targets. Significant interactions between laterality and proximity for tasks B and AB showed that the participants were significantly slower to response to left vs right target in both far and near conditions. All participants were able to inhibit responses to the bomb and distractor stimuli.

Conclusions: In conclusion, we have developed a novel serious game in immersive virtual reality for the assessment of inhibition and selective attention, both as individual tests and as a combined test. Future studies will test patients with executive dysfunction to test the validity of this new serious game.

Categories:
Assessment/Psychometrics/Methods (Adult)
Keyword 1: attention
Keyword 2: computerized neuropsychological testing
Keyword 3: psychometrics
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34 Variability in RBANS Performance and Neurocognitive Impairment in Older Adults with Cognitive Concerns

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Objective: Risk factors that contribute to brain pathology and cognitive decline among older adults include demographic factors (e.g., age, educational attainment), genetic factors, health factors, and depression (Plassman et al., 2010). Variability within an individual's performance across cognitive tasks is referred to as dispersion (Hultsch et al., 2002), which appears sensitive to subtle cognitive impairments associated with neurodegenerative pathology in older adults (Bangen et al., 2019; Kälin et al., 2014). Thaler and colleagues (2015) found that dispersion across domains of the Repeatable Battery for the Assessment of Neuropsychological Status (RBANS) was a useful indicator of cognitive changes associated with cardiovascular disease and mortality. Also, research by Manning and colleagues (2021) found that elevated ratings of depression and anxiety in older adults was associated with greater dispersion across neuropsychological testing. The present study aimed to replicate findings that greater dispersion in neuropsychological performance is associated with impaired neurocognitive performance and greater self-reported depression among older adults who present for neuropsychological evaluation with cognitive concerns.

Participants and Methods: Neuropsychological testing data was obtained from a university hospital. Chart reviews were conducted on 369 participants who met initial criteria (60 years or older with testing data from the RBANS Form A, Wechsler Test of Adult Reading, and Geriatric Depression Scale [GDS]). Retrospective analyses were conducted on a final sample of 293 participants from 60 to 94 years old (M_{age} = 74.41, SD_{age} = 7.43; 179 females, 114 males). Diagnoses were used for group comparisons between cognitively intact individuals with subjective cognitive complaints (SCC, n = 49), persons with Mild Neurocognitive Disorder (mND, n =137), and persons with Major Neurocognitive Disorder (MND, n = 107).

Results: As expected, results indicated that higher dispersion was related to lower Total RBANS Scores (r = -0.54, p < .001) and significant differences across diagnostic groupings ($F(2, 289)$ = 29.19, p < 0.001; SCC, mND, MND) indicated that variability in performance was an indicator of greater neurocognitive impairment. Contrary to expectations, greater dispersion was very weakly associated with lower reported depressive symptomatology (r = -0.13, p = 0.03). A three-stage hierarchical linear regression was conducted with the RBANS Coefficient of Variation (CoV) as the dependent variable and three predictor variables (Age, Total RBANS, Total GDS). The regression analysis results indicated that age was not a significant predictor, but both Total RBANS and GDS Scores were. The most important predictor was Total RBANS Scores which uniquely explained 21% of the variation in dispersion.

Conclusions: This study adds to the current literature regarding the clinical utility of dispersion in neuropsychological performance as an indicator of early and subtle neurocognitive impairment. Depressive symptom reporting was expected to help predict the degree of variability, but this factor was only weakly associated with the RBANS CoV.

Limitations of this study include its retrospective use of archival data and the restricted range on some variables of interest. Further research is needed to examine the relative utility of different measures of dispersion and why increased cognitive performance variability is related to neurocognitive impairment and decline.

Categories:
Assessment/Psychometrics/Methods (Adult)
Keyword 1: neuropsychological assessment
Keyword 2: aging disorders
Keyword 3: memory disorders
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35 Pairwise Concurrence Rates Between Standalone and Embedded Performance Validity Tests

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Objective: Determine the classification concordance between a standalone performance validity test (PVT) and embedded PVTs from multiple cognitive domains.
Participants and Methods: Participants were 106 patients (49.1% female; 69% white) that underwent neuropsychological evaluation at an outpatient university doctoral clinical psychology training and research clinic (M/SD: age = 32.38/11.95; education = 13.7/2.75). A comprehensive neuropsychological battery included the Medical Symptom Validity Test (MSVT) and embedded PVTs from different cognitive domains: attention - Wechsler Adult Intelligence Scale – Fourth Edition Reliable Digit Span and Digit Span age-corrected scaled score (DS ACSS); memory - California Verbal Learning Test, 3rd Edition (CVLT-3) Forced-Choice Recognition (FCR), executive functions - Wisconsin Card Sorting Test (WCST) Failure to Maintain Set (FMS); visual-spatial/construction - Rey Complex Figure Test (RCFT) Copy raw score; language - Boston Diagnostic Aphasia Examination Complex Ideation Material (CIM); and motor functions - Finger Tapping Test (FTT). All participants were administered the MSVT but not all participants were administered all seven embedded PVTs. Credible/noncredible classification concordance rates and kappa correlations (i.e., percentage of agreement)

were computed for each pairwise PVT combination.
Results: Twenty-two percent (n = 23) of the sample failed at least one PVT, with 17.0% (n = 18) failing at least two. DS ACSS was the embedded PVT with the highest MSVT concordance rate at 92.4% and a fair kappa coefficient of .39; WCST FMS had the lowest concordance with MSVT at 82.9% and a slight kappa coefficient of .19. The highest concordance among embedded PVTs from different cognitive domains was CVLT-3 FCR and RCFT Copy raw score at 89.7% with a fair kappa coefficient of .35; the lowest agreement among embedded PVTs was WCST FMS and FTT at 74.0% with a kappa coefficient of -.02. More conservative kappa coefficients among all pair-wise embedded PVT combinations from different cognitive domains ranged from -.02 to .36. For all standalone and embedded PVT pairwise concordance rates, only two fell below the recommended minimum agreement of 80%: FCR vs. FMS = 79.3% and FMS vs. FTT = 74.0%.
Conclusions: Embedded PVTs across various cognitive domains have high agreement with a standalone PVT to aid in classifying noncredible performance, in the 83-92% range. Embedded PVTs from different cognitive domains also have mostly high agreement classification rates amongst themselves in aiding to determine noncredible performance, in the 74-90% range, with the lowest agreement rate between executive function and motor tests at 74%. More conservative kappa-based agreements between PVT pair-wise combinations were fairly consistent with other studies, with most being in the fair range. Finally, these findings indicate about a 17% base rate of noncredible cognitive performance in an outpatient university-based clinic.

Categories:
Assessment/Psychometrics/Methods (Adult)
Keyword 1: performance validity
Keyword 2: assessment
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36 Dispersion vs. inconsistency: Investigating the relationship between different forms of intra-individual