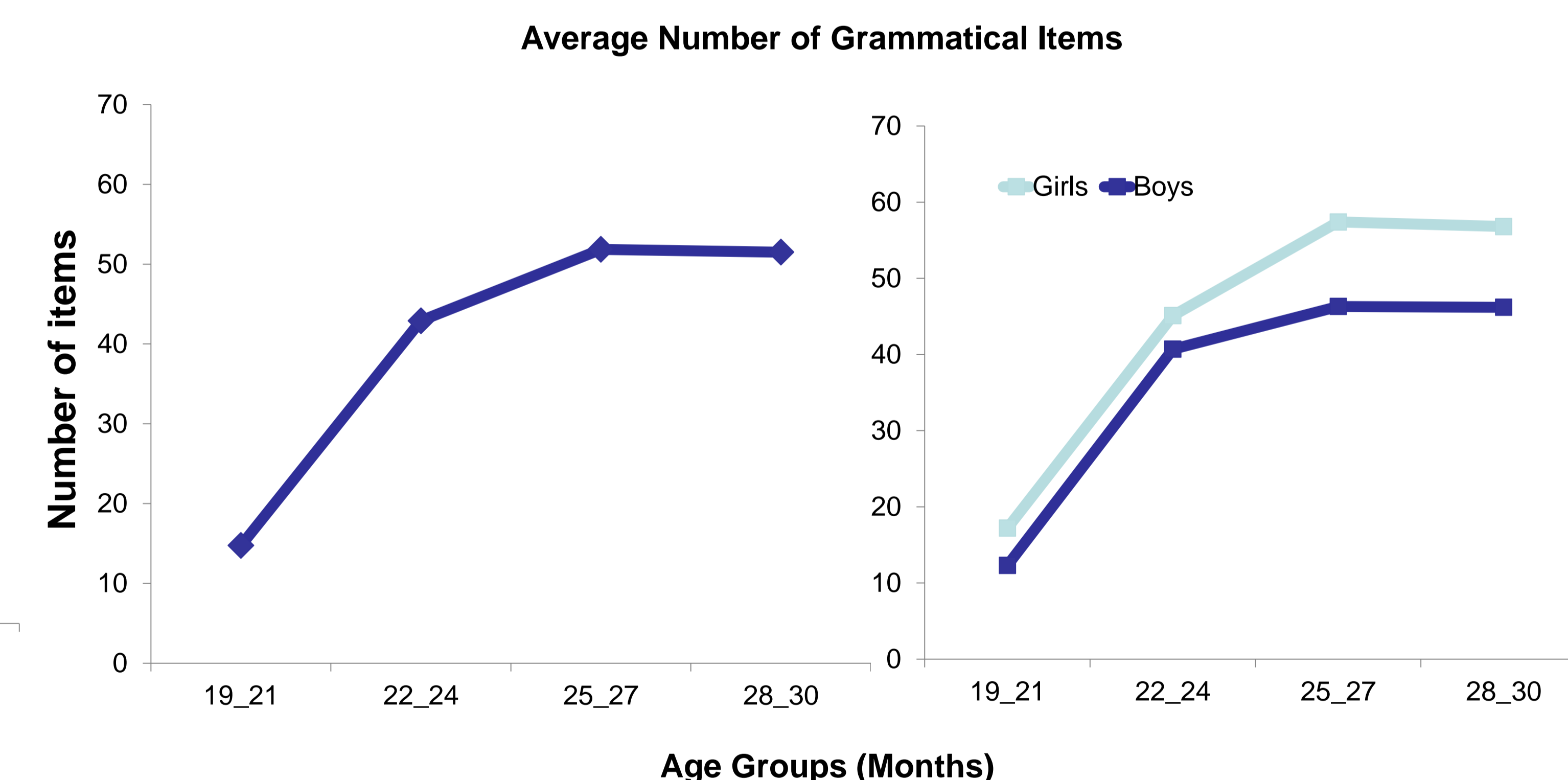
### Girls vs. Boys



### Different Parts of Speech and Semantic Categories



### Grammar CDI-II



## Conclusions and Future Directions

The results showed the stable increase in all indicators of the children's language development which brings the evidence for the validity of both Serbian preliminary adapted CDI I and CDI II scales. Further analysis should provide more detailed evidence on validity and reliability of particular items, which will serve as an empirical evidence for the final selection of items in the construction of Serbian CDI scales.

## Acknowledgments

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