

## Computerized bilingual screenings of Developmental Language Disorder and Developmental Dyslexia in bilingual children

Maren Eikerling & Maria Luisa Lorusso, IRCCS Istituto Eugenio Medea

### Abstract

Distinguishing Developmental Dyslexia (DD) or Developmental Language Disorder (DLD) in bilinguals from variation in language acquisition due to heterogeneous language input challenges clinicians (Grimm & Schulz, 2014). To reliably identify the risk of DLD/DD in bilingual children, both languages spoken should be assessed (see Position Paper MULTI-SLI, 2015). This can be done through computerized screening tasks that are automatically administered in both languages while accuracy and speed are measured (cf. Bigagli & Lorusso, 2014). The MuLiMi web-application has been developed with this aim, in a collaboration between IRCCS Medea and Politecnico di Milano, within the MultiMind project.

Current projects related to MuLiMi focus on a) the evaluation of user-friendliness of the web-application and b) evaluation of its diagnostic accuracy through analyses of the correlations with results in standardized tests and of its capacity to discriminate between typical and atypical development (as emerging from formal diagnoses with the help of parental questionnaires). The child's performance is automatically evaluated and measured based on response times and accuracy.

Among others, screenings for Italian children living in Germany aged 4 to 6 (study 1 on DLD risk) and for 7-9-year-old children (study 2 on DD risk) were created using language-specific and language-universal clinical markers. Based on these, Italian and German screening tasks were implemented on MuLiMi. Additionally, standardized German tests (using bilingual norms where available) were administered. Furthermore, parents as well as Speech and Language Therapists or teachers filled in questionnaires on the child's (language) development. Preliminary results show convergent information from performances in experimental and standardized tests.

Platform features, screening contents and preliminary results will be presented. Implications regarding the potential reduction of misdiagnoses as well as limitations concerning the testing modalities will be discussed.

### References

Bigagli, A. & Lorusso, M. L., (2014). *Predittori della lettura in italiano L2 in bambini di madrelingua cinese*. Lucca, Italy: XXIII Congresso Nazionale AIRIPA.

Grimm, A. & Schulz, P. (2014). Specific Language Impairment and Early Second Language Acquisition. The Risk of Over- and Underdiagnosis, *Child Indicators Research*, 7: 821 – 841.

MULTI-SLI (2015). Position paper on language impairment in multilingual children.  
<http://www.code.thomasmore.be/sites/www.code.thomasmore.be/files/media/Position-statement-MULTI-SLI.pdf> (access 31.03.2021)