

New perspectives on assessing early language development in mono- and bilingual context: a web-based interactive parental report in a longitudinal study

Children learn the language on the basis of what they hear from their environment. The more parents speak to children and talk with them, the more words the toddlers know (Hart & Risley, 1995; Hoff, 2003). Monolingual children who hear only one language, have a relatively good starting point: typically they have enough language input to acquire the language without any problems. However, the situation of bi- or multilingual children may be more complicated. They hear at least two languages (for instance Polish spoken by parents at home, and Norwegian or English spoken in the society). As a result, the time bilingual children could hear and acquire language is divided between all the languages (two or more) that are used in their immediate environment (McCardle & Hoff, 2006). Although bilingual children are known to be able to cope effectively with this situation (Gathercole, 2018) and may learn two languages despite relatively lower access to each of the languages (Cattani et al., 2014), it is crucial to analyse characteristics of dual language input that in fact enables smooth language development in both languages (Miękisz et al., 2017).

In our project we will investigate how Polish-speaking bilingual children living in Norway and in the UK acquire their languages from the very start of first words production. Specifically, we will explore to how and to what extent the process of bilingual language acquisition differs from language learning in a Polish monolingual context. We will follow the children's language development in their both languages (Polish and either Norwegian or English), starting from their very first words till the age of about three-four years. Our study will make use of professionally designed smartphone application and standardized parental reports delivered online. Through the app, parents will provide the very first words their children produce, as well as their new invented words (coinages) and first multiword utterances. They will also regularly provide information on the languages used in the child's immediate environment. Once a while, the parents will be also asked to assess their child's language development via standard parental questionnaires (*MacArthur-Bates Communicative Development Inventories, CDI-I & CDI-II*). This way we will be able to determine the exact age of first words emergence in bilingual and monolingual children, and relate this information to children's subsequent language development. Importantly, we will be able to look at these results in the view of children's language environment (the amount of quality of language heard by the child), and various social factors (including family socioeconomic status).

In the course of the project we will also design a Polish version of *MacArthur-Bates Communicative Development Inventory CDI-III*, reknown standardized parental questionnaire used for assessment of language skills in children aged 30 - 48 months (two versions of CDI for younger children are already available for Polish, Norwegian and British English). In the case of young children who do not speak a lot yet, it is the parents who are the most reliable source of information about their children's language skills. In fact, parents are highly accurate at determining which words are already known (produced or understood) by their children, and which are yet unknown (Fenson et al., 2007). That is why many researchers use parental reports to measure child's language development across the first three years of life. The new tool will be also designed in a cooperation with our partners abroad with whom we have already obtained the authorization from the CDI Advisory Board (*MacArthur-Bates Communicative Development Inventories; <https://mb-cdi.stanford.edu/>*) - a group of researchers who support designing new CDIs language assessment across various languages.

The international cooperation is crucial for the successful analysis of the language development in the languages of the bilingual children as both languages should be assessed with the use of comparable tools (Armon-Lotem, de Jong, & Meir, 2015). Thus we will collaborate with our research partners in the UK (professors Katie Alcock and Napoleon Katsos) and in Norway (professors Nina Garmann and Hanne Gram Simonsen). Together we will show how to measure and assess early language development in diverse contexts efficiently. This will enhance psycholinguistic theory with regards to exact timing of early language gains (first words and first multiword utterances) in bilingual development and pointing out how social factors influence effective bilingualism at early stages of development. Results of this project may also lay a foundation for further recommendations for parents and professionals on how effectively support early language development in bilingual contexts.