

Clinimetrics: Toward a Diagnostic Neuropsychology

Saturday, September 13, 2025 2:10 PM (20 minutes)

The role of *neuropsychology* in dementia diagnosis remains a topic of ongoing debate. The advent of disease-modifying therapies for Alzheimer's disease amplifies the demand for accurate early diagnosis. Biomarker-driven frameworks currently dominate, favoring biological indicators over clinical evaluation. Yet biomarker positivity alone offers limited predictive value for disease onset and progression, reaffirming the indispensable role of neuropsychological assessment. Unfortunately, many neuropsychological tools rely on normative cutoffs that fail to capture disease prevalence and real-world cognitive abilities in target populations. This severely limits their sensitivity, especially in identifying Mild Cognitive Impairment and early-stage dementia. Still today, many clinical neuropsychologists interpret patient data using Excel macros or cutoffs poorly suited to their population—often without critically examining the underlying assumptions or diagnostic implications of these approaches. This introduces substantial risk for computational error, hampers reproducibility, and constrains broader adoption. A paradigm shift toward *Clinimetrics*—grounded in population-specific weighted cutoffs—promises to enhance diagnostic accuracy by optimizing the balance between test sensitivity and specificity based on clinical priorities. Accordingly, open-source, high-level software solutions are urgently needed. Platforms like Shiny apps can automate complex statistical analyses, generate interpretable reports, and ensure transparency and reproducibility across clinical and research environments. Beyond their technical utility, such tools could bridge the gap between research and clinical practice, enabling the exchange of data and the creation of national or cross-national diagnostic references. Ultimately, this prospect would empower neuropsychologist, regardless of technical background, to conduct robust, standardized analyses that strengthen clinical care and scientific progress.

If you're submitting a symposium talk, what's the symposium title?

If you're submitting a symposium, or a talk that is part of a symposium, is this a junior symposium?

No

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