

Pixels and Pain: Comments on Gaming-Induced Headaches in Youth and the Complex Interplay of Factors**Pikseller ve Ağrı: Gençlerde Oluşan Oyun Kaynaklı Baş Ağrıları Üzerine Yorumlar ve Faktörlerin Karmaşık Etkileşimi**Rebeca TENAJAS¹, David MIRAUT²**Keywords:** Youth gaming, Online gaming addiction, Emotional stress, Screen time**Anahtar kelimeler:** Gençlerin oyun oynaması, Çevrimiçi oyun bağımlılığı, Duygusal stres, Ekran süresi

The ubiquity of mobile and online gaming has changed the landscape of entertainment in the digital age. This seismic shift in leisure time activity has spurred considerable medical and sociological research into the potential health impacts, both physical and psychological, on the most engaged demographic - the youth. One area of study that is currently under exploration is the correlation between extensive mobile and online gaming and the frequency and severity of headaches in young people.

The relationship between screen time and headaches is not new; research has identified links between the two for a variety of screen-based activities, from television watching to computer use¹. Yet, the nature of mobile and online gaming -its immersive quality, intense concentration requirements, and extensive duration- suggests that this relationship may be more nuanced and potentially more concerning than previously considered.

Mobile and online gaming can be uniquely captivating and all-consuming. The bright, rapidly changing visuals, the psychological engagement demanded by strategy and competition, and the social connections formed in multiplayer environments can lead to hours of unbroken play. According to a study by Swing and colleagues², this long-term engagement can contribute to a variety of physiological stress responses, including muscular tension and eye strain, which have been associated with the onset of headaches.

These physiological responses are only one dimension of the story. Mental and emotional factors may play a significant role in this correlation. The gaming world can elicit strong emotional responses, with players experiencing feelings of frustration, anxiety, and even anger. Moreover, excessive gaming can impact sleep patterns, potentially leading to sleep deprivation. Some studies suggest that young individuals may resort to online or mobile gaming as a form of escapism or self-medication for existing headaches³. This behavior may inadvertently worsen headache symptoms due to the physiological and emotional stressors inherent to the gaming environment.

However, after carefully reading the illustrative analysis published by Yılmaz⁴ in this journal, it is clear that such intuitions should not be interpreted as direct evidences in young people. Other studies have reported that the relationship between mobile and online gaming and headaches might be mediated or confounded by factors such as psychological distress and certain personality traits⁵. These factors indicate that a comprehensive, multifactorial approach is needed to understand the correlation fully.

The current body of research suggests a hidden link between head-

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ches and mobile and online gaming among youth, but the complexity of the relationship necessitates further, more detailed investigation. The field requires robust longitudinal and experimental studies to determine causal relationships and the mediating or confounding factors involved.

Lastly, this issue underlines the necessity for interdisciplinary approaches in medical research. In order to fully understand and address the health effects of digital phenomena such as online and mobile gaming, it is important to engage a broad spectrum of disciplines, including but not limited to Psychology, Neurology, Ophthalmology, and Sociology. Only through such comprehensive investigation can we hope to elucidate the impacts of this digital revolution on the health and well-being of our youth.

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Yazarın Cevabı / Author's response

This is a response to the Letter to the Editor, Regarding "Pixels and Pain: Comments on Gaming-induced Headaches in Youth and the complex interplay of factors", by Tenajas et al., <https://doi.org/10.20492/aeahtd.1319714> about the article, "Online gaming and smartphone addictions in children and adolescents with primary headaches: A prospective case-control study.", by Yilmaz et al., <https://doi.org/10.20492/aeahtd.1053048>

Dear editor,

First of all, thank you for the kind letter and comments. Headache is a very large group of diseases that may have many underlying causes. We were able to rule out organic causes in the patients we included in our study, but it is not possible to control and standardize all environmental factors and variables. Therefore, sleep problems were not evaluated in these patients, and a sleep questionnaire was not conducted. It will not be possible to comment or compare the eye muscles of the patients. Overgeneralization based on Yilmaz et al. might not be appropriate due to the design of the mentioned study.¹

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