

## **Bilingual experience, language plasticity and change of reading strategies in Spanish and English: A TBS study**

*Gorana Pobric (University of Manchester), Marc Joanisse (Western University), Jessica Lammert (Western University), Giulia Cortiana (Western University), Scott Perry (University of Alberta), Rrezane Miftari (Saba University), and Yasaman Rafat (Western University)*

In this study, we aim to contribute to our understanding of language plasticity over the lifespan (e.g., Flege, 1995, Lenneberg, 1967; Scovel, 1969) with a focus on bilingual reading, by determining how the L1 and L2 reading strategies of adult English learners of Spanish may change as they become more proficient in their L2. Most evidence for L1 and L2 change in adulthood (e.g., Flege, 1995) has focused on language domains such as phonology (e.g., Chang, 2012; Ulbrich & Odin, 2014; Alkhudidi, Stevenson & Rafat, 2020) and syntax (e.g., Sorace, 2004). We tested 5 adult sequential English-Spanish speakers with 5 adult sequential Spanish-English speakers. We used Transcranial Magnetic Stimulation, specifically Theta Burst Stimulation (TBS) to manipulate the areas of the brain associated with reading. TBS can establish the relative degree of involvement of the parts of the brain correlated with reading in different contexts in our bilingual groups (e.g., Schlaggar & McCandliss, 2007). We will report the behavioural variation (e.g., phoneme errors and stress misplacements) of a sequential English-Spanish speaker in reading strategies of both real words and pseudowords while manipulating the orthographic depth of the stimuli. As such, we will be able to measure the degree of change of language network and reading strategies in the two groups of sequential bilinguals.

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