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# EXECUTIVE FUNCTIONS, MENTAL PROCESSING SPEED AND COPING STRATEGIES IN POST-COVID CONDITION INDIVIDUALS

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## Introduction and objective

Post-COVID condition (PCC) is characterized by multiple symptoms, including fatigue, dyspnea, cognitive impairment, pain, headache, altered smell/taste, and mental health issues (Ariza et al., 2022). Style of coping mediates adaptability to chronic illness (Hyland, 1992). Neuropsychological deficits, particularly executive dysfunction, can result in ineffective coping strategies, as demonstrated by research on various neurologic and psychiatric conditions (Grech et al., 2016; Krpan et al., 2007; Wilder-Willis et al., 2002).

Our objective was to examine the relationship between PCC participants' coping strategies, mental processing speed, and executive function.

## Methods

The sample comprises 368 PCC participants from the Nautilus Project (see Table).

It was administered the Digit symbol test, the TMT, the Stroop Test (SCWT), and the COWAT (PMR). The participants completed the Spanish form of the Coping Strategies Inventory (CSI). Two mega-strategies were created: ACTIVE or adaptive coping (Problem solving, Cognitive Restructuring, Social Support and Express emotions) and PASSIVE or maladaptive coping (Problem avoidance, Wishful thinking, Social withdrawal and Self-criticism).

A Pearson's product-moment correlation was run to assess the relationship between coping strategies and neuropsychological measures. Analyses were performed using R Statistical Software. The alpha level was set at p=0.05.

**Table. Sociodemographic and clinic characteristics of the PCC individuals**

| | Mean (SD) |
|---|---|
| **Age (years)** | 49.95 (9.51) |
| **Education (years)** | 13.84 (3.32) |
| **Time since + test (months)** | 10.93 (5.96) |
| | **N** |
| **Sex** | |
| Female | 243 (66%) |
| Male | 125 (34%) |
| **Severity of COVID-19** | |
| ICU | 81 (22%) |
| Hospital | 80 (21.7%) |
| Ambulatory | 207 (56.3%) |

## Results

There was a statistically significant direct correlation between SCWT interference and active coping (r=.13; p=.017) (Fig.1) and between passive coping and TMT A (r=.14; p=.007) and TMT B (r=.17; p=.002). We found a statistically significant inverse correlation between passive coping and digit symbol (r=-.21; p=.0001), SCWT (r=-.23; p=.0001) (see Fig.2), and phonetic fluency (r=-.16; p=.003).

**Fig 1. Active strategies score and the Stroop color-word raw score scatterplot**

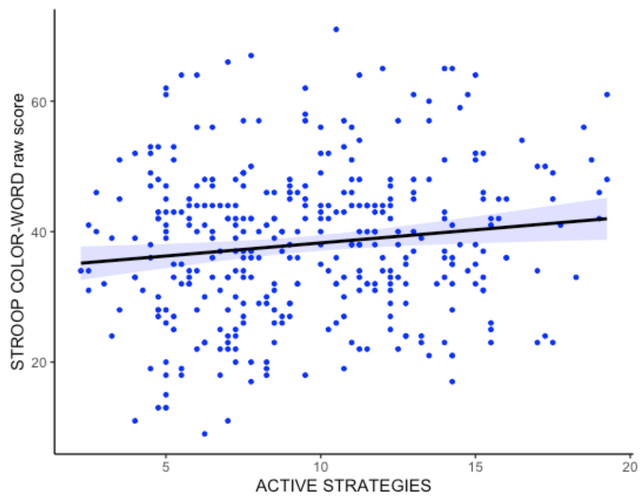
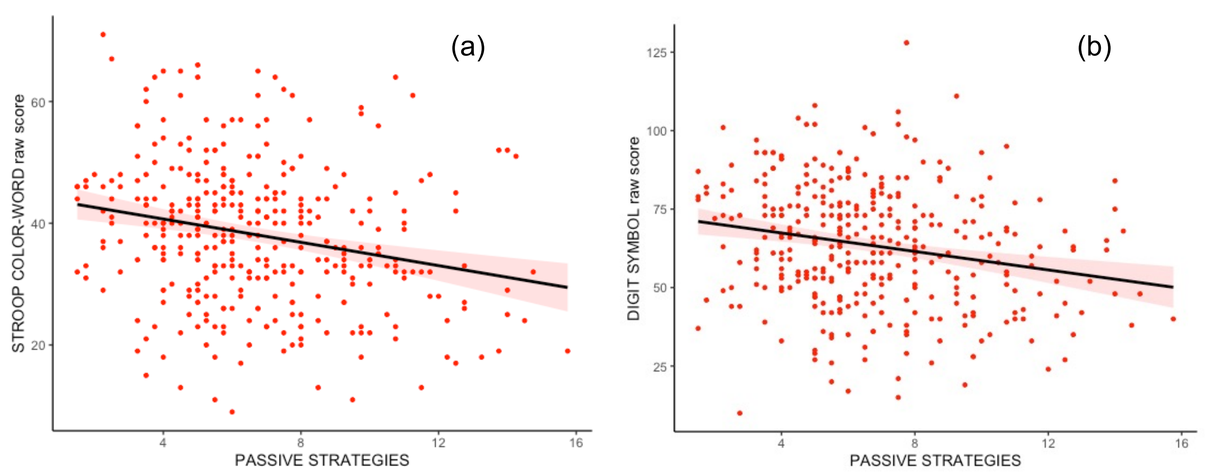



**Fig. 2. Scatterplot of the passive strategies score *vs* (a) the Stroop color-word raw score and (b) the digit symbol raw score**




## Conclusions

In PCC individuals, poor executive function is associated with increased use of passive coping strategies and decreased use of active coping strategies, whereas slow mental processing speed is associated with increased use of passive coping strategies.

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