Title: Finding the common denominator in the study of bilingual children's language development: morphosyntactic skills measured by sentence repetition tasks. Meta-analysis, method comparison and validation studies.

Whereas it has been widely acknowledged that in order to profile a bilingual child's language development, it is necessary not only to test them in both languages, but also use language assessments that would test the languages in a comparable way (e.g. Antonijevic et al., 2017), it remains disputable what it means to compare one's grammatical proficiency in languages that are structurally different, especially when there are no norms for the specific population (that is, we are not able to reliably say: by the time she is five years old, a bilingual child speaking Polish and English should be able to generate relative clauses in Polish, use correct inflections in English 90% of the time and in Polish 70% of the time, and only occasionally over-regularize the past simple tense forms in English). There is a significant body of knowledge about how the trajectory of monolingual children's development should look like, but this is not very helpful for tracking the development of a bilingual child

Early identification of children with language challenges is crucial for their further well-being and functioning in the society. Children with language challenges who are not identified early or who are misdiagnosed (e.g. instead of diagnosing language impairment, psychologists may suspect autism spectrum disorder), are at high risk of social exclusion, academic difficulties, stigma and violence. Sentence repetition tasks (SRep) have been shown to be a good indicator of language impairments in English and other languages.

When doing a Sentence Repetition Task (SRep), the child hears a sentence that had either been pre-recorded or that is said out loud by the experimenter and is asked to repeat it. The length of the sentences presented should ensure that they are not just memorized and repeated without understanding. The rationale behind the task is that in order to repeat the sentence correctly, the child must first decode its meaning, interpret it and then process the sentence and recreate it using long-term memory, which would not be possible without the access to grammatical structures represented in the given sentence. SRep tasks tap a broad range of language processing skills. In other words, to recreate a sentence of a medium to long length, one needs to know not only vocabulary, but also grammar. Interestingly, SRep, while being used under the same name, have been administered in many different ways by various research teams in many countries. For instance, the number of sentences that are to be repeated by the child range from 20 to 68, there are various grammar constructions, some tasks have been designed with attention to the length and difficulty of the words used, some control for the proportion of the content words to function words, in others the focus was placed on the graphical attractiveness of the task. With such variability, a systematic review of the different versions of the method and an experimental comparison seems pertinent, especially with reference to studies that use more than one version of the task to test grammatical competence in more than one language.

In the project, we will check if non-substantial characteristics of the study procedure, such as the task interface used for specific age groups or the fact that instructions had been pre-recorded vs. read by the experimenter in real time, accounts for some variance in the obtained results. In other words, we will check if we can reliably compare results obtained by children in tests that are considered indicators of their grammatical proficiency, but which are conducted in a slightly different way. Some researchers have decided to gamify the experience of testing. This makes it more attractive for the child and possibly prevents the researchers from losing data caused by the child's low motivation. There are tasks that are richly animated, where the child, while being asked to repeat sentences of gradually increasing morphosyntactic complexity, allows the character to move on in a journey and collect points. In non-gamified equivalents of the tasks, children are asked to repeat sentences as and there is no additional narrative that they are exposed to. We also plan to check the validity of the short version of Sentence Repetition Task (SRep) in Polish that has been designed to be used with bilingual children.

We expect that there will be differences in the results of bilingual children's language development depending on the method of data collection used. Also, we think we fill find a relation between some non-substantial features of the study procedure and the child's score on the SRep task..

Our expectations are based on cognitive load theory which claims that when attempting to solve a problem, people use cognitive resources that are limited. If there is a larger number of parameters that need to be taken into account and processed, the cognitive resources are distributed accordingly and lead to lower performance. Hence, if the child is not only asked to repeat the sentences, but is also focusing on a narrative that is depicted by the task interface, she will have larger cognitive load, and as a consequence the task of repeating complex sentences will seem more difficult. Similarly, if the child, familiarized with a certain voice which reads out the sentences will suddenly hear another voice and will have to use the mental resources to get used to it, this will also lower their performance.