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#### 41 Analyzing Perceived Workloads in Bilinguals and Monolinguals' Digit Span Performance

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**Objective:** A common neuropsychological task used is the Digit Span, known as a test of attention and working memory. The Digit Span Forward (DS-F) task evaluates attention; meanwhile, the Digit Span Backward (DS-B) and Sequencing (DS-S) evaluate working memory. Research shows that persons that speak multiple languages demonstrate better attention and working memory abilities compared to monolingual speakers. The NASA Task Load Index (NASA-TLX) was conditionally validated by Hardy and Wright (2018) to measure perceived mental workload. Research also shows that bilinguals report higher perceived workloads on cognitive tasks compared to monolinguals. With that said, it was hypothesized that bilinguals would demonstrate better performances on Digit Span tasks compared to monolinguals. Additionally, it was hypothesized that bilinguals would report higher perceived workloads on all digit span tasks compared to monolinguals.

**Participants and Methods:** The sample consisted of 29 psychologically and neurologically healthy participants with a mean age of 29.66 ( $SD = 7.14$ ). Participants were divided into two groups: English monolingual speakers ( $n = 10$ ) and English and other language bilingual speakers ( $n = 19$ ).

Participants completed all the subtests of the Digit Span (i.e., DS-F, DS-B, DS-S) in English. The NASA-TLX was used to measure DS-F, DS-B, and DS-S perceived workloads. The NASA-TLX was completed after each Digit Span subtest in English. We used ANOVAs to evaluate DS-F, DS-B, and DS-S performance and their perceived workload between our language groups.

**Results:** We found no significant differences between language groups on the DS-F. However, the bilingual group reported the DS-F to be more temporally demanding and frustrating compared to the monolingual group,  $p$ 's < .05,  $np^2 = .14-.15$ . Next, we found that the monolingual group outperformed the bilingual group on the DS-B task,  $p = .027$ ,  $np^2 = .17$ . On the other hand, the bilingual group reported the DS-B task to be more temporally demanding and frustrating compared to the monolingual group,  $p$ 's < .05,  $np^2 = .18-.20$ . Finally, on the DS-S task the monolingual group outperformed the bilingual group,  $p = .043$ ,  $np^2 = .14$ . Meanwhile, the bilingual group reported the DS-S task to be more mentally and temporally demanding compared to the monolingual group,  $p$ 's < .05,  $np^2 = .18-.34$ .

**Conclusions:** Contrary to our hypothesis, results show that monolinguals outperformed bilinguals on DS-B and DS-S, but not DS-F. However, as expected, bilinguals did report higher perceived workloads (e.g., frustration) on Digit Span tasks compared to monolinguals. A possible explanation could be that bilinguals' efforts to remember the numbers were more taxing compared to monolinguals' because they had to inhibit from verbally responding in their other language. Rushing bilinguals to provide responses, ultimately developing higher perceived workloads on Digit Span tasks. Future work should investigate if time perspective may be influencing bilingual speakers Digit Span performances and perceived workloads.

**Categories:** Inclusion and Diversity/Multiculturalism

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