

INVESTIGATION OF THE RELATIONSHIPS BETWEEN CHRONOTYPE, LONELINESS, LOW SELF-ESTEEM, AND INTERNET GAMING DISORDER: A CROSS-SECTIONAL STUDY

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BACKGROUND AND AIM: Internet Gaming Disorder (IGD) is a multifaceted behavioral condition influenced by psychological and individual difference factors. While associations with personality traits and mood symptoms are well documented, the relative contributions of chronotype, self-esteem, and loneliness remain unclear. This cross-sectional study examined the independent associations of chronotype, self-esteem, loneliness, and gender with IGD severity, while statistically adjusting for anxiety and depressive symptoms.

METHODS: (Ethics Committee Approval must be obtained and the number should be specified). This cross-sectional investigation included 211 healthy adult volunteers (123 women, 88 men), who completed the Morningness–Eveningness Questionnaire (MEQ), Rosenberg Self-Esteem Scale, Hospital Anxiety and Depression Scale (HADS), UCLA Loneliness Scale–Version III, and the Internet Gaming Disorder Scale–Short Form (IGDS9-SF). Hierarchical linear regression analyses were conducted to identify variables independently associated with IGD severity. The study was approved by the Afyonkarahisar Health Sciences University Non-Interventional Ethics Committee (03.05.2024, No: 111/2024-3).

RESULTS: The final regression model explained a significant proportion of the variance in IGD severity ($R^2 = 0.224$, $F=19.89$, $p < 0.001$). Eveningness was the strongest variable associated with higher IGD scores, accounting for approximately 15% of the variance ($\beta = -0.353$, $p < 0.001$), followed by male gender (4%; $B = 3.468$, $p < 0.001$) and lower self-esteem (2%; $\beta = -0.179$, $p = 0.006$). After including these variables, anxiety, depressive symptoms, and loneliness were no longer independently associated with IGD severity.

CONCLUSIONS: In this cross-sectional sample, greater IGD severity was independently associated with an evening-oriented chronotype, male gender, and lower self-esteem, while mood-related variables showed no independent association after adjustment. These findings suggest that IGD severity may be more closely linked to relatively stable individual traits than to current emotional symptoms. Future longitudinal studies are needed to clarify the temporal and potentially causal relationships among chronotype, self-esteem, and problematic gaming behavior.

Keywords: Behavioral addiction, chronotype, eveningness, gender, internet gaming disorder, self-esteem