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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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30 Analyzing Spanish Speakers Cordoba Naming Test Performance

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Objective: A 30-item confrontation naming test was developed in Argentina for Spanish speakers, The Cordoba Naming Test (CNT). The Boston Naming Test is an established confrontation naming task in the United States. Researchers have used the Boston Naming Test to identify individuals with different clinical pathologies (e.g., Alzheimer's disease). The current literature on how Spanish speakers across various countries perform on confrontational naming tasks is limited. To our knowledge, one study investigated CNT performance across three Spanish-speaking countries (i.e., Argentina, Mexico, and Guatemala). Investigators found that the Guatemalan group underperformed on the CNT compared to the Argentine and Mexican groups. The purpose of this study was to extend the current literature and investigate CNT performance across five Spanish-speaking countries (i.e., Argentina, Mexico, Guatemala, Colombia, United States). We predicted that the Argentine group would outperform the other Spanish-speaking countries.

Participants and Methods: The present study sample consisted of 502 neurologically and psychologically healthy participants with a mean age of 29.06 (SD = 13.41) with 14.75 years of education completed (SD = 3.01). Participants were divided into five different groups based on their country of birth and current country residency (i.e., United States, Mexico, Guatemala, Argentina, & Colombia). All participants consented to voluntary participation and completed the CNT and a comprehensive background questionnaire in Spanish. The CNT consisted of 30 black and white line drawings, ranging from easy to hard in difficulty. An ANCOVA, controlling for gender, education, and age, was used to evaluate CNT performance between the five Spanish-speaking country groups. Meanwhile, a Bonferroni post-hoc test was utilized to evaluate the significant differences between Spanish-speaking groups. We used a threshold of $p < .05$ for statistical significance.

Results: Results revealed significant group differences between the five Spanish speaking groups on the CNT, $p = .000$, $\eta p^2 = .48$. Bonferroni post-hoc test revealed that the United States group significantly underperformed on the CNT compared to all the Spanish-speaking groups. Next, we found the Guatemalan group underperformed on the CNT compared to the Argentinian, Mexican, and Colombian groups. Additionally, we found the Argentinian group outperformed the Mexican, Guatemalan, and United States groups on the CNT. No significant differences were found between the Argentinian group and Colombian group or the Mexican group and Colombian group on the CNT.

Conclusions: As predicted, the Argentinian group outperformed all the Spanish-speaking groups on the CNT except the Colombian group. Additionally, we found that the United States group underperformed on the CNT compared to all the Spanish-speaking groups. A possible explanation is that Spanish is not the official language in the United States compared to the rest of the Spanish-speaking groups. Meanwhile, a possible reason why the Argentinian and Colombian groups demonstrated better CNT performances might have been that it was less culturally sensitive than the United States, Mexican, and