

# The Protective Role of Cognitive Reserve in Mediating Depressive Symptomatology in Patients with Multiple Sclerosis

Tuesday, September 24, 2024 1:30 PM (20 minutes)

Cognitive impairment (CI) in Multiple Sclerosis (MS) affects between 40 and 65 percent of people with MS (pwMS), impacting memory, attention, information processing speed, and language (Amato et al., 2010). High levels of depression worsen cognitive symptoms: pwMS with depression perform poorly in working memory or information processing speed (van Geest et al., 2019). However, some studies have found that greater Cognitive Reserve (CR) protects against CI in pwMS (Santangelo et al., 2018).

Therefore, the aim of this study was to investigate the correlations between depression and sustained attention, working memory, and semantic fluency in a cohort of Italian PwMS, considering the effect of CR.

187 PwMS (W= 130; mean age=42.0 years; SD = 12.5), from the Bari University Hospital, underwent testing for semantic fluency (Word List Generation [WLG]), sustained attention and working memory (Paced Auditory Serial Addition Test [PASAT]), Cognitive Reserve level (Cognitive Reserve Index questionnaire [CRIq]), and depressive symptomatology (Beck's Depression Inventory [BDI]).

Statistically significant correlations emerged between WLG and CRIq, PASAT and CRIq, WLG and BDI, PASAT and BDI. GLM mediation analyses revealed that the direct effects of depression on PASAT and WLG scores were not statistically significant ( $p > .05$ ). In contrast, the indirect effect (BDI → CR → PASAT and BDI → CR → WLG) was significant ( $z = -2.29$ ,  $p < 0.05$ ;  $z = -2.49$ ;  $p < 0.05$ ).

These results suggest that CR mediates the relationship between depressive symptomatology and information processing speed, sustained attention, and verbal fluency.

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No

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**Session Classification:** Lunch & poster 2