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73 Do depression, anxiety, or stress moderate the relationship between simple attention, working memory and verbal learning?

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Objective: Working memory is a vital construct in efficient verbal memory encoding (Cotton & Ricker, 2021). Working memory is impacted by attentional capacities (Riccio, Cohen, Garrison, & Smith, 2005). Mood symptoms impact efficient information processing and consolidation of memory (Hubbard, 2016; Lukasik, 2019). This study examines self-reported symptoms of depression, anxiety, and stress as possible moderators of the relationship between working memory and a verbal list-learning task.

Participants and Methods: Archival data from 415 adults (Mage= 56.10, SD=18.05; Medu= 15.5 SD=2.2; 53% female; 73% white) were collected at an outpatient clinic. Sex and race were not available in a small percentage of cases included in analyses. The Wechsler Adult Intelligence Scale 4th Edition Digit Span subtest was given to assess attention and working memory. Although Digit Span Forward is a measure of simple attention, not working memory, it was included in initial analyses because the subtest was given as a whole. The three components of Digit Span total, Forward, Backward, and Sequencing were also investigated separately, with the two latter scores being better representations of working memory. Learning was assessed via the California Verbal Learning Test (CVLT-II) total T-Score (Trials 1-5). Mood was assessed via the Depression Anxiety and Stress Scales (DASS-42).

Results: Results of a hierarchical linear regression showed a significant effect between total Digit Span performance and total learning on the CVLT-II in the Block 1 ($F(3, 411)=14.383$, $p<.001$, $\Delta R^2=.095$). Standardized beta weights and p-values for Digit Span Forward, Backward, and Sequencing were ($\beta=-.50$,

$p=.374$), ($\beta=.159$, $p=.009$), and ($\beta=.210$, $p<.001$) respectively. In Block 2, when the DASS variables were introduced, the model remained significant $F(3,408)=2.602$, $p=.05$, $\Delta R^2=.017$). The DASS anxiety and stress subscales had significant beta weights in the model ($\beta=-.172$, $p=.015$) and ($\beta=.144$, $p=.039$) respectively, with depression being insignificant ($\beta=-.023$, $p=.724$).

Conclusions: Mood symptoms have been shown to be an important consideration when assessing working memory and verbal learning performance (Massey, Meares, Batchelor, & Bryant, 2015). Present results demonstrate that when accounting for working memory, anxiety and stress were significant predictors of performance on a measure of verbal learning. Additionally, as the components best representing working memory, Digit Span Sequencing and Backward were significantly correlated with verbal learning, whereas a measure best representing simple attention, Digit Span Forward, was not significantly correlated with verbal learning.

Categories: Executive Functions/Frontal Lobes

Keyword 1: working memory

Keyword 2: learning

Keyword 3: mood disorders

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74 The Role of Executive Functioning in Predicting Health Numeracy in a Memory Disorders Clinic.

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Objective: Health numeracy is the understanding and application of information conveyed with numbers, tables and graphs, and probabilities in order to effectively manage one's own healthcare. Health numeracy is a vital aspect of communicating with healthcare providers and participating in one's own medical decision making, which is especially important in aging populations. Current literature indicates that assessing and establishing one's health numeracy abilities is among the first steps in