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54 Age-Related Differences in the Associations Between Cannabis Use and Cognition in People Living with HIV (PLWH)

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Objective: PLWH report using cannabis for both recreational reasons and HIV symptom management (e.g., nausea, pain, depression/anxiety). Recent literature suggests that cannabis may attenuate HIV symptoms and neuroinflammation, which are strongly related to neurocognition. Additionally, older adults who are particularly vulnerable to cognitive impairment experience a decline in the endogenous cannabinoid system with age. Therefore, the aims of the present study were 1) to determine if cannabis use is associated with cognitive performance in PLWH, 2) to determine if age moderates the relationship between cannabis use and cognition in PLWH, and 3) to determine if there are differences in cognition in cannabis non-users, occasional users, and daily users among PLWH.
Participants and Methods: The sample included 225 PLWH (78% undetectable; 51% female, Mean age=49.10) who were classified as non-users (n=52), occasional users (n=53), or daily users (n=120). Cannabis use was measured via the Timeline Follow-back (TLFB). Cognition was examined using the NIH Toolbox Cognition Battery, which included measures of attention, working memory, executive function, processing speed, and episodic memory, as well as a fluid cognition composite score.
Results: Increased frequency of cannabis use was weakly positively associated with episodic memory performance, $r(224) = 0.15$, $p<0.05$. Results of the multiple regression indicate that frequency of cannabis use was not significantly associated with any of the six cognitive domains. However, there was a significant interaction between age and cannabis use in the domains of attention ($\beta= 0.13$, $p < 0.05$), working memory ($\beta= 0.12$, $p < 0.05$), and episodic memory ($\beta= 0.15$, $p < 0.05$), suggesting worse cognitive performance in older adults who use cannabis as compared to younger adults in this sample. When participants were grouped based on use status, there were no significant main effects of group.
Conclusions: After controlling for the effects of demographic factors and HIV disease severity, no significant negative associations between cannabis use and cognition were observed, suggesting that cannabis use is not related to cognitive impairment in PLWH. However, results were clarified by a significant interaction, indicating that older adults who use cannabis perform worse in the domains of attention, working memory, and episodic memory compared to younger adults, suggesting synergistic cognitive effects of age and cannabis use. We additionally found preliminary evidence for a potential positive effect of cannabis use on episodic memory in the overall sample. Future studies examining biological and behavioral mechanisms of improvement will be necessary to better examine this relationship.

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55 Health literacy mediates racial differences in cognitive functioning among people with and without HIV

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Objective: Health disparities among African Americans (AAs) in the United States are evident, especially among older adults and people living with HIV (PLWH). These health disparities include worse cognitive functioning among AAs than White counterparts. Though disparities in health literacy among AAs impact health outcomes across clinical populations, less is known on the mechanistic role health literacy may play in explaining racial differences in cognitive functioning among older PLWH. The current study investigated the association between health literacy and global cognitive functioning among middle-aged and older AA and White adults with and without HIV in the Deep South.

Participants and Methods: Two hundred and seventy-three people (170 PLWH: 146 AA, 24 White; 103 HIV-negative: 67 AA, 36 White) were enrolled in an observational study and completed measures of sociodemographic characteristics, as well as the reading subtest of the Wide Range Achievement Test-3rd Edition to assess verbal IQ. A composite score of socioeconomic status (SES) was created using total years of education and annual household income. Neurocognitive functioning was assessed using a comprehensive cognitive battery (i.e., verbal, attention/working memory, executive function, learning, recall, speed of processing, and motor), from which a sample-based global Z-score composite was created. Health literacy was measured using a sample-based composite Z-score derived from the Rapid Estimate of Adult Literacy in Medicine, Test of Functional Health Literacy in Adults Reading Comprehension, Newest Vital Sign, and Expanded Numeracy Scale. First, multivariable linear regression analyses were performed within both PLWH and HIV-negative samples examining the association between race, SES, verbal IQ, and health literacy with cognitive functioning. These results informed two bootstrap confidence interval mediation analyses to determine whether health literacy mediated the association between race and global cognitive functioning.

Results: In both PLWH and HIV-negative individuals, linear regressions showed that Whites had better global cognitive functioning, health literacy, and verbal IQ than AAs. Linear regressions showed that health literacy had an independent association with cognitive function when accounting for verbal IQ and SES. Mediations showed that health literacy significantly mediated the association between race and global cognitive functioning in both samples, independent of verbal IQ (PLWH: b = .07, 95% CI [0.0096, 0.2149]; HIV-negative: b = .15, 95% CI [0.0518, 0.2877]), indicating that Whites were expected to obtain higher global cognitive Z-scores than AAs in both PLWH and HIV-negative samples, through the mediating effect of better health literacy.

Conclusions: Health literacy significantly mediated the association between race and global cognitive functioning among middle-aged and older adults with and without HIV, underscoring the importance of health literacy in explaining racial disparities in cognitive outcomes among AAs in the Deep South. Findings have implications for guiding clinicians and healthcare providers in developing interventions that promote health literacy in these underserved populations, which may have downstream impacts on cognitive functioning. Future work is needed to examine mechanisms whereby health literacy impacts neurocognition among AA PLWH.

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56 Cognitive Intra-Individual Variability Profiles of a Spanish Speaking Population Living with HIV and Injection Drug Use

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