

Measurement properties of Frenchay Aphasia Screening Test across different languages: A COSMIN systematic review.

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Background: Aphasia is a language disorder that occurs due to damage to the brain; the left side of the brain contributes more towards language. Aphasia may cause problems in understanding, speaking, reading, or writing (American Speech-Language-Hearing Association, 2022a). The main goals of speech therapy treatments are to enhance communication, restore speech and language ability as much as possible, and teach different communication strategies (Schulman, 2020). Frenchay Aphasia Screening test (FAST) is used to identify aphasia (Enderby et al., 1987). The best-evaluated and most widely used aphasia assessment is the Frenchay aphasia screening test (Salter et al., 2006). No matter how valid this original tool is, a systematic review is yet to be conducted collating the psychometric properties of the FAST test across different languages. It is therefore important to summarize the measurement properties in those studies to analyze the methodological quality of those validation studies. It will aid in identifying research gaps and inform future research. The study describes the measurement properties of Frenchay Aphasia Screening Test across different languages.

Objective/s: This systematic review aimed to appraise and summarize the psychometric properties of the Frenchay Aphasia Screening Test across different languages.

Methods: This study was conducted as a systematic review and followed the Preferred Reporting Items for Systematic reviews and Meta-Analysis (PRISMA) 2020 guideline. The study was registered in the International Prospective Register of Systematic Reviews (PROSPERO) (CRD - 383989). Research studies were searched using the following electronic databases: MEDLINE, EMBASE, PsychInfo, AMED, CINAHL Plus, and Web of Science. Reference lists of selected articles were also searched, and a forward citation search was done through Google Scholar. Studies were included if they presented at least one psychometric measurement property described in the consensus-based standards for the selection of health states measurement instrument (COSMIN) risk of bias checklist. Study selection involved two stages: 1) title and abstract screening and 2) full-text review. Disagreements between the two reviewers were discussed in both stages until a consensus was reached. The inter-rater reliability between the two raters was good ($\kappa=0.76$) during the full-text review. The methodological quality of studies on measurement properties was assessed using the COSMIN risk of bias checklist. Data were synthesized according to the COSMIN guidelines.

Results: One hundred fifty-two articles were screened; 143 articles were excluded, and nine articles were selected for full-text review; four articles were included from full-text review. Overall, seven articles were included. This review included the original English version and six translations/adaptations of FAST. Two independent reviewers were involved in the article selection to avoid bias. According to the results, the PROM development studies on FAST were low. When considering the methodological quality of

measurement properties, hypothesis testing was rated as high as it was analyzed in four studies, and in each of those studies, it was rated as sufficient. The results were inconsistent and insufficient for other measurement properties to make conclusions.

Conclusion/s: Based on the overall findings, only hypothesis testing demonstrated high-quality evidence for Frenchay Aphasia Screening Test. Furthermore, due to insufficient results, it was not possible to come to a conclusion about the measurement properties of content validity, internal consistency, cross-cultural validity, reliability, and criterion validity of the Frenchay aphasia screening test.

Key words: *Aphasia, Frenchay Aphasia Screening Test, Psychometric properties, different languages*