Sequencing scores. The contrasts in Digit Span performance may be attributed to the different ways in which each condition of the subtest is cognitively processed. Therefore, clinicians and researchers should use caution when interpreting test data for Digit Span with Hispanic Spanish-English bilinguals.

Categories: Cross Cultural Neuropsychology/ Clinical Cultural Neuroscience
Keyword 1: bilingualism/multilingualism
Keyword 2: working memory
Keyword 3: assessment
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28 Social Support, APOE Genotype, and Memory Associations in a Community-Based Sample of Older Adults in Texas

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Objective: The apolipoprotein E (APOE) gene has been identified as a major risk factor for the development of Alzheimer's disease in late life. Research has shown that APOE ε4 allele carriers demonstrate poorer memory performance and accelerated cognitive decline relative to non-carriers, and there is a need to identify potential factors of resiliency against the negative effects of ε4 on cognition. Social support may represent one potential mechanism given that higher levels of social support have been linked to better cognitive and functional outcomes in older adults. Thus, the current study sought to examine whether social support moderates the relationship between APOE ε4 status and subjective and objective memory performance in a large community-based sample of Hispanic/Latino (H/L) and Non-Hispanic White (NHW) older adults residing in Texas.
Participants and Methods: Participants included 1,564 (H/L = 808, NHW = 756) older adults (mean age = 66.36±8.68) without dementia that had enrolled in the Health and Aging Brain Study-Health Disparities. Participants completed study questionnaires and a comprehensive neuropsychological battery. Apolipoprotein ε4 status (ε4 carriers vs. non-carriers) was determined by possession of at least one ε4 allele. Perceived social support was measured using the total score from the abbreviated 12-item version of the Interpersonal Support Evaluation List. Objective memory performance was assessed using a z-score composite of Story A and B from the Weschler Memory Scale (WMS)-III and immediate and delayed recall trials from the Spanish-English Verbal Learning Test. Subjective memory was assessed using the total score from the Subject Memory Complaints Questionnaire. Race stratified multiple linear regression models, controlling for age, sex, and years of education, examined APOE ε4 positivity x social support interactions on subjective and objective memory performance.
Results: There was a significant APOE ε4 genotype x social support interaction on objective memory performance (β = -1.10, p = 0.003) in H/Ls such that higher levels of social support were associated with better memory performance in non-ε4 carriers (β = 0.14, p < .001), but not in ε4 carriers (β = -0.13, p = 0.9). In contrast, no significant APOE ε4 status x social support interaction was observed on subjective memory (β = -0.39, p = 0.35) in H/Ls. Finally, results revealed no significant APOE ε4 genotype x social support interactions on subjective memory (β = 0.14 p = 0.77) or objective memory (β = 0.67, p = 0.11) performance in NHWs.
Conclusions: Findings revealed that social support did not mitigate against the negative effects of ε4 on subjective and objective memory performance in H/Ls or NHWs. However, results demonstrate that higher levels of social support are associated with better objective, but not subjective memory performance in H/Ls without the ε4 genotype. These findings suggest that social support may protect against cognitive decline and enhance cognitive reserve in non-ε4 carriers. Future studies should explore other potential factors of resiliency (e.g., diet, exercise) and examine the association between genetic risk and social support on neural markers (e.g., cortical thinning, hippocampal atrophy).

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29 Human Immunodeficiency Virus (HIV) Status, Injection Drug Use, and Cognitive Effects in a Spanish-Speaking Population

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Objective: Injection drug use is a significant public health crisis with adverse health outcomes, including increased risk of human immunodeficiency virus (HIV) infection. Comorbidity of HIV and injection drug use is highly prevalent in the United States and disproportionately elevated in surrounding territories such as Puerto Rico. While both HIV status and injection drug use are independently known to be associated with cognitive deficits, the interaction of these effects remains largely unknown. The aim of this study was to determine how HIV status and injection drug use are related to cognitive functioning in a group of Puerto Rican participants. Additionally, we investigated the degree to which type and frequency of substance use predict cognitive abilities.
Participants and Methods: 96 Puerto Rican adults completed the Neuropsi Attention and Memory-3rd Edition battery for Spanish-speaking participants. Injection substance use over the previous 12 months was also obtained via clinical interview. Participants were categorized into four groups based on HIV status and injection substance use in the last 30 days (HIV+/injector, HIV+/non-injector, HIV-/injector, HIV-/non-injector). One-way analysis of variance (ANOVA) was conducted to determine differences between groups on each index of the Neuropsi battery (Attention and Executive Function; Memory; Attention and Memory). Multiple linear regression was used to determine whether type and frequency of substance use predicted performance on these indices while considering HIV status.
Results: The one-way ANOVAs revealed significant differences (p's ≤ 0.01) between the healthy control group and all other groups across all indices. No significant differences were observed between the other groups. Injection drug use, regardless of the substance, was associated with lower combined attention and memory performance compared to those who inject less than monthly (Monthly: p = 0.04; 2-3x daily: p < 0.01; 4-7x daily: p = 0.02; 8+ times daily: p < 0.01). Both minimal and heavy daily use predicted poorer memory performance (p = 0.02 and p = 0.01, respectively).
Heavy heroin use predicted poorer attention and executive functioning (p = 0.04). Heroin use also predicted lower performance on tests of memory when used monthly (p = 0.049), and daily or almost daily (2-6x weekly: p = 0.04; 4-7x daily: p = 0.04). Finally, moderate injection of heroin predicted lower scores on attention and memory (Weekly: p = 0.04; 2-6x weekly: p = 0.048). Heavy combined heroin and cocaine use predicted worse memory performance (p = 0.03) and combined attention and memory (p = 0.046). HIV status was not a moderating factor in any circumstance.
Conclusions: As predicted, residents of Puerto Rico who do not inject substances and are HIV-negative performed better in domains of memory, attention, and executive function than those living with HIV and/or inject substances. There was no significant difference among the affected groups in cognitive ability. As expected, daily injection of substances predicted worse performance on tasks of memory. Heavy heroin use predicted worse performance on executive function and memory tasks, while heroin-only and combined heroin and cocaine use predicted worse memory performance. Overall, the type and frequency of substance is more predictive of cognitive functioning than HIV status.

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Keyword 1: HIV/AIDS

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