

# A web-based resource for the assessment of language skills in English and Welsh-speaking adults with neurological deficits

Marie-Joséphine Tainturier<sup>1\*</sup>, Emma K. Hughes<sup>1</sup>, Shannon D. Berry<sup>1</sup> and Daniel Roberts<sup>2</sup>

<sup>1</sup> Bangor University, Psychology, United Kingdom

<sup>2</sup> Liverpool John Moores University, Psychology, United Kingdom

We will present a new web-based resource for the assessment of language disorders in English monolinguals and Welsh/English bilingual adults with neurological deficits. Although both languages are typically affected in bilinguals, few valid tools are available to accurately and comprehensively assess both languages, and none in Welsh-English speakers. This impedes both accurate diagnosis and therapeutic efforts. The goal of this work was to provide a secure user-friendly platform to allow clinicians to administer and score tests on-line or offline. The battery includes 16 different tests developed to measure the same abilities in Welsh and in English and to be of comparable difficulty in the two languages. These tests assess a range of language skills: spoken word production (picture naming, naming to definition, translation, repetition), reading (reading aloud, lexical decision, paragraph reading) and written production (spelling to dictation, delayed copy, written picture description). The tests manipulate and/or control for key psycholinguistic variables (e.g., word frequency, length, concreteness, Welsh-English similarity, grammatical class, lexicality). In the on-line version, all tests are programmed to allow automatic and standardized presentation of auditory or visual stimuli. The program also records oral or written responses and response times for each stimulus, and provide summary scores broken down by stimulus category. Each test package includes: a) an introductory section explaining the test aims and rationale, b) instructions on how to administer the test, c) scoring instructions and scoring sheets and d) performance indicators (e.g., Z-score) based on control data from 120 neurologically healthy participants (40 English monolinguals and 80 Welsh-English bilinguals, broken down by age, language and educational level). The presentation will include demos of the interface and of computerized test administration and scoring. Note that this new resource is suitable for the assessment of both English monolingual and Welsh-English bilingual adults.

## Acknowledgements

We gratefully acknowledge the support of ESRC/MRC Grant ESS/H02526X/1 and of the Bangor ESRC Impact Acceleration Account.

**Keywords:** Aphasia, Language, bilingualism, assessment, Rehabilitation, Web Applications, on-line test, Control Groups, Psycholinguistics, Neuropsychology, Welsh Bilinguals

**Conference:** Academy of Aphasia 55th Annual Meeting, Baltimore, United States, 5 Nov - 7 Nov, 2017. **Presentation Type:** oral presentation **Topic:** General Submission

**Citation:** Tainturier M, Hughes EK, Berry SD and Roberts D (2019). A web-based resource for the assessment of language skills in English and Welsh-speaking adults with neurological deficits. *Front. Hum. Neurosci. Conference Abstract: Academy of Aphasia 55th Annual Meeting*. doi: 10.3389/conf.fnhum.2017.223.00105

**Copyright:** The abstracts in this collection have not been subject to any Frontiers peer review or checks, and are not endorsed by Frontiers. They are made available through the Frontiers publishing platform as a service to conference organizers and presenters.

The copyright in the individual abstracts is owned by the author of each abstract or his/her employer unless otherwise stated.

Each abstract, as well as the collection of abstracts, are published under a Creative Commons CC-BY 4.0 (attribution) licence (<https://creativecommons.org/licenses/by/4.0/>) and may thus be reproduced, translated, adapted and be the subject of derivative works provided the authors and Frontiers are attributed.

For Frontiers' terms and conditions please see <https://www.frontiersin.org/legal/terms-and-conditions>. **Received:** 02 May 2017; **Published Online:** 25 Jan 2019.

\* **Correspondence:** Dr. Marie-Joséphine Tainturier, Bangor University, Psychology, Bangor, Gwynedd, LL57 2AS, United Kingdom, m.j.tainturier@bangor.ac.uk