

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)

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Keyword 2: assessment

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36 Dispersion vs. inconsistency: Investigating the relationship between different forms of intra-individual

variability in community-dwelling older adults

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Objective: There are two forms of intra-individual variability (IIV) in the literature: inconsistency, or variability on *one* task across *many* time points, and dispersion, or variability across *many* tasks at *one* time point. These forms of IIV are often lumped together into one construct, but there is limited evidence supporting this practice, as few studies have examined the relationship between these measures. Additionally, it is not clear how stable these constructs are over time. Therefore, the goal of the present study was (1) to explore the relationship between (a) inconsistency and dispersion and (b) IIV and mean performance, and (2) to determine whether these relationships are stable over a one- to two-year follow-up interval.

Participants and Methods: A total of 123 community-dwelling older adults ($M_{\text{age}}=69.5$, $M_{\text{education}}=15.6$ years) from an archival database completed the Push-Turn-Taptap task to assess inconsistency and the Delis-Kaplan Executive Functioning System (D-KEFS) to assess dispersion. These measures were selected because both are highly executive, thereby allowing us to hold the cognitive domain constant across forms of IIV. Dispersion was calculated by taking the standard deviation of the executive conditions of four D-KEFS subtests (Verbal Fluency, Design Fluency, Trail Making, and Color Word Interference). Follow-up data were collected one to two and a half years after baseline. Bivariate and partial correlations controlling for time to follow-up were examined.

Results: Inconsistency and dispersion were not correlated at baseline but were weakly correlated at follow-up ($r=.281$, $p=.012$). Additionally, both forms of IIV were moderately correlated with themselves across the follow-up interval (inconsistency: $r=.450$, $p<.001$; dispersion: $r=.448$, $p<.001$). The partial correlations were nearly identical to bivariate correlations.

Additionally, inconsistency was correlated with poorer mean executive functioning (EF) performance on both the PTT (baseline: $r=.281$, $p<.001$, follow-up: $r=.435$, $p<.001$) and D-KEFS

(baseline: $r=-.270$, $p=.003$, follow-up: $r=-.573$, $p<.001$). In contrast, dispersion was correlated with mean EF performance only on the D-KEFS at baseline ($r=-.292$, $p<.001$) but with both measures at follow-up (PTT: $r=.232$, $p=.039$; D-KEFS: $r=-.378$, $p<.001$). When controlling for follow-up interval, inconsistency was no longer correlated with baseline mean PTT performance, but all other relationships remained the same (i.e., dispersion and inconsistency displayed the same pattern of correlations with mean EF).

Conclusions: Although inconsistency and dispersion are both forms of IIV, they are weakly related. In other words, although they may have shared mechanisms, these two methods of measuring IIV likely represent different constructs. In the future, authors should take care to specify the form of IIV being investigated in their publications rather than referring to either form as IIV generally. Additionally, both forms of IIV are weakly to moderately correlated with mean EF performance, indicating that IIV is *related to* but *separate from* mean-level performance. Interestingly, IIV and mean performance were more strongly correlated at follow-up, which may be suggestive of incipient cognitive decline. Lastly, it seems that both inconsistency and dispersion are somewhat stable across a one- to two-year follow-up interval, suggesting that IIV may be a trait-level construct to some extent. However, IIV may also be influenced by state-level contextual factors, and more research examining the stability of and contributors to IIV is necessary.

Categories:

Assessment/Psychometrics/Methods (Adult)

Keyword 1: aging (normal)

Keyword 2: assessment

Keyword 3: executive functions

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37 The Influence of Informant Characteristics on Reports of Participant Functioning and Associations Between Reported Functioning and Neuropsychological Performance among Non-Hispanic Black Adults