lower scores would be associated with a higher likelihood of a feigned ADHD presentation. Other MMPI-2-RF validity scales of interest included F-r, Fs, Fp-r, FBS-r, and RBS.

Results: The established MMPI-2-RF validity scales were significantly correlated with PVT group membership, but correlations were weak to moderately strong (rS ranged from -.43 to -.18; ps < .05). A series of stepwise regression models were completed with the Ds-ADHD scale and one of the MMPI-2-RF validity scales as independent variables, with group membership as the dependent variable. Ds-ADHD contributed uniquely to each model (ranged from .03 to .04, ps < .05). The established MMPI-2-RF validity scales effectively classified group membership (AUC values ranged from .57 to .68), and the Ds-ADHD scale had a marginally higher AUC (.69); however, it was not statistically significantly stronger than any of the established scales (ps > .05).

Conclusions: Clinicians interested in identifying potentially simulated ADHD presentations with the MMPI-2-RF may desire to calculate the Ds-ADHD scale, which previously only had support from a simulator-based study. The Ds-ADHD scale significantly contributed to each model, suggesting that it helped explain groups over and above each of the traditional MMPI-2-RF validity scales. However, it only had a marginally stronger ability to classify participants, indicating that there may be diminishing returns for clinicians. Among the traditional validity scales, RBS and F-r best classified groups, and FBS-r was the least effective. This study employed a cross-sectional design in a mixed sample of Veterans undergoing a neuropsychological evaluation. Future research should focus on replicating the findings using a credible sample that was limited to an independently verified diagnosis of ADHD.

Categories:
Assessment/Psychometrics/Methods (Adult)
Keyword 1: validity (performance or symptom)
Keyword 2: neuropsychological assessment
Correspondence: Katie M Califano, Memphis Veteran Affairs Medical Center, Katie.Califano@va.gov

32 Influence of Prior Experience with Computer-Based Technology on Tablet-Based Neurocognitive Test Performance: Data from a sample of cognitively impaired South African older adults

Nina S Steenkamp[1], Hetta-Mari Gouse[1], Rhiannon Changuion[1], Christopher M Ferraris[2,3], Daphne Tsapalas[2,3], Nana Asiedu[2,3], Anthony F Santoro[2,3], Kevin G. F. Thomas[1], Reuben N Robbins[2,3]
[1]University of Cape Town, Cape Town, South Africa. [2]New York State Psychiatric Institute, New York, NY, USA. [3]Columbia University, New York, NY, USA

Objective: The global prevalence of persons living with dementia will soon exceed 50 million. Most of these individuals reside in low- and middle-income countries (LMICs). In South Africa, one such LMIC, the physician-to-patient ratio of 9:10 000 severely limits the capacity of clinicians to screen, assess, diagnose, and treat dementias. One way to address this limitation is by using mobile health (mHealth) platforms to scale-up neurocognitive testing. In this paper, we describe one such platform, a brief tablet-based cognitive assessment tool (NeuroScreen) that can be administered by lay health-providers. It may help identify patients with cognitive impairment (related, for instance, to dementia) and thereby improve clinical care and outcomes. However, there is a lack of data regarding (a) the acceptability of this novel technology for delivery of neurocognitive assessments in LMIC-resident older adults, and (b) the influence of technology-use experience on NeuroScreen performance of LMIC-resident older adults. This study aimed to fill that knowledge gap, using a sample of cognitively impaired South African older adults.

Participants and Methods: Participants were 60 older adults (63.33% female; 91.67% right-handed; age M = 68.90 years, SD = 9.42, range = 50–83), all recruited from geriatric and memory clinics in Cape Town, South Africa. In a single 1-hour session, they completed the entire NeuroScreen battery (Trail Making, Number Speed, Finger Tapping, Visual Discrimination, Number Span Forward, Number Span Backward, List Learning, List Recall) as well as a study-specific questionnaire assessing acceptability of NeuroScreen use and overall experience and comfort with computer-based

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technology. We summed across 11 questionnaire items to derive a single variable capturing technology-use experience, with higher scores indicating more experience.
Results: Almost all participants (93.33%) indicated that NeuroScreen was easy to use. A similar number (90.00%) indicated they would be comfortable completing NeuroScreen at routine doctor's visits. Only 6.67% reported feeling uncomfortable using a tablet, despite about three-quarters (76.67%) reporting never having used a tablet with a touchscreen before. Almost one in five participants (18.33%) reported owning a computer, 10.00% a tablet, and 70.00% a smartphone. Correlations between test performance and technology-use experience were statistically significant (or strongly tended toward significance) for most NeuroScreen subtests that assessed higher-order cognitive functioning and that required the participant to manipulate the tablet themselves: Trail Making 2 (a measure of cognitive switching ability), $r = .24$, $p = .05$; Visual Discrimination A (complex processing speed [number-symbol matching]), $r = .38$, $p = .002$; Visual Discrimination B (pattern recognition), $r = .37$, $p = .004$; Number Speed (simple information processing speed), $r = .36$, $p = .004$. For the most part, there were no such significant associations when the NeuroScreen subtest required only verbal input from the participant (i.e., on the list learning and number span tasks).
Conclusions: NeuroScreen, a tablet-based neurocognitive screening tool, appears feasible for use among older South Africans, even if they are cognitively impaired and have limited technological familiarity. However, test performance might be influenced by amount of technology-use experience; clinicians using the battery must consider this in their interpretations.

Categories:
Assessment/Psychometrics/Methods (Adult)
Keyword 1: cross-cultural issues
Keyword 2: cognitive screening
Keyword 3: technology
Correspondence: Kevin G. F. Thomas Department of Psychology, University of Cape Town kevin.thomas@uct.ac.za

33 A serious game in an immersive virtual environment for inhibition and selective attention evaluation

Khawla Ajana[1], Gauthier Everard[2], Thierry Lejeune[2,3], Martin Gareth Edwards[1]
[1]Institut de recherche en sciences psychologiques (IPSY), Louvain-la-neuve, Belgium. [2]Institut de Recherche Expérimentale et Clinique, Brussels, Belgium. [3]Service de Médecine Physique et Réad-aptation, Cliniques Universitaires Saint-Luc,, Brussels, Belgium

Objective: Executive functions (EFs) refer to a set of top-down cognitive processes that are fundamental for the control of goal directed behaviours (Lezak et al., 2004). Inhibition (the capacity to ignore irrelevant information) and selective attention (the capacity to selectively focus on relevant information) are considered as the core components of EFs (Barkley, 2001; Veer et al., 2017). EFs can be impaired following brain damage (Chung et al., 2013) and they are traditionally assessed individually, using paper-and-pencil tests that have long been criticized for their ecological and sensitivity limitations (Dugbartey et al., 1999; Miyake et al., 2000). Here we developed a serious game in immersive virtual reality to measure inhibition and selective attention based on the go/no-go paradigm and the D2 Test.
Participants and Methods: Sixty healthy participants were asked to perform a series of tasks, where in each task, the target was a mole wearing a coloured helmet. In task A, either the target or a distractor bomb was presented. The participants had to respond to the target and inhibit a response to the bomb. In task B, the target was presented with distractor moles wearing different coloured helmets. The two tasks could also be combined, task AB, where the target was presented with distractors (as in task B) versus the bomb was presented with distractor moles. All the stimuli appeared from four molehills aligned to sagittal axis (near to far from the participant). Responses were made with the dominant hand in task A and with both tasks in tasks B and AB. The participants were instructed to hit the target with a virtual hammer.
Results: Response time analysis showed that in tasks A, B and AB, participants were slower to respond to the far compared to near targets. In task B and AB, participants were additionally slower to respond to the left compared right

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