The Impact of Puzzle-Solving on Memory Retention and Concentration: A Study of Cognitive Enhancement

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The purpose of this research was to determine how different types of puzzles—Sudoku and jigsaw puzzles—affect memory retention and concentration, and whether engaging in both leads to greater cognitive improvement than focusing on just either Sudoku or Jigsaws. Participants, aged 14-18, who did not regularly solve puzzles, were randomly assigned to one of four groups: one solving Sudoku, another completing jigsaw puzzles, a third alternating between both, and a control group that did no puzzles for two weeks. Each participant completed a pre-test measuring memory retention and concentration before beginning the intervention phase and repeated the same test after the 10-day intervention. All groups engaged in their assigned puzzles five times per week for two weeks. Additionally, two specific groups were included: an ADHD group focused on concentration and an early stage dementia group focused on memory retention. The collected data included pre- and post-test scores and accuracy rates. Statistical analysis using paired t-tests was conducted to compare cognitive improvements across groups. The results suggest that all puzzle groups showed greater improvement in memory retention and concentration compared to the control group, with the jigsaw puzzle group demonstrating the most significant gains. The ADHD & early dementia group also enhanced concentration and memory retention significantly as well. These findings indicate that puzzle-solving may be an effective and time-efficient cognitive exercise. Future research could explore long-term effects, additional puzzle types, and benefits to other neurological conditions.

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