

Internet gaming addiction

Dr Olatz Lopez-Fernandez



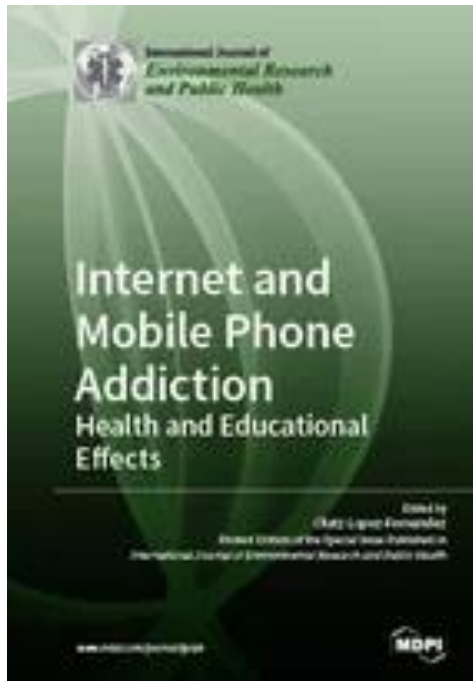
Gaming disorder (2018)



Key questions

- How did scholars and clinicians arrive at a consensus for Gaming addiction?
- What are the components underlying gaming addiction?
- What instruments are measuring gaming addiction? What is its estimated prevalence?
- How are diagnoses and the treatments managed? What we know about the prognosis?
- How could gaming addiction be prevented? Is there any policy option?
- Some lessons learned and future priorities

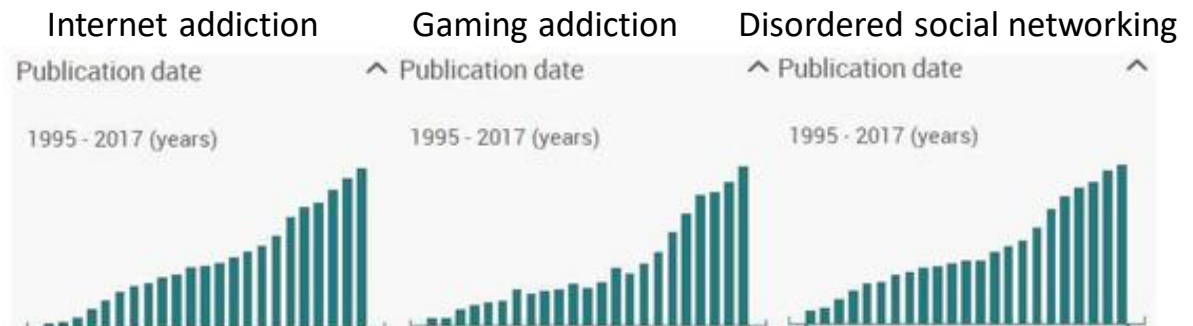
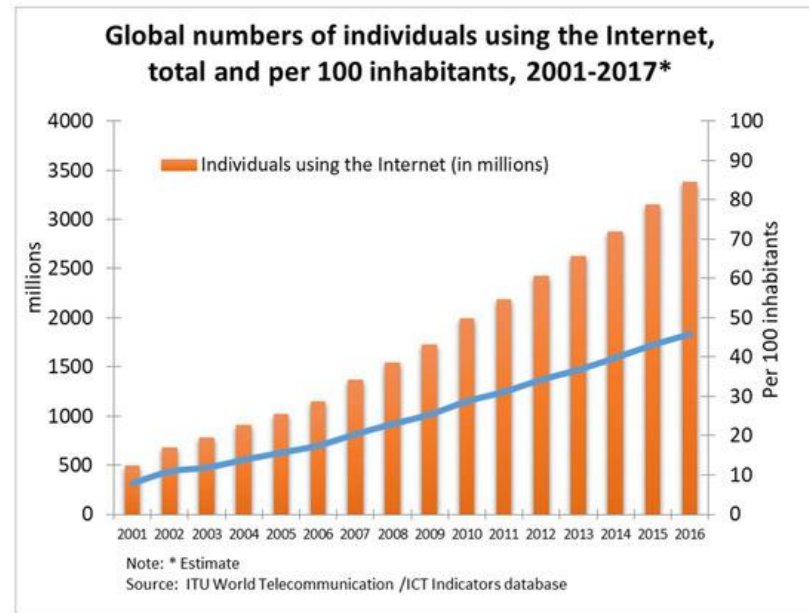
Statistics: From internet use to bibliometric productivity



Lopez-Fernandez, O. (2019)

Free eBook:

<https://www.mdpi.com/books/pdfview/book/1161>

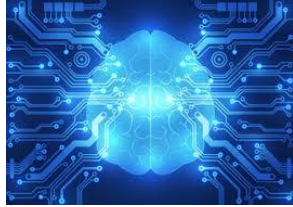


Evolution of Internet use-related addiction problems from 1995 to 2017

New addiction problems: From Internet addiction to gaming addiction



Evolution of these new addiction problems



Mid-90s



Mid-2000



Mid-2010



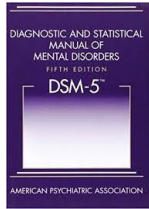
Definition of process addictions:

Repeated behaviour leading to significant harm

- It persists for at least a year
- Functional impairment & distress
- None:
 1. If it is for an underlying disorder
 2. It is for professional activity
 3. Temporary coping strategy

APA, 2013; Billieux et al. 2017; Griffiths, 1995; Young, 1996; WHO, 2018

Official Diagnosis: the APA versus the WHO

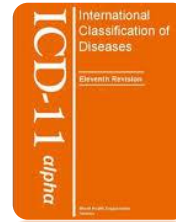


Section III as 'Addiction and substance use disorders'

Internet Gaming Disorder (IGD; APA, 2013)

Persistent and recurrent use of the Internet to play games
Leading to **clinically significant impairment or distress**
5/9 criteria in a year:

1. **Preoccupation** with Internet games
2. **Withdrawal** symptoms when Internet gaming is taken away
3. **Tolerance**: the need to spend increasing amounts of time in games
4. **Unsuccessful attempts to control** participation in Internet games
5. **Loss of interests** in hobbies and entertainment, except games
6. **Continued excessive use** despite knowledge of problems
7. Has **deceived** others regarding the amount of Internet gaming
8. Use of the Internet games to **escape** or **relieve** a **negative mood**
9. Has **jeopardized** or lost a relationship, job, or opportunities because of the Internet games



'Disorders due to substance use or addictive behaviours'

Gaming Disorder (WHO, 2018)

Gaming pattern > 1 year: Loss of control, Salience, Increasing problems
Results: Functional impairment and Distress
Exclusions: Hazardous gaming, Bipolar disorder (types I & II)

Foundation Id : <http://id.who.int/icd/entity/1448597234>

6C51 Gaming disorder

Parent

Disorders due to addictive behaviours

[Show all ancestors](#)

Description

Gaming disorder is characterized by a pattern of persistent or recurrent gaming behaviour ('digital gaming' or 'video-gaming'), which may be online (i.e., over the internet) or offline, manifested by: 1) impaired control over gaming (e.g., onset, frequency, intensity, duration, termination, context); 2) increasing priority given to gaming to the extent that gaming takes precedence over other life interests and daily activities; and 3) continuation or escalation of gaming despite the occurrence of negative consequences. The behaviour pattern is of sufficient severity to result in significant impairment in personal, family, social, educational, occupational or other important areas of functioning. The pattern of gaming behaviour may be continuous or episodic and recurrent. The gaming behaviour and other features are normally evident over a period of at least 12 months in order for a diagnosis to be assigned, although the required duration may be shortened if all diagnostic requirements are met and symptoms are severe.

Exclusions

- Hazardous gaming (QE22)
- Bipolar type I disorder (6A60)
- Bipolar type II disorder (6A61)

Debates through consensus

CONS & PROS



Scholars' open debate paper on the World Health Organization ICD-11 Gaming Disorder proposal



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Health

WHO gaming disorder listing a 'moral panic', say experts

Including gaming disorder in the ICD-11: The need to do so from a clinical and public health perspective

Commentary on: A weak scientific basis for gaming disorder: Let us err on the side of caution (van Rooij et al., 2018)

Rumpf Hans-Jürgen Achab Sophia Billieux Joël Bowden-Jones Henrietta Carragher Natacha Demetrovics Zsolt Higuchi Susumu King Daniel L. Mann Karl Potenza Marc Saunders John B. Abbott Max Ambekar Atul Aricak Osman Tolga Assanangkornchai Sawitri Bahar Norharlina Borges Guilherme Brand Matthias Chan Elda Mei-Lo Chung Thomas Derevensky Jeff Kashef Ahmad El Farrell Michael Fineberg Naomi A. Gandin Claudia Gentile Douglas A. Griffiths Mark D. Goudriaan Anna E. Grall-Bronnec Marie Hao Wei Hodgins David C. Ip Patrick Király Orsolya Lee Hae Kook Kuss Daria Lemmens Jeroen S. Long Jiang Lopez-Fernandez Olatz Mihara Satoko Petry Nancy M. Pontes Halley M. Rahimi-Movaghar Afarin Rehbein Florian Rehm Jürgen Scafato Emanuele Sharma Manoj Spritzer Daniel Stein Dan J. Tam Philip Weinstein Aviv Wittchen Hans-Ulrich Wölfling Klaus Zullino Daniele Poznyak Vladimir



- Clinical entity
 - International consensus
 - Proportion of gamers
 - APA & WHO
 - Propose a new disorder
 - Enough evidence
 - Scientific evidence exists
 - Samples worldwide
 - Studies (psychometric)
 - Public health & policies
 - 'uncertainty should not postpone preventive measures' (WHO, 2018)
- (Lopez-Fernandez, 2018)

Instruments to measure gaming addiction



Clinical Psychology Review
Volume 33, Issue 3, April 2013, Pages 331-342



Toward a consensus definition of pathological video-gaming: A systematic review of psychometric assessment tools

Daniel L. King ^{a, c} ✉, Maria C. Haagsma ^b, Paul H. Delfabbro ^a, Michael Gradisar ^c, Mark D. Griffiths ^d

Instrument	Cognitive salience	Loss of control	Withdrawal	Tolerance	Escape	Euphoria	Relapse	Dependency on others	Deception	Conflict: Work/School	Conflict: Household	Conflict: Sleep	Conflict: Relationships	Conflict: Financial	Conflict: Illegal acts	Using despite harm
Proposed DSM-V category: Internet Use Disorder ¹	●	●	●	●	○	○	○	○	○	●	○	○	○	○	○	○
Adapted DSM-IV-TR for Pathological Gambling	●	●	●	●	○	○	○	○	○	●	○	○	○	○	○	○
Adapted DSM-IV-TR for Substance Dependence	○	○	●	●	○	○	○	○	○	○	○	○	○	○	○	○
Addiction-Engagement Questionnaire	●	○	●	●	○	○	○	○	○	●	○	○	○	○	○	○
Compulsive Internet Use Scale (CIUS)	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○
Engagement-Addiction Questionnaire	●	○	●	●	○	○	○	○	○	○	○	○	○	○	○	○
Exercise Addiction Inventory (adapted)	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Game Addiction Scale (GAS)	●	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○
Korean Internet Addiction Test (KIAS)	●	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○
Online Game Addiction Scale - Adolescents in Taiwan (OAST)	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○
Online Game Addiction Index (OGAI)	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○
Problem Videogame Playing (PVP) Scale	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○
Problematic Internet Use Scale (ISS-20)	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○
Problematic Online Game Use Scale (POGU)	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Problematic Online Gaming Questionnaire (POGQ)	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Video Game Addiction Test (VAT)	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Video Game Dependency Scale (KFN-CSAS-II)	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Young Internet Addiction Scale (YIAS)	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○
Young Internet Addiction Test (YIAT)	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○

Note: ● assessed; ○ not assessed. ¹Not an instrument, included for comparison only.

Strengths:

- There are more than 20 scales
- Based on valid health models
- Majority on online gaming
- A few by genres (MMORPG)
- A few in other languages (IGD9-SF)

Weaknesses:

- Not always validated enough
- Sometimes Internet Addiction (IA) scales adapted to gaming
- Based on old models (DSM-IV-TR)
- New models based on IGD
- Screening without clinical filter

(Lopez-Fernandez, 2019)

Epidemiological studies: estimated prevalence

Personality and Social Psychology **Full Access** Prevalence of internet gaming disorder in adolescents: A meta-analysis across three decades

Jia Yuin Fam

First published: 13 July 2018



Main recent findings:

- Review 16 studies on prevalence of IGD among adolescents (>2017)
- Prevalence of IGD = **4.6%**
 - Males: higher rate (6.8%)
 - Females: lower rate (1.3%)
- Higher prevalence:
 - 1990s
 - use DSM criteria for pathological gambling
 - examine gaming disorder
 - Asia
 - small samples (<1,000).

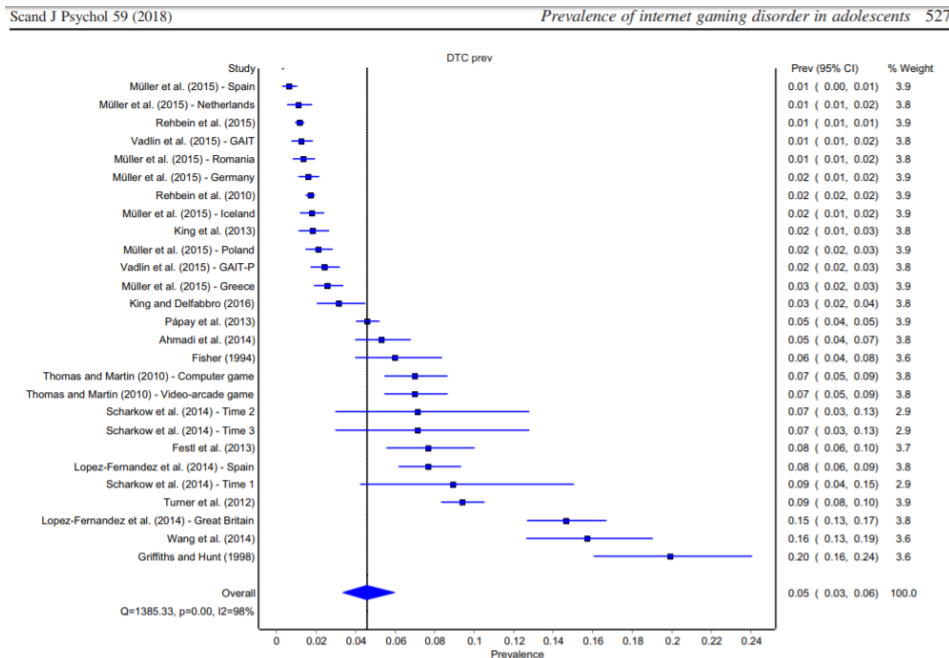


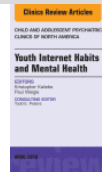
Fig. 2. Forest plot of prevalence of Internet gaming disorder among adolescents. [Colour figure can be viewed at wileyonlinelibrary.com]

Diagnosis and treatment

Internet and Video Game Addictions

Diagnosis, Epidemiology, and Neurobiology

Clifford J. Sussman, MD^{a,b,*}, James M. Harper, MD^{c,d},
Jessica L. Stahl, MD^e, Paul Weigle, MD^f



KEYWORDS

• Internet gaming disorder • IGD • Video game • Internet • Addiction • Digital
• Computer

KEY POINTS

- Proposed criteria for diagnosis of Internet gaming disorder and other digital technology addictions are analogous to those for substance use or gambling disorders.
- Diagnosis of Internet and video game addictions should include both screening tools and clinical interview for “red flags,” such as academic decline, sleep disruption, and changes in real-life activities and relationships.
- Epidemiologic studies, limited by variation in diagnostic methods, yield prevalence estimates ranging from less than 1.0% to 26.8%.
- Internet and video game addictions are associated with psychological and social comorbidities, such as depression, attention-deficit/hyperactivity disorder, alcohol use, anxiety, and poor psychosocial support.
- Neurobiological evidence suggests a dual processing model of digital technology addictions characterized by an imbalance between the reactive reward system and the reflective reward system.

Diagnosis

- Instruments:
 - Tests, protocols, etc.
- Patient:
 - Adolescent (parents)
 - Adult
- Dual diagnosis:
 - Depression, anxiety, stress, etc.
 - Social phobia, etc.
 - Hostility, etc.

Treatments

- Cognitive Behavioural Therapy (CBT)
- Eclectic (e.g., systemic)

Gamer profile and Prognosis



10 lessons learned (Lopez-Fernandez & Kuss, 2019)

1. Gaming problems appear in high-school;
2. They usually affect males;
3. Those who play role-playing games;
4. Those who spend time at home alone;
5. Parents look for treatment;
6. Addiction symptomatology is different to other online addiction problems;
7. Specific comorbidities (mood, anxiety, personality disorders, social phobia, disruptive behaviour disorders);
8. Patients tend to have problems with social relationships, and parenting seems a factor;
9. CBT has positive results after three months which are maintained after six months;
10. Prognosis improves if family or significant others support the treatment.



Internet Gaming Disorder Treatment: A Review of Definitions of Diagnosis and Treatment Outcome

Daniel L. King and Paul H. Delfabbro

School of Psychology, The University of Adelaide

- A few clinical studies report that psychological and pharmacological interventions can reduce the IGD.
- Several weaknesses of IGD treatment literature were identified
 - Methods of diagnosis are not equivalent
 - Studies do not assess formative change in diagnostic status at post-treatment and follow-ups
 - Post-treatment is only focused in IGD symptoms, comorbidity, and frequency of gaming
 - Follow-up durations inadequate for relapse and remission
 - Insufficient evidence to warrant suggestion that trialled IGD interventions confer a long-term therapeutic benefit

Public Health, Prevention, Policy options

Policies have emerged from the late 1990s (in Asia since 2000) managed by Governments (G), Gaming Companies (GC) and Non-Government Organisations (NGO):

- **South Korea (2007):** National policy based on prevention, screening, counselling, and treatment
 - 2011: Shutdown policy (i.e., from 12:00 am to 6:00 am) to prevent it in adolescents (>15)
 - **China (2008):** IA declared a clinical disorder-health threat to teenagers
 - Control mechanisms on internet cafés and anti-addiction fatigue systems
- **Three types of policies:**
 - **Limiting availability:** shutdown/fatigue system, parental controls (G)
 - **Reducing harm:** warning notifications, rating 'addictiveness' of games (GC)
 - **To provide help services for gamers:** prevention and treatment programs (G and NGO; Western and Eastern countries)



■ STOA study : **Harms of the internet to individuals, culture and society** - Part I: Internet addiction and problematic use

Study

January 2019

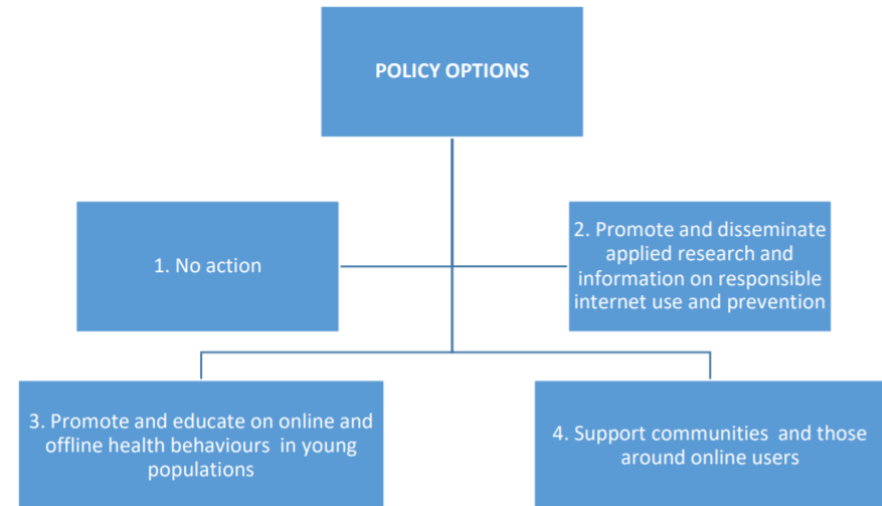
Lopez-Fernandez & Kuss, 2019

Abstract

This report reviews the existing scientific evidence regarding internet-use-related addiction problems at an individual level in Europe. In the last two decades, there has been an exponential growth in research in this field. Since 2013, internet gaming disorder has been included in the appendix of the American Psychiatric Association's fifth Diagnostic and Statistical Manual of Mental Disorders, and gaming disorder has been included in the eleventh International Classification of Diseases published by the World Health Organization.

The study includes a detailed critical literature review on generalised internet addiction, online gaming, and gambling addiction in Europe. Based on scientific databases, 19 empirical studies with both community and clinical samples have been selected from Denmark, France, Germany, Greece, Italy, the Netherlands, and Spain.

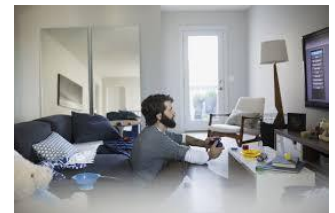
The majority of individuals with internet-use-related addictions were found to be educated adolescents and young males. Comorbidities with other psychiatric conditions were present as a rule, and they were more severe in the case of gaming. Cognitive behavioural therapy was the usual treatment with positive prognosis. This report provides the conceptualisation of these three internet-use-related addiction problems, together with a set of policy options, preventive actions, and evidence to support future policies in the European Union context.



[http://www.europarl.europa.eu/stoa/en/document/EPRS_STU\(2019\)624249](http://www.europarl.europa.eu/stoa/en/document/EPRS_STU(2019)624249)

Some lessons learned and future priorities

- Gaming addiction is one of the new proposed process addictive behaviour through technologies with:
 - Longest studied world-wide with more collected evidence
 - Sometimes mixed with IA
 - Well-validated tools but not always clinically tested
 - Need of other strategies for epidemiological studies
 - Ongoing debates while recognition by health organisations (e.g., WHO)
 - Improvements to do in research strategies (e.g., genres, profiles, context)
 - Improvements in clinical settings strategies (e.g., diagnosis, post-treatment, and follow-ups)
 - Need to develop policy options and strategies to prevent it for specific sectors (e.g., education, health)



Summary

- **There is evidence** about the existence of gaming addiction, but not so consistent with regards to its diagnosis and treatment
- To tackle the health problem, **more refinement is needed** in the conceptualisation, measurement, factors, and clinical diagnosis, intervention, and prevention
- **Training** in this new process addiction (and other similar behavioural addictions) **is needed in the AOD sector**
- **Research** in several domains (e.g., neuroscience, applied psychology, public health) **should advance while clinicians should be able to update themselves** effectively

Thank you for your attention!

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