

**Objective:** A recent review called for a more robust assessment of cannabis use (CU), including amount and timing of recent use to assess neurocognitive effects of CU among people living with HIV (PWH) (Ellis et al., 2021). The current study addresses some issues raised by investigating between group neurocognitive differences among healthy controls and PWH who differ on their cannabis use histories, using strict inclusion criteria, robust classification of CU, and administration of an established neurocognitive test battery.

**Participants and Methods:** Among this community sample of adults (N=309), 58 were classified as CU+/HIV+ group (84.5% Male), 76 as CU-/HIV+ (57.9% M), 86 as CU+/HIV- (58.1% M), and 89 as CU-/HIV- (53.9% M). Exclusion criteria included history of past 12-month dependence and extensive lifetime dependence or significant use of illicit substances other than cannabis, severe or current mood or thought disorder, and other medical conditions that adversely impact neurocognitive functioning. Inclusion criteria for CU+ groups included <30-days since last CU, >10 times of CU in last month, 3 times of CU per month in last 12 months, > 1 year of CU, and > 500 times used in lifetime. CU parameters did not statistically differ between HIV+/CU+ and HIV-/CU+. CU- groups' inclusion criteria required no CU in last 6 months, 196 lifetime number of times used, and no history of CU dependence. Lifetime CU did not statistically differ between CU-/HIV+ and CU-/HIV- groups. HIV+ groups did not differ significantly on HIV viral load in plasma or nadir CD4+ counts. Significant between group differences included age, sex, years of education, and amount of alcohol and nicotine use within 12 months. The aforementioned sociodemographic and substance use variables that differed between groups were covariates in analyses. A battery of 10 neurocognitive measures, two measures per each domain of learning, memory, motor, executive functioning, and processing speed. Global composite summary scores for overall neurocognitive performance were calculated by averaging M T-scores for each neurocognitive domain. Data transformations were used to address any violations of statistical assumptions.

**Results:** To facilitate data reduction, neurocognitive task scores were standardized to T-scores using the M and SD of the CU-/HIV- group. An omnibus model of between-group comparisons on global neurocognitive task performance revealed no significant differences,

$F(3) = .16, p = .923$ . Subsequent Tukey's post hoc test revealed no significant differences among the four groups. Results also revealed nonsignificant differences between groups in neurocognitive performance within each domain. However, the CU-/HIV- group performed significantly worse than the CU-/HIV+ group on the Executive Functioning domain, based on Tukey's post hoc test.

**Conclusions:** We found no significant global neurocognitive differences among groups; however, there was some evidence for domain-specific neurocognitive differences in executive functioning. This contrasts somewhat with existing literature on HIV and cannabis-associated neurocognitive deficits. Several factors may have contributed to this, including our relatively healthy PWH sample. Future analyses will examine interactive effects of HIV severity and severity of CU on neurocognition. This analysis will better determine who, among PWH, are most at-risk for cannabis-associated neurocognitive effects and what factors may exacerbate them.

**Categories:** Infectious Disease (HIV/COVID/Hepatitis/Viruses)

**Keyword 1:** neurocognition

**Keyword 2:** HIV/AIDS

**Keyword 3:** substance abuse

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## 5 The Association of Neighborhood Socioeconomic Deprivation with Neurocognition in a Diverse Cohort of Middle- and Older-Aged Persons Living with and Without HIV

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**Objective:** Due to decades of structural and institutional racism, minoritized individuals in the US are more likely to live in low socioeconomic neighborhoods, which may underlie the observed greater risk for neurocognitive impairment as they age. However, these relationships have not been examined among people aging with HIV. To investigate neurocognitive disparities among middle- and older-aged Latino and non-Latino White people living with HIV (PWH), and whether neighborhood socioeconomic deprivation may partially mediate these relationships.

**Participants and Methods:** Participants were 372 adults ages 40-85 living in southern California, including 186 Latinos (94 PWH, 92 without HIV) and 186 non-Latino (NL) Whites (94 PWH, 92 without HIV) age-matched to the Latino group (for the overall cohort: Age M=57.0, SD=9.1, Education: M=12.7, SD=3.9, 38% female; for the group of PWH: 66% AIDS, 88% on antiretroviral therapy [ART]; 98% undetectable plasma RNA [among those on ART]). Participants completed psychiatric and neuromedical evaluations and neuropsychological tests of verbal fluency, learning and memory in person or remotely. Neuropsychological results were converted to demographically-unadjusted global scaled scores for our primary outcome. A neighborhood socioeconomic deprivation variable (SESDep) was generated for census tracts in San Diego County using American Community Survey 2013-2017 data. Principal components analysis was used to create one measure using nine variables comprising educational (% with high school diploma), occupational (% unemployed), economic (rent to income ratio, % in poverty, % female-headed households with dependent children, % with no car, % on public assistance), and housing (% rented housing, % crowded rooms) factors. Census tract SESDep values were averaged for a 1km radius buffer around participants' home addresses.

**Results:** Univariable analyses (independent samples t-tests and Chi-square tests) indicated Latinos were more likely to be female and had fewer years of formal education than NL-Whites ( $p < .05$ ). Latino PWH had higher nadir CD4 than White PWH ( $p = .02$ ). Separate multivariable

regression models in the overall sample, controlling for demographics and HIV status, showed Latinos had significantly lower global scaled scores than Whites ( $b = -0.59$ ; 95%CI= 1.13, -0.06;  $p = .03$ ) and lived in more deprived neighborhoods ( $b = 0.62$ ; 95%CI=0.36, 0.88;  $p < .001$ ). More SES deprivation was significant associated with worse global neurocognition in an unadjusted linear regression ( $b = -0.55$ ; 95%CI=-0.82, -0.28;  $p < .001$ ), but similar analyses controlling for demographics and HIV status, showed SESDep was not significantly related to global scaled scores ( $b = -0.11$ ; 95%CI= -0.36, 0.14;  $p = .40$ ). Exploratory analyses examined primary language (i.e., English vs Spanish) as a marker of Hispanic heterogeneity and its association with neurocognition and SESDep. Controlling for demographics and HIV status, both English-speaking ( $b = 0.33$ ; 95%CI=0.01, 0.64;  $p = .04$ ) and Spanish-speaking Latinos ( $b = 0.88$ ; 95%CI=0.58, 1.18;  $p < .001$ ) lived in significantly greater SESDep neighborhoods than Whites, with SESDep greater for Spanish-speakers than English-speakers ( $p < .001$ ). However, only English-speaking Latinos had significantly lower neurocognition than Whites ( $b = -0.91$ ; 95%CI=0-1.57, -0.26;  $p < .01$ ; Spanish-speakers:  $b = -0.27$ ; 95%CI=-0.93, 0.38;  $p = .41$ ).

**Conclusions:** Among our sample of diverse older adults living with and without HIV, English-speaking Latinos showed worse neurocognition than Whites. Though SES neighborhood deprivation was worse among Latinos (particularly Spanish-speakers) it was not associated with neurocognitive scores after adjusting for demographics. Further studies investigating other neighborhood characteristics and more nuanced markers of Hispanic heterogeneity (e.g., acculturation) are warranted to understand factors underlying aging and HIV-related neurocognitive disparities among diverse older adults.

**Categories:** Infectious Disease (HIV/COVID/Hepatitis/Viruses)

**Keyword 1:** ethnicity

**Keyword 2:** aging (normal)

**Keyword 3:** environmental pollutants / exposures

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## 6 Examining Relationships Between Perceived Discrimination, Metabolic Syndrome, and Cognition

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**Objective:** Discrimination on the basis of race, gender identity, and age, among others, has been associated with negative cognitive outcomes. However, the mechanisms by which perceived discrimination impacts cognition are not yet well understood. Discrimination can lead to chronic stress, which disrupts glucocorticoid pathways and induces susceptibility to metabolic dysregulation. On the basis of this prior work, and the known associations between metabolic syndrome and cognition, the current study examined the hypothesis that metabolic syndrome mediates the relationship between discrimination and cognition.

**Participants and Methods:** 1,063 adults (Mean age = 54.92 years, SD = 11.68) who participated in the Midlife in the United States project were included. Confirmatory factor analysis was used to examine the acceptability of a bifactor model of metabolic syndrome using four subfactors (insulin resistance, adiposity, dyslipidemia, and blood pressure). The mediating effect of the metabolic syndrome latent factor on the association between discrimination and cognition was tested using PROCESS (Hayes, 2013). Exploratory analyses were conducted to examine which cognitive domains and which metabolic syndrome subfactors were driving these relationships. Mediation analyses adjusted for age, race, sex, and education.

**Results:** The three most frequently reported reasons for discrimination were gender ( $n = 209$ ), age ( $n = 174$ ), and race ( $n = 129$ ). The CFA of metabolic symptoms was deemed acceptable based on previously outlined goodness of fit criteria (CFI = 0.986, TLI = 0.976, RMSEA = 0.040, SRMR = 0.034). Results of the mediation analysis indicated a significant indirect effect of major events discrimination on the total cognition composite through the general metabolic syndrome factor ( $B = -0.0029$ , 95% CI [-0.0016, -0.0066]). Further examination

revealed that this relationship was driven through an indirect path of metabolic syndrome on the relationship between discrimination and executive functioning ( $B = -0.0024$ , 95% CI [-0.0059, -0.0001]). We examined which subfactors were driving these relationships and found that there were significant indirect effects of major events discrimination on total cognition through the insulin resistance ( $B = -0.0028$ , 95% CI [-0.0065, -0.0003]) and dyslipidemia factors ( $B = -0.0026$ , 95% CI [-0.0064, -0.0002]).

**Conclusions:** Our findings provide evidence that metabolic syndrome can help explain differences in cognitive functioning based on experiences of discrimination, even after adjusting for relevant demographic factors. Results from this study suggest that understanding the impact of perceived discrimination on metabolic syndrome and developing lifestyle interventions that can improve metabolic syndrome may be helpful in reducing stress-related cognitive disparities.

**Categories:** Other

**Keyword 1:** chronic stress

**Keyword 2:** minority issues

**Keyword 3:** cognitive functioning

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## Poster Session 08: Assessment | Psychometrics | Noncredible Presentations | Forensic

3:30 - 4:45pm

Friday, 3rd February, 2023

Town & Country Foyer

### 1 Psychometric comparison of the long and short forms of the Personality Assessment Inventory in a neuropsychiatric population

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