

Open Scientific Practices are the Way Forward for Internet Gaming Disorder Research: A Response to Potenza et al.

Andrew K. Przybylski^{1,2*}

Netta Weinstein³

Kou Murayama^{4,5}

1. Oxford Internet Institute, University of Oxford, UK
2. Department of Experimental Psychology, University of Oxford, UK
3. School of Psychology, Cardiff University, UK
4. School of Psychology and Clinical Language Sciences, University of Reading, UK
5. Kochi University of Technology, Japan

*Please address and correspondence to andy.przybylski@oii.ox.ac.uk

Acknowledgements: All authors contributed equally to the drafting of this editorial.

Open Scientific Practices are the Way Forward for Internet Gaming Disorder Research: A Response to Potenza et al.

We appreciate the comments by Potenza and colleagues regarding our recent study on Internet Gaming Disorder (IGD), an important yet little understood phenomenon. In these comments, the authors highlight three aspects of the IGD research that we believe merit careful consideration as this area of research develops.

First, the commentary highlighted that sampling strategies are important, and we agree. Current estimates of IGD prevalence vary widely as a function of the methodology employed, and range from 0.2% of the general population (1) to nearly half self-selecting gamers (2). Such tremendous variation can be addressed with approaches following best practices in health research as was done in the present work (3). The issue of sampling methodology should be considered carefully, since non-representative samples likely yield biased estimates, and lead readers to draw faulty conclusions about the impacts of gaming. As well as sampling, survey design is essential. For example, Potenza et. al. cites an estimate based on a study using a Likert-based assessment that deviates both from the proposed DSM-5 criteria and alternative theoretically rigorous approaches (4). As a result the 12-month period prevalence estimates range from a modest 1.2% (95% CI= 1.0, 1.4) in line with our findings, to an implausibly high 6.3% (95% CI= 5.8, 6.7). Such discrepancies, within single studies, underline the need to minimize researcher degrees of freedom by distinguishing between exploratory and confirmatory research reporting (5).

Second, as the authors of the commentary suggest, there is a dearth of high quality data investigating Internet Gaming Disorder in non-western contexts, but we cannot at present conclude that IGD is any more or less impactful on health or psychosocial functioning in Asian milieus. Understanding that there may indeed be unobserved cultural mediators, such factors

need to be investigated through a confirmatory lens (5) and without unduly stigmatizing specific cultures or recreational activities (6).

Finally, a strength of our work is the open science approach we adopted. Because we shared these materials on the Open Science Framework there is no need to speculate about how low indicator incidence might have affected sensitivity analyses or how different thresholds would relate to the health outcomes we observed. Indeed, we invite others to draw their own conclusions from dives into the data. We strongly advise researchers investigating this phenomenon to follow our example and share their raw data and analysis code and register their hypotheses before they collect their data. This will produce robust empirical insights and improve our understanding of the links between IGD and a wider range of correlates including personal and clinical factors.

References

1. Festl R, Scharkow M, Quandt T: Problematic computer game use among adolescents, younger and older adults. *Addiction* 2013; 108:592–599
2. Wan C-S, Chiou W-B: Psychological Motives and Online Games Addiction: A Test of Flow Theory and Humanistic Needs Theory for Taiwanese Adolescents. *Cyberpsychol. Behav.* 2006; 9:317–324
3. Cranwell J, Opazo-Breton M, Britton J: Adult and adolescent exposure to tobacco and alcohol content in contemporary YouTube music videos in Great Britain: a population estimate. *J. Epidemiol. Community Health* 2016; jech-2015-206402
4. Griffiths MD, et al: Working towards an international consensus on criteria for assessing internet gaming disorder: a critical commentary on Petry *et al.* (2014): Assessment of internet gaming disorder. *Addiction* 2016; 111:167–175
5. Wagenmakers E-J, Wetzels R, Borsboom D, Maas HLJ van der, Kievit RA: An Agenda for Purely Confirmatory Research. *Perspect. Psychol. Sci.* 2012; 7:632–638
6. Aarseth E, et al: Scholars' open debate paper on the World Health Organization ICD-11 Gaming Disorder proposal. *J. Behav. Addict.* 2016; 1–4