

olfactory dysfunction ( $X^2(1)=9.22, p=.002$ ). We found discordance between subjective and objective olfaction measures, with 29.4% of the sample having objective olfaction dysfunction and not recognizing it (FN). In comparison, 3.9% with self-rated olfaction impairment had normal objective olfaction scores (FP). Additionally, there was concordance in subjective self-reports compared with objective olfaction, with 35.3% correctly identifying normal olfaction (TN) and 31.4% correctly identifying olfactory dysfunction (TP). Those unaware of olfaction dysfunction (FN) reported using less scented products in daily life on the Smell Habits Questionnaire. Although the FN group had faster TMT scores, these findings were no longer significant after the removal of three outliers in the TP group (e.g., time to complete greater than 350 seconds).

**Conclusions:** Our findings cohere with work in healthy older adults, traumatic brain injury, and Parkinson's disease, documenting that subjective olfaction may inadequately capture the full range of a person's olfactory status. We extend these findings to a sample of MLWH, in which discordance rates ranged from 35-61% for subjective and objective olfactory dysfunction. Unawareness of olfactory dysfunction in MLWH was associated with less daily smell habits and paradoxically faster TMT performance. A higher number of smell habits in the TP group indicate that more frequent odor exposure may increase sensitivity to olfactory declines. Future studies with larger samples will be helpful in understanding the full nature of these relationships. Lastly, given that one-third of the sample had discordance between subjective and objective olfaction, objective olfaction measures may be useful to consider in the neuropsychological assessment and standard clinical care for PLWH.

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

**Keyword 1:** HIV/AIDS

**Keyword 2:** olfaction

**Keyword 3:** cognitive functioning

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## 50 Pain severity as a predictor of verbal fluency functioning after COVID-19 illness

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**Objective:** Published results focusing on language assessment in acutely recovered COVID-19 patients have shown communication problems in this group, including significant cognitive-linguistic disruptions in verbal fluency (Cummings, 2022). Extant research also indicates that poorer health-related outcomes, such as reduced physical functioning and quality of life, co-occur with cognitive difficulties post-COVID-19 infection (Mendez et al., 2021; Tabacof et al., 2022). Understanding what factors may worsen the impact of COVID-19 on cognition, and aspects of language function specifically, is necessary to determine who is at greatest risk of adverse outcomes following infection. Our goal was to examine the effect of health-related outcomes on language abilities, specifically verbal fluency, post-COVID-19 infection.

**Participants and Methods:** 37 adults 19 years and older (M age = 38.78, 67.5% female, 92.5% > high school education) were recruited from British Columbia and Ontario, Canada. Participants provided documentation indicating they had had a COVID-19 infection at least 3 months prior to participation.

Participants completed a series of online questionnaires, including the Short Form Health Survey (SF-20), to measure aspects of health-related quality of life. The SF-20 measures dimensions of functioning (physical, social, role) and well-being (mental health, health perception, pain). For each parameter except pain, higher scores indicate better functioning/well-being; for pain higher scores indicate greater pain levels. Participants also completed neuropsychological tests, including measures of verbal fluency, via teleconference. Animals and F-A-S total scores were combined to represent verbal fluency (semantic and phonemic, respectively) performance.

To assess the impact of health outcomes on verbal fluency performance, hierarchical regression analyses were conducted. The six SF-20 subscale scores were entered as predictors and verbal fluency score (sum) as the

outcome. Age and sex (Male/Female) were controlled for in the model.

**Results:** Age and sex were not significantly related to verbal fluency scores in our sample. After controlling for these demographics, the overall model including SF-20 subscales did not significantly predict fluency performance ( $F(8, 28) = 1.04, p = .433$ ). However, Pain scores did individually predict verbal fluency performance ( $B = 5.60, t = 2.53, p = <.05$ ). Unexpectedly, pain ratings were positively associated with fluency scores, such that each increase in pain rating (e.g., “none” to “mild”) was associated with a fluency score increase of 5.60 points (i.e., 5.6 more words stated across administered tasks).

**Conclusions:** These preliminary findings suggest that participants’ self-reported pain severity was positively associated with verbal fluency task performance in our sample (i.e., greater pain severity predicting better fluency). These findings are contrary to substantial evidence showing the deleterious effects of pain on cognitive functions in other populations (Khera & Rangasamy, 2021). It is possible that findings may be explained by a potential unknown intervening variable not included in our model. This is the first study to our knowledge to examine associations between experienced pain and verbal fluency performance post-COVID-19 infection. It will be important for future work to not only utilize more robust measures of pain experiences and explore more areas of cognition and language, but also to employ larger samples and examine a broader set of covariates.

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

**Keyword 1:** fluency

**Keyword 2:** everyday functioning

**Keyword 3:** infectious disease

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## 51 Trajectories and Predictors of Cognitive Change Following COVID-19

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**Objective:** Acute cognitive complications following COVID-19 infection have been appreciated in a subset of patients since the early months of the global pandemic. Emerging data reveal that some patients go on to experience cognitive improvement, whereas others may experience further cognitive decline. We aimed to assess trajectories and predictors of cognitive change in a sample of post-COVID-19 patients.

**Participants and Methods:** This prospective cohort study assessed longitudinal cognitive change in adults receiving care for COVID-19 in the Johns Hopkins Post-Acute COVID-19 Team (JH PACT) clinic. Participants self-administered the Digital Automated Neurobehavioral Assessment (DANA) battery of seven cognitive tests and a performance-based measure of cognitive fatigue on up to six occasions over six weeks. Improvement or decline between the first and last assessment was defined as change of  $\geq 1$  standard deviation of the baseline mean of each outcome. Potential predictors of change included demographic features (age, sex, race/ethnicity, education), COVID-19 illness characteristics (hospitalization or ICU stay, months since symptom onset), and comorbid disease burden. Analyses included measures of central tendency, independent samples t-tests, and chi-square tests of independence.

**Results:** Of the 36 enrolled participants, 29 (81%) completed at least one DANA assessment ( $M = 4.7$  assessments,  $SD = 1.8$ ). Those completing at least three assessments ( $n = 24, 66.7\%$ ) were included in the present analyses (71% female; 58% white;  $M$  age = 54 years,  $SD = 10.9$ ;  $M$  education = 14.6 years,  $SD = 2.4$ ;  $M$  months since COVID-19 symptom onset at recruitment = 9.8,  $SD = 4.7$ ;  $M$  comorbidities = 2.8,  $SD = 2.0$ ). Fatigue was the most frequently improved outcome measure, with 41.7% of participants scoring  $>1$  standard deviation above the baseline mean fatigue score at their final assessment. Among cognitive outcomes, the greatest frequency of improvement was observed on tests assessing rapid spatial processing (37.5%), processing speed (33.3%), and memory (33.3%). There