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THE ROLE OF EXCESSIVE SOCIAL MEDIA USE IN THE DEVELOPMENT OF MENTAL FATIGUE AMONG STUDENTS

Nigmatullayeva D. J.

Abduraxmonov A. B.

Anvarjonov I. U.

Tashkent State Medical University

With the rapid development of digital technologies, social media platforms such as Facebook, Instagram, Telegram, and TikTok have become an integral part of daily life. According to the World Health Organization, internet usage among young people exceeds 90%, with a substantial proportion dedicated specifically to social media.

Modern neuropsychological theories suggest that the human brain possesses limited cognitive resources, and excessive information flow leads to their rapid depletion. This condition is referred to as “cognitive overload,” which subsequently contributes to the development of mental fatigue.

The literature indicates strong associations between intensive social media use and several adverse outcomes, including deterioration of sleep quality, reduced attention concentration, emotional instability, and decreased academic performance.

The analysis of scientific sources highlights several key directions:

Association between mental fatigue and social media use

Numerous studies report moderate to strong positive correlations between social media use and mental fatigue ($r = 0.35-0.62$).

Indirect effects through sleep disturbances

Among students using social media for more than 3 hours per day:

– insomnia prevalence is 1.8 times higher



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– delayed sleep onset is 2.3 times more frequent

Sleep deprivation reduces frontal cortex activity, thereby intensifying cognitive fatigue.

Dopaminergic system and the “reward loop”

The “like” and notification systems in social media:

- activate mesolimbic pathways
- provide short-term gratification
- lead to neuroadaptation and decreased motivation in the long term

Attention fragmentation

Multitasking behavior:

- reduces productivity by 30–40%
- prolongs task completion time
- accelerates mental fatigue

Impact on academic performance

Meta-analyses indicate that excessive social media use is associated with a decrease in GPA by approximately 0.3–0.5 points.

The findings are consistent with classical hygienic and neuropsychological concepts. The “resource depletion theory” plays a central role in explaining mental fatigue, emphasizing that cognitive resources are limited and are rapidly exhausted under excessive informational load.

At the same time, the impact of social media is multifactorial: biological (neurotransmitters); psychological (motivation, stress); social (comparison syndrome, FOMO). Some studies suggest that moderate use of social media (less than 1 hour per day) may have beneficial effects, indicating the presence of a dose-dependent relationship.



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Conclusion

Excessive social media use among students represents a significant and independent risk factor for the development of mental fatigue.

Using social media for more than 3 hours per day significantly increases the risk of mental fatigue and reduces cognitive function. Sleep disturbances and attention fragmentation are identified as key pathogenetic mechanisms. Dopaminergic imbalance contributes to long-term reduction in motivation. Academic performance is inversely associated with excessive social media use.

As preventive measures, it is necessary to develop psychohygienic standards and implement “digital detox” strategies. This issue should be considered not only as a technological concern but also as a hygienic and neuropsychological problem.

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