

# No Evidence of Reduction in Heavy Gaming Following Chinese Playtime Mandates: Implications for Regulation in the Technology Sector

## Executive Summary

*The rise of concerns about excessive video gaming has led to various governments considering regulatory measures aimed at reducing playtime, particularly among young people. In 2019, China enacted the 'Notice on the Prevention of Online Gaming Addiction in Juveniles,' mandating strict playtime restrictions for individuals under 18. This study investigates the effectiveness of China's playtime regulation in reducing heavy gaming by analysing large-scale behavioural data from Mainland China. The results show no evidence of reduced heavy gaming after the implementation of the playtime mandates. Despite the regulation, the prevalence of heavy play did not diminish. Possible explanations for a lack of reduction include inconsistent regulatory compliance and players evading restrictions. This study highlights the challenges of regulating online gaming behaviour and calls for further research on the impact of regulatory measures in the technology sector.*

## Introduction

Video gaming has become a widespread leisure activity, leading to concerns about excessive engagement and its potential impacts on individuals' health and well-being.

Internet Gaming Disorder (IGD) is now included in the list of mental and behavioural disorders by the American Psychiatric Association as a condition for further study, and Gaming Disorder (GD) is now part of the WHO's international classification of diseases.

Debates on excessive gaming centre around the concept of dysregulated gaming, akin to substance use disorders, with varying perspectives on its validity as a clinical condition. While some argue for its recognition as a public health issue, others contest its existence as a genuine disorder. Despite these debates, governments across the globe have put gaming regulation on their policy agenda. Various governments in East Asia, including China, have implemented playtime regulations to address these concerns, especially among young people. This study aims to examine the effectiveness of China's playtime regulation in reducing heavy gaming through the analysis of extensive behavioural data.



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## **Methodology**

The study utilizes a large dataset comprising over two billion gamer profiles and seven billion hours of playtime data from Mainland China. The analysis consisted of several complementary approaches. These included analysing the prevalence of heavy play before and after regulations and conducting a longitudinal analysis to determine changes in individual gaming behaviour after the restrictions.

## **Results**

The study found no practically significant difference in heavy play between the weeks before and after the implementation of playtime regulations. Instead, there was a slight increase in heavy gaming post-regulation. This increase was not deemed statistically important. Sensitivity analyses further supported the lack of reduction in heavy playtime after the policy was enacted.

## **Discussion**

The results of this study contradict the expectations of reduced heavy gaming following China's strict playtime regulations. Despite the enactment of the "Notice on the Prevention of Online Gaming Addiction in Juveniles," heavy play remained prevalent. The lack of evidence for a reduction in heavy play raises important questions about the effectiveness of playtime regulation as a policy measure to curb excessive gaming behaviour among young individuals.

Potential explanations for the lack of reduction in heavy play include noncompliance among players and/or the games industry, as well as the practice of account-sharing and evading restrictions using VPNs. The fragmented nature of the games industry, with numerous small and medium-sized game developers, may contribute to uneven compliance with regulatory measures, limiting the effectiveness of top-down control.

It is essential to note that this study has certain limitations, such as the lack of information about the ages of the gamers in the dataset, which makes it difficult to determine the prevalence of heavy gaming specifically among young individuals. Additionally, the study focused on data from Unity Technologies, representing only a portion of the video game market, and different patterns of engagement might exist in other contexts.

## **Conclusion**

The work questions the effectiveness of broad-scope restriction policies on youth digital behaviour. China's playtime regulation did not lead to a significant reduction in heavy gaming, indicating that such policies may not uniformly bring about desired behaviour changes. The study calls for further research to understand the impact of regulatory measures in the technology sector and emphasizes the importance of data infrastructure and technological frameworks to assess the real-world effects of policy decisions. These findings have critical implications for the regulation of online gaming globally and open avenues for investigating the impact of various regulatory measures on the technology industry.



### Recent reports

David Zendle, Catherine Flick, Darel Halgarth, Nick Ballou, Simon Demediuk and Anders Drachen: *Cross-cultural patterns in mobile playtime: an analysis of 118 billion hours of human data*. Sci Rep 13, 386 (2023). <https://doi.org/10.1038/s41598-022-26730-w>

David Zendle, Catherine Flick, Sebastian Deterding, Joe Cutting, Elena Gordon-Petrovskaya, and Anders Drachen: *The Many Faces of Monetisation: Understanding the Diversity and Extremity of Player Spending in Mobile Games via Massive-scale Transactional Analysis*. ACM Games 1, 1, Article 4 (2023). <https://doi.org/10.1145/3582927>

David Zendle, Catherine Flick, Darel Halgarth, Nicholas Ballou, Joe Cutting, and Anders Drachen. 2023: *The Relationship between lockdowns and video game playtime: A multilevel time-series analysis using massive-scale telemetry*. J Med Internet Res (forthcoming). <http://dx.doi.org/10.2196/40190>

Anders Drachen. 2022: *Games-based Collaboration as a Driver for Massive-Scale Mental Health Research*. In: Child and Adolescent Mental Health, 28(1). <https://doi.org/10.1111/camh.12617>

### To quote

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