

# Meta-analysis and systematic review of recent literature on gaming disorder

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## Keywords

Gaming Disorder, Internet Gaming Disorder, Medicalization, Meta-analysis

## EXTENDED ABSTRACT

World Health Organization(WHO), in the 11th Revision of the International Classification of Diseases (ICD-11), gave the following definition for the Gaming disorder:

*"A pattern of gaming behavior ("digital-gaming" or "video-gaming") characterized by impaired control over gaming, increasing priority given to gaming over other activities to the extent that gaming takes precedence over other interests and daily activities [...]"(WHO, 2018)*

However, the long-standing debate about whether electronic gaming could be addictive enough to be considered pathologic is still unsettled. Many researchers continuously criticize the framing problem of 'addiction' and the lack of academic consensus regarding the diagnosis. (Bean et al., 2017; Aarseth et al., 2017).

As related discourse is heavily based on the results of various related academic research, This research intended to comprehend the trends and composition by reviewing the overall discourse of the academic field and by re-classifying scattered discussions into a series of criteria. Specifically, this meta-analysis reviewed the literature on Internet Gaming Disorder in journal articles published between 2013 and mid-2018, from the time American Psychiatric Association (APA) included Internet Gaming Disorder under the section of Conditions for Further Study up to present. As a digital game can be dealt with in various contexts such as technological, cultural, physical, social, and economic, the scope of the comprehensive study included various perspectives in various research fields.

Total of 1,128 articles was found through the initial keyword search of Scopus as shown in Table 1.

	SCOPUS
Search Keyword	TITLE-ABS-KEY ( gaming* AND disorder* ) OR TITLE-ABS-KEY ( game* AND addiction* )

### Proceedings of DiGRA 2019

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Total Articles	1,128
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**Table 1:** Search Keyword for the meta-analysis

Among the total of 1,128 articles, 457 irrelevant or repeating articles and 54 non-English articles were removed. Total of the final section, 523 articles, were coded under a total of 15 variables as follows:

Academic Discipline	Sub-discipline	Nation	Research subjects' Nation	Topic
Objective	Research Subjects' age	Research Method	Data Collection Method	Theory/concept
Perspectives on Gaming Disorder	The naming of the related concept	Definition of Gaming Disorder	Research subject - Game Type	Funding Details

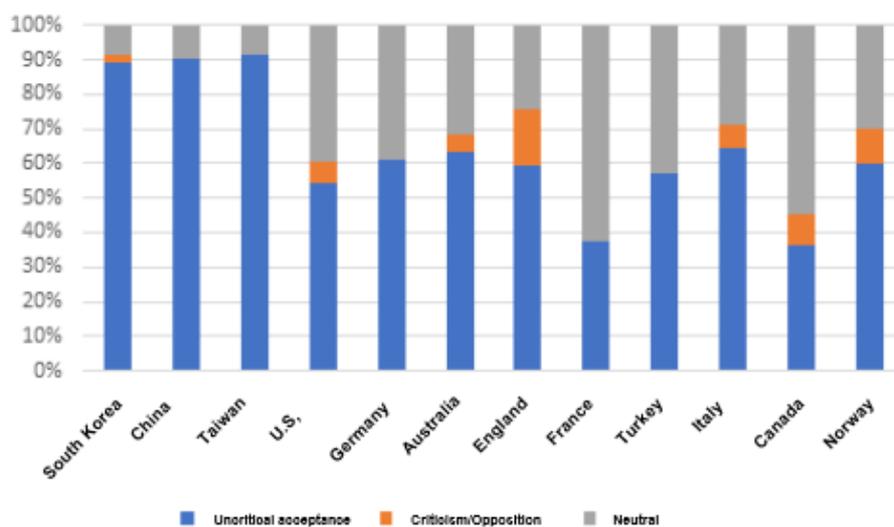
**Table 2:** Coding Fields for the meta-analysis

For the 523 papers to be analyzed, the following fields were classified. At the same time, the abstract and the content of the thesis were also grasped. The input was analyzed using statistical tools(Excel, SPSS) and the result was analyzed in two aspects: the research tendency and the topology of the academic field.

In terms of the research itself, the result unfortunately once again revealed that the scientific basis is still unclear. It has been hard to see that there has been visible progress over the past five years, as it has been in the medical and psychological fields for last 30+ years since the term 'game addiction' began to be used academically. That is, no consensus has yet been reached on a clear pathological basis. Paradoxically, the only consensus reached currently is the fact that 'there remains the confusion about what exactly the gaming disorder is even among scholars who support relevant diagnoses' (Van Rooij et al., 2018). The critical questions to be asked and answered prior to the official diagnosis - 'What exactly is the symptom of gaming disorder?'(Van Rooiji et al., 2018), 'does gaming disorder occur only in gambling-based games or in overall video games?' (James & Tunney, 2017), 'is problematic behavior caused by other mental disorders?' (Billieux et al., 2017) and 'is a subcategory of broad Internet addiction disorder or independent addictive disabilities?' (Higuchi et al., 2017) – still remained. Furthermore, most of the problems of addiction research, which had already been pointed out in research before 2013, have not been improved. Another visible change is that the use of the term 'gaming disorder' has begun to be established in the process. The researchers who approached the existing 'problematic game use' through their self-concept and interpretation, acknowledged the existence of GD by borrowing the authority of WHO or APA.

In addition, many of the studies were excluded the in-depth reflection on "games" and rather focused on the individual's problems. Only a few studies have been based on a deep understanding of game genre, platform/device, and the textual nature of the game. Especially, compared by the stance toward the GD, most addiction-approving researches in the field of medicine have ignored the characteristics and nature of games. In other words, researchers who are ignorant or indifferent to changes in game genres, platforms, technological and industrial environments studied 'limited subjects' with 'arbitrary concept of games and imperfect diagnostic tools'.

The topography of the academic discourse analyzed in this study shows the imbalance in the regional distribution and academic disciplines. Gameplay is a global leisure phenomenon, and the game industry is a relatively recent cultural industry that has grown based on the globalization of capital and the development of (Internet) technology. However, most research has been conducted by the researchers in East Asian region. Considering that most of the relevant research is mostly written and read in English, the reason for the 'regional imbalance' of the research is more problematic. It is inevitable to acknowledge that there is a clear imbalance in the way the political, economic, social and cultural context of a particular region is operating at its base. Moreover, it was confirmed that the rate of accepting GD as a pathological concept was much higher than that of North America or Europe among the papers of Korean medicine researchers. This obvious difference in the table below is hard to say based on the difference between the game itself and the medical standard.



**Figure 1:** Perspectives on accepting the concept of Gaming Disorder in related articles by the nation

Also, the high rate of research funding from East Asia government agencies also adds the mystery whether the research tendencies were driven by strategic funding pursuing certain objectives. In conclusion, the medicalization (Conrad, 2007) - 'defining social or personal problems in medical terms, attributing medical causes to personal/social problems, managing problems by medical means' - the process of Gaming disorder makes it doubtful whether WHO's (political) decision affected academic discourse rather than academic results leading to ICD-11. As inappropriate medicalization "carries the dangers of unnecessary labeling, poor treatment decisions, iatrogenic illness, and economic waste, as well as the opportunity costs that result when resources are diverted away from treating or preventing more serious disease"(Moyniha et al., 2002), the researchers of Game studies also need to closely examine the non-medical layers of the discussion.

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