



Association of Problematic Internet Use With Movement Proficiency, Physical Activity, and Cognitive Abilities in Adolescents

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Background and Aim. Problematic internet use (PIU) is a growing public health concern among adolescents, with potential impacts on physical and cognitive development. Given the importance of physical activity and movement proficiency for healthy development, understanding their relationship with problematic internet use is essential. This study aimed to examine the associations between problematic internet use, movement proficiency, physical activity, and cognitive ability in adolescents.

Methods. This study included 550 adolescents aged 10–18 years in Pakistan to examine associations between problematic internet use, movement proficiency, physical activity, cognitive ability, and BMI. Measures included PRIUSS, BOT-2, Raven's matrices, and MVPA, with analyses using t-tests, correlation, and regression.

Results. The mean age of participants was 13.07 ± 2.04 years, with a mean PIU score of 24.53 ± 9.71 ; 45.1% were classified as high risk. The mean movement proficiency score was 120.46 ± 17.80 , and the mean cognitive ability score was 4.49 ± 2.62 . Adolescents with high PIU showed significantly lower physical activity and movement proficiency ($p < .01$). PIU was negatively correlated with movement proficiency ($r = -.18, p < .001$) and positively correlated with BMI ($r = .13, p = .002$). Regression analysis identified movement proficiency ($\beta = -.23, p < .001$) and BMI ($\beta = .19, p < .001$) as significant predictors of PIU, while cognitive ability showed a weak but significant association ($\beta = .09, p = .046$).

Conclusions. Problematic internet use is associated with lower movement proficiency and higher BMI in adolescents. Based on these findings, the next phase of the study introduces a targeted physical activity intervention for high-risk students to reduce the negative effects of problematic internet use by improving physical activity levels and movement proficiency.

Keywords: Problematic internet use; movement proficiency; physical activity; school-based physical activity interventions; adolescents

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Informed Consent Statement: The study was approved by the National Bioethics Committee for Research (NBC-R), Pakistan (Approval No. NBCR-1258). Written informed consent was obtained from all participants and their parents/guardians. The study was conducted in accordance with the Declaration of Helsinki.



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