The Adaptation of an Aphasia Test for Maltese - English Bilingual Adults

Lorraine Vassallo
University of Malta

Dr Ritienne Grima, Dr Claude Julien Bajada & Dr Alexia Rohde
University of Malta, University of Malta & Department of Health, Queensland Health, Australia

Background: Aphasia is an acquired impairment of language resulting from focal brain lesions in the language dominant hemisphere. In bilingual persons with stroke (BPwS), recovery of the two languages can vary discordantly, necessitating comprehensive testing in *both* languages (Paradis, 2014) with a linguistically and culturally equivalent instrument. Failure to assess one of the languages limits accurate evaluation of linguistic competency, and consequently optimal treatment and rehabilitation.

Research statement: A standardised aphasia assessment tool in Maltese is not available. The study aims to linguistically and culturally translate and adapt an aphasia assessment tool for Maltese - English bilinguals. A psychometrically robust Maltese - English Aphasia Assessment (MEAA), normed on the Maltese population, will lead to classification of language impairment in Maltese BPwS.

Method and Approach: The study is divided into three phases: (1) translation and adaptation of the Brisbane Evidence-Based Language Test (Rohde et al, 2020) into Maltese (completed); (2) the pilot [Step 1a, N = 20; Step 1b, N = 20] and normative study [N=80] (currently ongoing); (3) the main study [N =100] during which MEAA will be administered to BPwS (commencing mid-2024). A demographic and language background questionnaire (DLBQ) will determine language history. Performance in both Maltese and English is assessed on MEAA's 49 tasks (5 subtests).

Data: Pilot and normative data will establish norms for healthy bilinguals on the MEAA, together with linguistic equivalence between the Maltese and English versions. Comparative analysis will continue in phase 3: a group of BPwS and a cohort with post-stroke aphasia (BPwA).

Results: Preliminary analysis of the MEAA data provides baseline distribution performance of neurotypical Maltese - English bilinguals. Results reflect the Maltese bilingual scenario: perceptual (English M = 14.44, SD = 2.66/ Maltese M = 14.94, SD = 0.35), auditory comprehension (English M = 31.97, SD = 6.30/ Maltese M = 32.69, SD = 5.87), verbal expression (English M = 79.06, SD = 18.48/ Maltese M = 72.44, SD = 8.95), reading (English M = 33.03, SD = 7.08/ Maltese M = 34.63, SD 4.36), and writing (English M = 26.60, SD = 5.36/ Maltese M = 25.81, SD = 4.35). We intend to investigate correlations between the language background (per DLBQ numeric scores) and the MEAA performance. Overall, we anticipate strong internal consistency and validity among the MEAA tasks. Comparative analysis of post-stroke performance across the subtests in both language versions, will provide insight into the severity level of impairment, effectively detecting aphasia.

References:

Paradis, Michel & Libben, Gary (1987/2014), *The Assessment of Bilingual Aphasia*, Hillsdale, NJ: Lawrence Erlbaum/ London: Psychology Press. https://doi.org/10.4324/9781315802138

Rohde, Alexia, Doi, Suhail A., Worrall, Linda, Godecke, Erin, Farrell, Anna, O'Halloran, Robyn, McCraken, Molly, Lawson, Nadine, Cremer, Rebecca, & Wong, Andrew (2020), Development and diagnostic validation of the Brisbane Evidence-Based Language Test. *Disability and Rehabilitation*, *44*(4), 625–636. https://doi.org/10.1080/09638288.2020.1773547