(Columbus, OH). Participants completed control (no exercise), light intensity, and vigorous intensity exercise conditions across three counterbalanced appointments. For each participant, all three appointments occurred at approximately the same time of day with at least 2 days between appointments. Following the rest or exercise conditions and after an approximately 7 minute delay, participants completed a Mnemonic Similarity Task (MST; Stark et al., 2019) to assess pattern separation. This task was always administered first as we attempted to replicate previous studies and further clarify the relationship between acute bouts of aerobic exercise and pattern separation by implementing an exercise stimulus that varied in intensity. After the MST, three brief cognitive tasks (roughly 5 min each) were administered in a counterbalanced order: a gradual-onset continuous performance task (gradCPT; Esterman et al., 2013), the flanker task from the NIH toolbox, and a face-name episodic memory task. Here we report results from the gradCPT, which assesses sustained attention and inhibitory control. Heart rate and ratings of perceived exertion were collected to validate the rest and exercise conditions. Repeated-measures ANOVAs were used to assess the relationship between exercise condition and dependent measures of sustained attention and inhibitory control and pattern separation.
**Results:** One-way repeated-measures ANOVAs revealed a main effect of exercise condition on gradCPT task performance for task discrimination ability (d') and commission error rate (p's < .05). Pairwise comparisons revealed task discrimination ability was significantly higher following the light intensity exercise condition versus the control condition. Commission error rate was significantly lower for both the light and vigorous exercise conditions compared to the control condition. For the MST, two-way repeated-measures ANOVAs revealed an expected significant main effect of lure similarity on task performance; however, there was not a significant main effect of exercise intensity on task performance (or a significant interaction).
**Conclusions:** The current study indicated that acute bouts of exercise improve both sustained attention and inhibitory control as measured with the gradCPT. We did not replicate previous work reporting that acute bouts of exercise improve pattern separation in young adults. Our results further indicate that vigorous exercise did not detrimentally impact or improve pattern separation performance. Our results indicate that light intensity exercise is sufficient to enhance sustained attention and inhibitory control, as there were no significant differences in performance following light versus vigorous exercise.

**Categories:** Executive Functions/Frontal Lobes
**Keyword 1:** executive functions
**Keyword 2:** inhibitory control
**Keyword 3:** memory: normal
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## 89 Depression and Executive Function in a Mexican Population

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**Objective:** Depression is a mood or emotional state that is characterized by feelings of sadness (i.e., a loss of interest in activities, low self-worth) for a minimum of two weeks. Executive function is a set of mental processes that are necessary for cognitive control of behavior to achieve and successfully execute a specific goal (e.g., inhibition). Researchers have reported that people with abnormal symptoms of depression (ASD) demonstrate worse executive functioning abilities (e.g., planning) compared to persons with normal symptoms of depression (NSD). Currently, there is a lack of research studies examining how depressive symptoms influence executive functioning in people that identify as Mexican. The purpose of the present study was to evaluate the influence of depression on executive functioning in a healthy Mexican

Spanish speaking population. We hypothesized that participants with NSD would demonstrate better executive functioning abilities compared to participants with ASD.

**Participants and Methods:** The sample in the present study consisted of 87 neurologically and psychologically healthy Mexican participants all residing in Mexico. Mean age was 24.71 (SD = 9.66) and 14.78 (SD = 4.50) years of education completed. Participants completed a neuropsychological battery in Spanish and were divided into two groups: NSD (n = 61) and ASD (n = 26). The Stroop Color Word Test - Color-Word (SCWT-CW) task, phonemic verbal fluency task consisting of three trials, and semantic verbal fluency task consisting of one trial were used to evaluate executive functioning. In addition, participants completed the Hospital Anxiety and Depression Scale in Spanish to report the current level of depression. ANCOVAS, controlling for age were used to examine executive functioning performance. We used a threshold of $p < .05$ for statistical significance.

**Results:** ANCOVAS revealed the NSD group outperformed the ASD group on the SCWT-CW task, $p = .004$, $\eta p^2 = .10$. We also found the NSD group outperformed the ASD group on the phonemic verbal fluency task, $p = .045$, $\eta p^2 = .05$. Finally, no significant differences were found between depression groups on the semantic verbal fluency task.

**Conclusions:** As we predicted, the NSD group demonstrated better executive functioning abilities compared to the ASD group, except on the semantic verbal fluency task. Our data suggests that the current level of depression have a significant influence on verbal executive functioning abilities in a Spanish speaking population. Future studies with larger sample size should evaluate if current symptoms of depression influence non-verbal executive functioning abilities in a Spanish speaking Mexican population.

**Categories:** Executive Functions/Frontal Lobes
**Keyword 1:** depression
**Keyword 2:** executive functions
**Keyword 3:** cognitive functioning
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## 90 Self-Rated Executive Dysfunction in Older Adults with Subjective Cognitive Dysfunction and Mild Cognitive Impairment

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**Objective:** Mild cognitive impairment (MCI) is characterized by subjective and objective memory concerns, though additional cognitive concerns are commonly reported, including changes in executive functions (EF). Rabin et al. (2006) showed that a sample of research participants with MCI endorsed problems with their EFs, especially working memory. Similarly, those with subjective cognitive dysfunction (SCD) also reported greater difficulty with aspects of their EF than a healthy comparison sample of older adults (HC). In the present study, we investigated subjective EF in clinical samples of older adults with MCI or SCD, which represents a more naturalistic sample relative to a research sample. Furthermore, we evaluated whether subjective EF varied in these groups depending on whether patients were "young-old" versus "old-old" given prior research indicating objective cognitive differences between these age groups.

**Participants and Methods:** Participants were 135 older adults (53 MCI, 52 SCD, and 30 HC) matched for age ($p = .116$) and education ($p = .863$). Dichotomous categorization of age used the sample median (72 years) as cutoff score with 72 participants in the young-old group (mean age = 65.8 ± 4.7 years) and 63 in the old-old group (mean age = 78.1 ± 3.7 years). Participants completed the Behavior Rating Inventory of Executive Function–Adult (BRIEF-A), assessing executive functions in everyday life over the past month. The BRIEF-A yields an overall score (Global Executive Composite [GEC]) composed of two index scores (Behavioral Regulation Index [BRI] and Metacognition Index [MI]) and nine clinical scales (Inhibit, Shift, Emotional Control, Self-Monitor, Initiate, Working Memory, Plan/Organize, Task Monitor, and Organization of Materials). A diagnosis by age-group multivariate analysis of variance (MANOVA) with post-hoc comparisons for diagnosis using a