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Topic of Research: Working memory, Fluid intelligence and Multitask performance of college students

FINDINGS

This study examined the relationship between working memory, fluid intelligence, and multitasking performance among 244 college students (18–25 years) from Delhi-NCR, representing both genders and science and arts streams. Standardized instruments, including the NIMHANS N-back Test, Raven's Standard Progressive Matrices (RSPM), and a SynWin-based multitasking test, were used to assess the three cognitive abilities.

The findings revealed significant gender differences in multitasking performance. Male students scored significantly higher than females in audio, video, mathematics, and overall multitasking, while no significant difference was observed in memory multitasking. Science students also performed significantly better than arts students in audio, mathematics, and overall multitasking, although no stream differences were found in video or memory multitasking.

Working memory showed a similar pattern, with males outperforming females in most components and overall working memory scores, whereas no significant differences were observed between science and arts students. In contrast, fluid intelligence remained stable, showing no significant differences across gender or academic stream.

Correlation analyses indicated a moderate positive relationship between working memory and multitasking performance, suggesting that students with greater working memory capacity were better at managing multiple tasks. Working memory was also positively associated with fluid intelligence. However, fluid intelligence was not significantly related to multitasking, indicating that working memory, rather than reasoning ability alone, plays a more important role in successful multitasking among college students.