is a positive and significant correlation between Global Neurocognitive Function score in PLWHA according to NLAP and NP-NUMBRS (r=0.66, p<.05). Rates of global NCI in PLWHA were significantly lower when using LAP norms (McNemar Chi-Square=29.89; p<.001). Regarding the pattern of NCI according both norms learning and memory was the most affected cognitive domain with 34% of impairment according to NLAP vs 51% of impairment according to NP-NUMBRs.

Conclusions: Utilizing NP-NUMBRS, rates of NCI are consistent with findings of prior studies. Employing norms for LAP the rates of NCI are lower that the ones reported in the literature. This is an important finding since PLWHA included in the sample have several vulnerable factors such as deportation, prostitution, drug abuse and discrimination for sexual preference, factor that could impact cognition. The pattern of neurocognitive function was also similar to those of prior studies in HIV. To accurately make NCI diagnosis it is important to use norms that consider specific characteristics of the population. The diagnosis of NCI is important since these deficits present a strong risk of concurrent problems in a wide range of health behaviors like medication non-adherence in PLWHA.

Categories:
Assessment/Psychometrics/Methods (Adult)
Keyword 1: HIV/AIDS
Keyword 2: cognitive functioning
Keyword 3: normative data
Correspondence: García-Gomar María Luisa, Facultad de Ciencias de la Salud Universidad Autónoma de Baja California, luisa.garcia42@uabc.edu.mx

---

40 Educational Quality vs Years of Education is More Strongly Associated with Neuropsychological Test Performance

Marilyn J Steinbach[1], Corey J Bolton[2], Marissa A Gogniat[2], Angela L Jefferson[2], Holly J Westervelt[2]
[1]University of Iowa, Iowa City, Iowa, USA.
[2]Vanderbilt University Medical Center, Nashville, Tennessee, USA

Objective: Education is known to impact neuropsychological test performance, and self-reported years of education is often used in stratifying normative data. However, this variable does not always reflect education quality, particularly among underrepresented populations, and may overestimate cognitive impairment in individuals with low education quality. This cross-sectional study evaluated relative contributions of years of education and reading level to several verbally mediated assessments to improve interpretation of neuropsychological performance.

Participants and Methods: Data was obtained from the Vanderbilt Memory and Aging Project. Cognitively-unimpaired participants (n=175, 72±7 years, 59% male, 87% Non-Hispanic White, 16±2 years of education) completed a comprehensive neuropsychological protocol. Stepwise linear regressions were calculated using education and Wide Range Achievement Test (WRAT)-3 Reading subtest scores as predictors and letter fluency (FAS, CFL), category fluency (Vegetable and Animal Naming), the Boston Naming Test (BNT), and California Verbal Learning Test (CVLT)-II as outcomes to assess increase in variance explained by educational quality. Models covaried for age and sex. The False Discovery Rate (FDR) based on the Benjamini-Hochberg procedure (Benjamini & Hochberg, 1995) was used to correct for multiple comparisons.

Results: The mean WRAT-3 score was 51±4 (range:37-57), indicating post-high school reading level. Education and WRAT-3 scores were moderately correlated (r=0.36, p<0.01). Both WRAT-3 and years of education independently predicted letter fluency (WRAT-3 p<0.001; education p<0.02), category fluency (WRAT-3 p<0.001; education p<0.05), and CVLT-II performance (WRAT-3 p-values<0.005; education p-values<0.02) in single predictor models. On BNT, WRAT-3 (p<0.001), but not education (p=0.06), predicted performance in single predictor models. In combined models with both WRAT-3 and education, WRAT-3 scores remained a significant predictor of FAS (WRAT-3 b=1.21, p<0.001; education b=0.006, p=0.99) and CFL performance (WRAT-3 b=1.02, p<0.001; education b=0.51, p=0.14). Both WRAT-3 (b=0.21, p=0.01) and years of education (b=0.35, p=0.03) predicted Animal Naming, while WRAT-3 (b=0.16,p=0.008), but not years of education (p=0.37), predicted Vegetable Naming. WRAT-3 was a significant predictor of BNT performance (b=0.21, p<0.001)

but not years of education (p=0.65). WRAT-3 predicted CVLT-II learning (b=0.32, p=0.04), immediate recall (b=0.16, p=0.005), and delayed recall performances (b=0.15, p=0.005), while education did not (p-values>0.14). All significant results persisted after FDR correction. WRAT-3 scores explained an additional level of variance beyond the covariates and education alone for FAS (ΔR=18%), CFL (ΔR=13%), Animal Naming and Vegetable Naming (ΔR= 3%), BNT (ΔR=18%), and CVLT-II learning (ΔR=2%), immediate recall (ΔR=4%), and delayed recall (ΔR=3%).

Conclusions: Reading level more strongly associated with performance on several verbally mediated neuropsychological measures than years of education. For all measures, the addition of reading level significantly increased the amount of variance explained by the model compared to covariates and education alone, which aligns with existing research. However, most of this past work looks at individuals with lower levels of educational quality. Because our cohort was highly educated and at the upper end of the reading spectrum, our results suggest that reading level is important to consider even for more highly educated individuals. Therefore, reading level is a critical variable to consider when interpreting verbally mediated neuropsychological measures for individuals across the educational spectrum.

Categories:
Assessment/Psychometrics/Methods (Adult)
Keyword 1: assessment
Keyword 2: academic achievement
Keyword 3: neuropsychological assessment
Correspondence: Marilyn J. Steinbach, University of Iowa, marilyn-steinbach@uiowa.edu

---

41 Explorations into the Salthouse Listening Span Task: Cognitive Correlates and Potential Impact of Emotional Functioning

Mary U Simons, Mary Tait, Laura McGuigan, James Hoelzle
Marquette University, Milwaukee, WI, USA

Objective: The psychometric properties of the Salthouse Listening Span (SLS; Salthouse & Babcock, 1991) task are relatively unknown.

Previous research has demonstrated that SLS performance is positively associated with processing speed and vocabulary (Salthouse, 2005). Further research has documented that SLS performance is useful in differentiating attention deficit/hyperactive disorder from other clinical conditions (Nikolas, Marshall, & Hoelzle, 2019). While the SLS task is purported to measure working memory, relatively little is known about how the task is related to frequently administered neuropsychological measures. Furthermore, it remains unclear whether emotional functioning may affect task performance. The current study investigates associations between frequently administered tasks and the SLS as well as the impact of anxiety and depression on SLS performance.

Participants and Methods: A battery of neuropsychological tasks and self-report measures was administered to undergraduates [N=161, 75.2% female, Mage=19 (1.06), MGPA=3.5(.35)]. Participant exclusion based on failed performance validity task, non-native English speaking, and/or task incompletion resulted in a final sample of N=131. Participants completed the SLS, a task where one answers questions about sentences read aloud to them, while simultaneously attempting to remember the final word from sentences. SLS performance was quantified two ways: (1) longest span score (SLS-LSS) and (2) total words recalled correctly (SLS-WRC). Anxiety and depression were measured via the Beck Anxiety Index (BAI) and the Beck Depression Index (BDI). Two groups were derived based on participant BAI and BDI responses: low to mild emotional distress (N=99, scores of 0-15 on BAI, BDI, or both) and moderate to severe emotional distress (N=33, scores of 16-63 on the BDI, BAI, or both). Correlations were conducted between the SLS and WAIS-IV: digit span, arithmetic, coding, and symbol search, DKEFS: verbal fluency, and WTAR. A one-way ANOVA was run to examine potential differences in performance on the SLS based on levels of emotional distress.

Results: The SLS-LSS had negligible correlations with verbal fluency, coding, or symbol search performances (r<0.1). SLS-LSS demonstrated a small to medium positive correlation with arithmetic [r(130)=0.17, p=.06], digit span [r(130)=0.27, p=.002], and WTAR [r(130)=.27, p=.002]. SLS-WRC did not demonstrate meaningful correlations with any cognitive domain. Overall, the presence of moderate anxiety and/or moderate depression did not significantly affect performance on SLS-