Project 1.13. Neural and cognitive basis of spelling impairment

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www: https://lln.nencki.gov.pl/

Background:

Reading and writing are one of the most important skills learned at the beginning of a formal education process. In Poland around 10% of children have difficulties in learning reading and spelling – they are diagnosed with the developmental dyslexia. What's more around 4% of children struggle with learning good spelling skills. They suffer from so called isolated spelling deficit. Most of previous fMRI studies aimed to discover the neural basis of dyslexia and neural reading network. In this project we want to focus on orthographic deficit that is common for dyslexia and isolated spelling deficit. We aim to establish neural patterns of print processing in children with isolated spelling difficulties and in children with dyslexia. We want to test if the neural basis of spelling deficit is associated with the lower quality of orthographic or phonological representations (that are responsible for processing sounds of words), and what are similarities and differences with the reading deficit (present in dyslexia). Secondly, if spelling deficit is associated with the difficulties in combining phonological and orthographic information, especially in case of more complex rules of integration.

Aim:

We aimed to better understand behavioral and neural characterstics of spelling deficit, present in isolated spelling deficit as well as in dyslexia.

PhD student in cooperation with other team members will be responsible for contact with schools and psychological ceneters, participation in recruitment of participants, conducting fMRI and behavioral testing, data analysis and manuscript preparation.

Requirements:

- Master's degree in psychology, cognitive neuroscience, linguistics, Polish philology or similar
- experience in recruiting and testing shool-aged children in fMRI studies
- knowledge of software for presentation of experimental stimuli (Presentation, E-Prime, Psychopy)
- knowledge of statistical software (SPSS, R)
- advanced spoken and written English and Polish