

COGNITIVE AND EXPERIMENTAL PSYCHOLOGY

EVERYDAY MEMORY QUESTIONNAIRE [13-ITEMS]: EUROPEAN PORTUGUESE TRANSLATION AND PSYCHOMETRIC CHARACTERIZATION

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Abstract

Subjective Memory Complaints (SMCs) are very frequent in the community, but more markedly in older people (Ginó et al., 2010; Zapater-Fajari et al., 2022). Several studies have indicated an association between SMCs and memory objectively measured, although the results maintain inconsistency. However, SMCs constitute an important symptom in clinical contexts which is usually associated with the search for clinical care. Scientific literature has reported several questionnaires to assess SMCs [e.g., Everyday Memory Questionnaire (EMQ) - 13 items; Royle & Lincoln, 2008]. However, in Portugal there are very few instruments that measure SMCs. This study aimed to translate and present preliminary psychometric data of the EMQ (13-items) for application to the Portuguese population. This instrument has been reported in literature as one of the most used instruments to assess memory complaints. Additionally, this study aimed to explore factors that could predict SMCs (i.e., age, depression, anxiety). The sample was composed of 344 participants (241 female), with ages between 18 and 80 years ($M = 36.4$, $SD = 15.9$). Participants completed the following self-report questionnaires: Sociodemographic Questionnaire, EMQ 13-items, Montreal Cognitive Assessment (MoCA), Beck Depression Inventory-II (BDI-II), and State-Trait Anxiety Inventory (STAI-Y2). The results suggested that the EMQ 13-items presents good psychometric properties, specifically internal consistency (Cronbach's alpha of 0.92), and factorial validity (two-factor structure that explained 60.3% of the total variance), although the sample presents some limitations. In a sub-sample, some negative correlations were found between EMQ 13-items and MoCA subscales. The results also indicated that depression and age are predictors of the subjective memory complaints, a pattern of results found in studies with several instruments that assess memory complaints. Given that this instrument revealed good psychometric characteristics for a Portuguese sample, although this is a preliminary study, this constitutes a starting point for new studies (e.g., transcultural studies).

Keywords: *Subjective memory complaints, EMQ 13-items, psychometrics, individual factors.*

VARIABLES THAT ALLOW A RELIABLE CLASSIFICATION OF OLDER PEOPLE WITH DIFFERENT LEVELS OF COGNITIVE STATE

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Abstract

To assess the general cognitive state and identify potential cognitive deterioration issues, screening tests such as the Mini-Mental State Examination have been widely utilized. Various studies have aimed to determine the socio-demographic variables (e.g., age, education) and cognitive abilities (memory, language, executive functions) most closely linked to the cognitive state assessed through tests like the MMSE. The primary objectives of this study were as follows: (a) assess the impact of socio-demographic variables, such as age and cognitive reserve, and other cognitive abilities (working memory, comprehension of written sentences) in accurately classifying a sample of older individuals with varying general cognitive statuses; (b) calculate optimal cut-off points for variables with the greatest importance

in classification, striking a balance between true positive rate (sensitivity) and false positive rate (1 - specificity). The participants comprised 159 Spanish older adults, aged 60 to 89, categorized into two groups based on their 35-item MMSE scores: those with scores equal to or greater than the 60thile (normal/high scores: N/Hs group) and those with scores equal to or lower than the 25thile (low scores: Ls group). All participants underwent tests evaluating working memory and comprehension of written sentences, including the digit reordering test, the sequential version of the ECCO-senior test, and the written sentence comprehension test of the Bateria de Evaluación de los Trastornos Afásicos (BETA; English translation: Battery for the assessment of aphasic disorders). Cognitive reserve estimation was obtained through Rami et al.'s Cognitive Reserve Questionnaire. Binary logistic regression analysis was initially conducted following a hierarchical method to identify significant variables explaining correct classification. Subsequently, ROC curve analyses were performed to determine optimal cut-off points for relevant variables, as well as measures of overall model quality. The final logistic equation incorporates cognitive reserve, digit reordering, and performance on BETA's sentences focused on the object and on sentences with one proposition not fitting canonical word order in Spanish in the ECCO test. Area under the curve (AUC), ROC and precision/exhaustivity curves, an overall model quality index, and optimal cut-off values were computed for all these significant variables. Results are discussed in the context of the reviewed literature.

Keywords: *Cognitive reserve, working memory, sentence comprehension, MMSE, ROC analysis.*

COGNITIVE FUNCTIONS IN A SERIES OF PATIENTS AFTER ACUTE COVID 19 INFECTION – CASE SERIES

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Abstract

The exact number of COVID-19 cases worldwide is unknown – it is estimated that the real number of cases is much greater than the laboratory-confirmed, positive patients. A large part of these patients, up to 85% according to some studies, present at a later stage with persisting heterogeneous non-specific symptoms, defined by the World Health Organization (WHO) as Post-acute COVID syndrome (PACS, long-COVID or Post-COVID syndrome). Among the myriad manifestations of PACS, the most common are shortness of breath, fatigue, and cognitive dysfunction including impaired concentration and forgetfulness, all of which are negatively influencing the quality of life of patients. There is still no unanimous consensus, regarding the exact pathogenetic mechanisms of the long-term post-COVID manifestations and no established guidelines for their treatment. Therefore, it is necessary to continue the in-depth study of PACS and its cognitive symptoms. We studied 68 subjects with post-acute COVID syndrome (PACS) – using a detailed clinical interview, a non-contrast magnetic resonance imaging (MRI) brain scan and a computer-based neuro-psychological test - the CogState Brief Battery, assessing four core cognitive domains: processing speed, attention, visual learning and working memory. Our aim here is to present a case series of 4 subjects, in early and middle adulthood who have recovered from a mild COVID 19 infection in the previous year, and which showed hippocampal enlarged perivascular space (H-EPVS) on MRI. The analysis of the acquired test results showed that all subjects had lower (> 53%) than expected accuracy in one subtest of the CogState Brief Battery, compared to healthy individuals. Two of the participants performed worse on the same CogState subtest at follow-up on both outcome measures, compared to baseline. These results confirm the need for objective examination and follow-up of patients with subjective cognitive complaints with sensitive neuropsychological methods and neuroimaging.

Keywords: *Cognitive functions, computer-based neuropsychological test, post-COVID syndrome.*
