ABSTRACT

Background: Smartphone addiction has become an emerging public health concern among young adults, with increasing evidence linking excessive use to impaired sustained attention and reduced cognitive performance. This study aimed to compare sustained attentional capacity between physically active and inactive young adults with smartphone addiction.

Methodology: A comparative cross-sectional study was conducted among university students at Brainware University, Barasat, Kolkata. A total of 155 participants were screened; 142 smartphone owners completed the assessment battery. After merging valid responses across all three instruments, 96 participants had complete data for primary analysis. Physical activity status was determined using the GPAQ; active: ≥600 MET-min/week, smartphone addiction was assessed using the SAS-SV; cutoff: males ≥31, females ≥33, and sustained attention was evaluated using the d2-R Test of Attention. Normality was assessed using the Shapiro–Wilk test and homogeneity of variance using Levene's test. The primary hypothesis was tested using the independent t-test on smartphone-addicted participants with valid data (n = 24). A secondary analysis on all participants (n = 96) used the Mann–Whitney U test. Pearson's and Spearman's correlations examined associations between SAS-SV scores, MET-min/week, and d2-R performance.

Results: Of 142 users, 23.9% were addicted; 73% met activity guidelines. No significant attention differences or correlations were found, though a weak, non-significant trend linked addiction severity with reduced attention.

Conclusion: The study found no significant difference in sustained attention between physically active and inactive smartphone-addicted young adults.

Keywords: *smartphone addiction, sustained attention, physical activity, cognitive performance, young adults.*

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