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The Social Construction of Internet Addiction: A Comparative Study of South Korea, Japan, and the U.S.

Park, Arum

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THE SOCIAL CONSTRUCTION OF INTERNET ADDICTION: A COMPARATIVE STUDY OF SOUTH KOREA, JAPAN, AND THE U.S.

Arum Park

A DISSERTATION

PRESENTED TO THE FACULTY

OF PRINCETON UNIVERSITY

IN CANDIDACY FOR THE DEGREE

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ABSTRACT

With the increase in the penetration rate of the internet, concerns about its impact on society have also begun to rise. One of such concerns is internet addiction. Despite the ongoing debates over the nature of internet addiction, the problem relating to the excessive use of the internet is now extensively recognized worldwide as a newly emerging social problem. Although South Korea, Japan, and the U.S. have a well-established ICT infrastructure for internet access, similar usage patterns, and penetration rate in common, the three countries are at different phases of social construction of internet addiction, having a varied level of recognition, intensity of concern, pace of response, and direction of policies.

So, what are the social, cultural, political, and institutional aspects of a society that have contributed to the variety of the framing of the same phenomenon? This project attempts to answer the questions of why internet addiction was selected to be a social problem and by whom, what are the qualifications of someone who is an authority on internet addiction, and what factors contribute to the varied responses to internet addiction in different societies. For finding the answers to these questions, I will focus particularly on the role of three major institutions as claims-makers: the mass media, academia, and the government. Drawing on 781 newspaper articles published between 1993 and 2013, 651 academic articles published between 1996 and 2014, and government documents, I have studied and compared the social construction of internet addiction in South Korea, Japan, and the U.S.

The findings indicate that the construction of this new social problem of internet

addiction is based on the combined effect of new technology such as internet, public health such as addiction and mental disorders, and social institutions such as the mass media, academia, and the government. The interactions, conflicts, and exchange of influence between domestic and international institutions as well as between institutions within a national society have constructed a social meaning of internet addiction that varies in each society.

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GLOSSARY

APA	American Psychological Association
CDC	Centers for Disease Control and Prevention
DSM	Diagnostic and Statistical Manual of Mental Disorders
DSM-5	Diagnostic and Statistical Manual of Mental Disorders, 5th Edition
HHI	Herfindahl-Hirschman Index
HHS	Department of Health and Human Services
HIPAA	The Health Insurance Portability and Accountability Act
IAT	The Internet Addiction Test
ICD	International Classification of Diseases
ICD-11	International Classification of Diseases 11th Revision
ICT	Information and Communications Technology
KOCCA	Korea Creative Content Agency
MCST	Ministry of Culture, Sports and Tourism
MEXT	Ministry of Education, Culture, Sports, Science and Technology
MHLW	Ministry of Health, Labor and Welfare
MIC	Ministry of Internal Affairs and Communications
NHS	National Health Service
NIA	National Information Society Agency
NIH	National Institutes of Health
NPO	Non-profit Organization
PIU	Problematic Internet Use

WHO	World Health Organization

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Chapter 1. Introduction

The Rise of Internet Addiction

With the increase in the penetration rate of the internet, concerns about its impact on society have also begun to rise. One of such concerns is so-called "internet addiction." Historically, it is not a new phenomenon to raise concerns over a new technology. The introduction of a new technology or mass media usually accompanied debates surrounding its impacts on society, and the focus of concerns has shifted onto newer technologies and innovations. For example, from movies in the early 1900s, radio in the 1920s and 1930s, and television in the 1940s and 1950s to video games in the 1980s and 1990s, the introduction of each of these technologies resulted in criticism about their absorbing and engaging nature and the potential risk of exposure to inappropriate content (Stern 1999; Wartella and Jennings 2000). Also, the public and academic concerns on new technologies focused largely on the influence of the new medium on children, such as the idea that children become more aggressive as they play violent computer games or that video game overuse is responsible for social isolation and anti-social behaviors; this led to the establishment of the video game rating system, by the Entertainment Software Rating Board, in 1994 (Gibb et al. 1983; Wartella and Jennings 2000).

Then in the 1990s, as computers replaced the previous waves of new medium and became the primary platform for internet access, the news media and researchers started to talk about internet addiction. Since the introduction of the new concept in the mid-1990s, academic and popular discourses on internet addiction have grown steadily in both amount and complexity.

Despite a growing body of research, however, the definition and nature of internet addiction remain controversial and uncertain, which is not to mention a more fundamental question of whether internet addiction is really addiction. Although some argue that the term "addiction" should be applied only to cases involving chemical substances (Btatter and Forest 1985), similar diagnostic criteria have been applied to a number of problematic behaviors, such as pathological gambling (Young 1996), which implies the popular use of the term may associate addiction with almost any substance or activity, such as food, smoking, gambling, shopping, work, play, and sex.

Goodman (1990: 1404, 1406) defines addiction as a process whereby a behavior, that can function both to produce gratification and relief from internal discomfort, is employed in a pattern characterized by failure to control the behavior and continuation of it despite significant consequences. Whether or not a behavior pattern qualifies as addiction depends on how it affects an individual's life as specified according to the diagnostic criteria. Traditionally, the use of the term "addiction" has been confined to substance uses such as alcohol, cannabis, stimulants, cocaine, nicotine, caffeine, and so on.

In recent years, the conceptualization of addiction, especially concerning what to include within the boundary of addiction, has experienced substantial changes as the concept of "behavior addiction" gains academic attention (Holden 2001; Grant et al. 2010). A notable change came with the revision of *the Diagnostic and Statistical Manual of Mental Disorders* (*DSM*; American Psychiatric Association 2013)*:* gambling disorder, which was formerly listed as pathological gambling in the section on impulse control disorders not elsewhere classified, was relocated in the chapter on substance-related and

addictive disorders. The inclusion is attributable to the evidence showing similarities in phenomenology and biology between substance use disorders and behavioral disorders (Grant and Samuel 2016). Moreover, according to the latest version of *The International Classification of Diseases* (*ICD*; World Health Organization 2019), addiction is mainly associated with disorders due to substance use. The *ICD*, however, also places disorders due to specific repetitive rewarding and reinforcing behaviors in the same category with disorders due to the use of dependence-producing substances, which include gambling disorder and gaming disorder. Although gaming disorder is not necessarily the exact synonym of internet addiction and it includes both online and offline gaming, the inclusion of gaming disorder in the *ICD* provides a conceptual basis for excessive internet use to be recognized as addiction.

Since internet addiction is a relatively new area of research, researchers have not yet come to any agreement on naming, currently a variety of different terms are being used in academic articles and mass media coverage to refer to the same condition of excessive internet use, including "internet addiction" (Young 1996), "internet addiction disorder" (Goldberg 1996), "internet dependency" (Schere 1997), "problematic internet use," "pathological internet use," and so on. The absence of an official label reflects difficulties and confusion in internet addiction studies, and the lack of clarity makes it harder to develop an appropriate public health policy for the treatment and prevention of internet addiction, not to mention for effective monitoring and surveillance.

Despite ongoing debates over the nature, label, definition, symptoms, screening technique, and treatments of internet addiction, the prevalence of excessive use of the internet is now widely recognized as a newly emerging social problem worldwide. For

example, in England, its first National Health Service (NHS)-funded internet addiction center is about to launch in London to provide the treatment focusing on gaming disorders for young people as well as adults, with a plan to expand its services to cover internet-based addictions in general (Marsh 2018). In Switzerland, according to a 2018 report commissioned by the Federal Office of Public Health, around 1 percent of the population (approximately 70,000) turned out to be "problematic" internet users (Humphreys 2019). In Japan, a report published by the Ministry of Health, Labor, and Welfare revealed that one in seven students in middle and high schools in Japan, as many as 930,000, were estimated to be suffering from internet addiction, mainly due to online games or social media use. Moreover, according to the survey results, the number is an increase of 40,000 compared to a previous survey conducted five years ago, and internet addiction starts at a younger age than before, which is causing growing concerns in Japanese society (Kotsubo 2018). Moreover, since the country's first program for internet addiction opened at a national hospital in 2011, such a program has increased to 84 nationwide as of 2019. In Hong Kong, the Department of Health, which was concerned about the adverse health consequences associated with excessive use of the internet among students, conducted nation-wide surveys on the use of the internet and electronic screen products in 2014 and 2017 from students and parents (Department of Health 2018). The results show that a significant portion of students have experienced adverse effects, such as academic performance issues or conflicts with parents, and the percentage of students whom suspect themselves of being addicted to the internet is as high as 12.4 percent and 19 percent among primary and secondary school students, respectively. In South Korea, stories such as the one about an internet-addicted couple who starved their

baby daughter to death while spending their time at an internet café to play an online role-playing game (Do 2010) or another about a 22-year-old man arrested for killing his mother for telling him not to play online games (Park 2010) were spotlighted by the mass media and aroused public opinions about the serious consequences of internet addiction.

The Social Construction of Social Problems

According to social constructionism, meanings of phenomena are socially produced through interactions among individuals, groups, and institutions. Social constructionism is a conceptual framework that highlights cultural and social aspects of phenomena. That is, social reality or knowledge of phenomena is neither natural nor inherent in the phenomena themselves; rather they are subject to and the product of social forces (Berger and Luckmann 1966; Lee 2017). As Berger and Luckmann (1966) argue, knowledge is "socially constructed," which implies that knowledge is created by people through interactions and socialization, and socially constructed knowledge reflects the commonsense world as people know it.

This basic concept of constructionism has contributed to the development of a sociological theory of social problems. From the perspective of constructionism, even a problem that looks purely objective can be shown to be "inevitably subjective" (Best 1989). Social construction approaches to social problems do not focus on objective troublesome conditions people label as social problems. Rather, constructionists are interested in exploring more subjective aspects, such as how social actors think about and talk about social problems (Spector and Kitsuse 1977; Schneider 1985; Ibarra and Kitsuse 1993). According to this perspective, not every condition that exists in society is

recognized as a social problem, and no condition is a social problem unless individuals, groups, or institutions with some power consider it one. The degree to which a social problem is perceived as problematic, as well as the kind of problem it is understood to be, is a function of social interactions among social actors.

Constructionist theory describes social problems as being emerged from the activities of claims-makers. Claims-makers refer to individuals and groups who "seek to convince others that something is wrong and that something should be done about it" (Best 2008: 15). They not only present the rhetoric to define social problems but also influence audiences to think and feel according to their intention and shape public response to the problem (Sullivan 2009). Claims-making is the activity of those claims-makers in making assertions about an issue (Spector and Kitsuse 1977). Typically, claims are assumed to reflect the interests of the social actors or constituents who make them (Best 1987). Thus, from a constructionist perspective, claims are not objective truths. Rather, they are viewed as a part of claims-makers' rhetoric to persuade others of the validity and importance of their claims (Best 1987, 1989).

According to Best (2008), the efforts to persuade normally include three components: grounds, warrants, and conclusions. Firstly, a claim's grounds are descriptions of the troubling condition with supporting evidence such as statistics, labels, and typifying examples to assert that the condition does exist. Then warrants mean appeals to why we should be concerned about the problem, in which process standards of value (e.g., good or bad, right or wrong) are utilized to persuade people to care about the situation. Finally, conclusions refer to recommendations for changes or solutions such as policies or laws. Social construction of a social problem is achieved through these

persuasion tactics, in that at least some messages are eventually taken for granted as real or true. Thus, as much as constructionists are interested in the content of claims made by varied constituents, they also pay careful attention to how those claims are made, by whom, and for what possible purpose (Best 1987).

This perspective provokes criticism for not specifying other grounds of a problem and not articulating why one set of claims rather than another is deemed worthy of social attention (Fritz and Altheide 1997). Hilgartner and Bosk (1988) examine the dynamics of the competitive process in which social problems compete for public attention. There are many situations and phenomena in society that can be recognized as social problems, but not all of them are defined as one. Among a variety of equally harmful and problematic situations, only some are defined as social problems, which triggers them to propose a public arenas model: a model that assumes public attention is a scarce resource allocated through competition in a system of public arenas, each with limited "carrying capacities." The model conceives of social problems less in terms of participants' claims-making activities and more in terms of conditions labeled a problem "in the arenas of public discourse and action." Hilgartner and Bosk (1988) also suggest principles of selection that influence the fate of social problems, which include "drama," "novelty and saturation," and "shared cultural preoccupations and political biases."

This dissertation approaches social problems as social construction that "attributes the dominant framing of a social problem to three general causes: claims-maker activities, media practices, and cultural themes or resonances" (Benson and Saguy 2005: 235). What is considered as a serious social problem in a country may not be defined as such in some other national societies, or different societies might consider the same

conditions or phenomena problematic. That is, the way a certain social problem is defined in each society will not be same, as different national cultures (e.g., media environment, government involvement) affect its construction.

Comparisons of South Korea, Japan, and the U.S.

The case studies in this dissertation aim to compare how and why a certain issue – internet addiction – grew to become a social problem in South Korea, Japan, and the U.S., focusing on the role of relevant institutions (as claims-makers) and national context in particular. South Korea, Japan, and the U.S. offer a fruitful set of case studies for comparative research on the social construction of internet addiction. Basically, all of them have well-established infrastructure and a high internet penetration rate in common. Figure 1 shows yearly internet penetration trends of South Korea, Japan, and the U.S. between 2000 and 2017. While the penetration rate of South Korea and Japan is slightly higher than the U.S., given the average of 229 countries and developed countries, the three countries are far above the global average (International Telecommunication Union 2018). In regard to fixed-broadband subscriptions (Figure 2), South Korea shows significantly higher numbers than Japan and the U.S. from the early 2000s to recent years. At the global level, however, especially during the early stage of internet diffusion, the three countries have well-established infrastructure compared to the majority of nations worldwide. Therefore, despite national differences in the social conditions and practices related to internet addiction, the similarities in online access environment of South Korea, Japan, and the U.S. are enough to make a cross-national comparison of social problems attributable to excessive internet use feasible and productive.

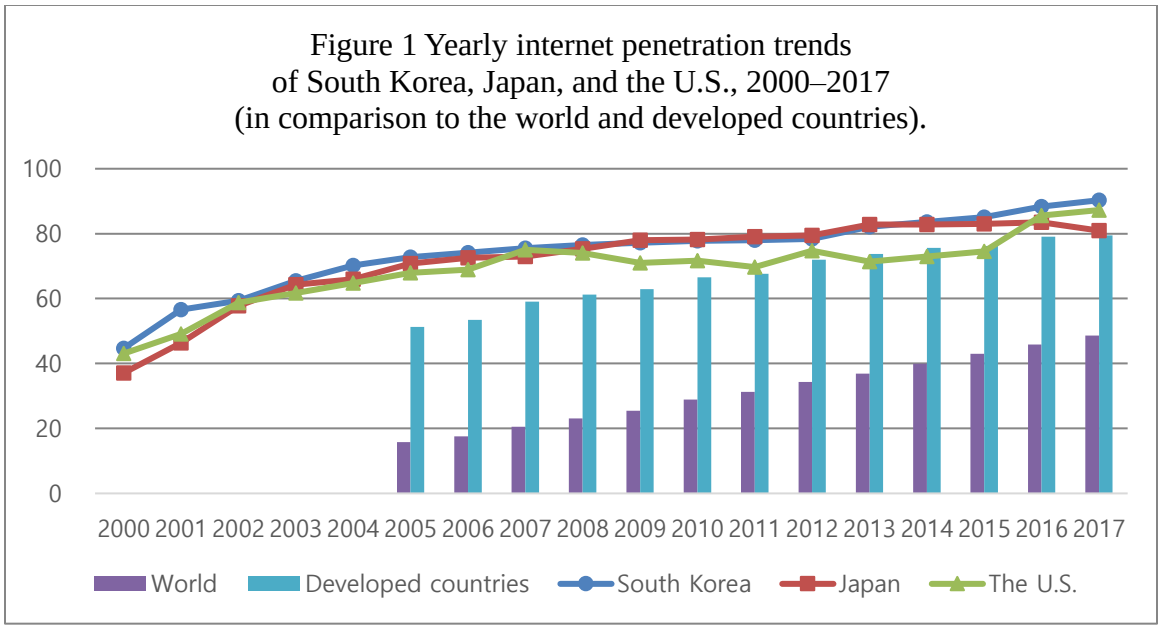


Figure 1 Yearly internet penetration trends of South Korea, Japan, and the U.S., 2000–2017 (in comparison to the world and developed countries).

Source: Ministry of Science and ICT (2005, 2018), Ministry of Internal Affairs and Communications (2016, 2018), International Telecommunication Union (2018)

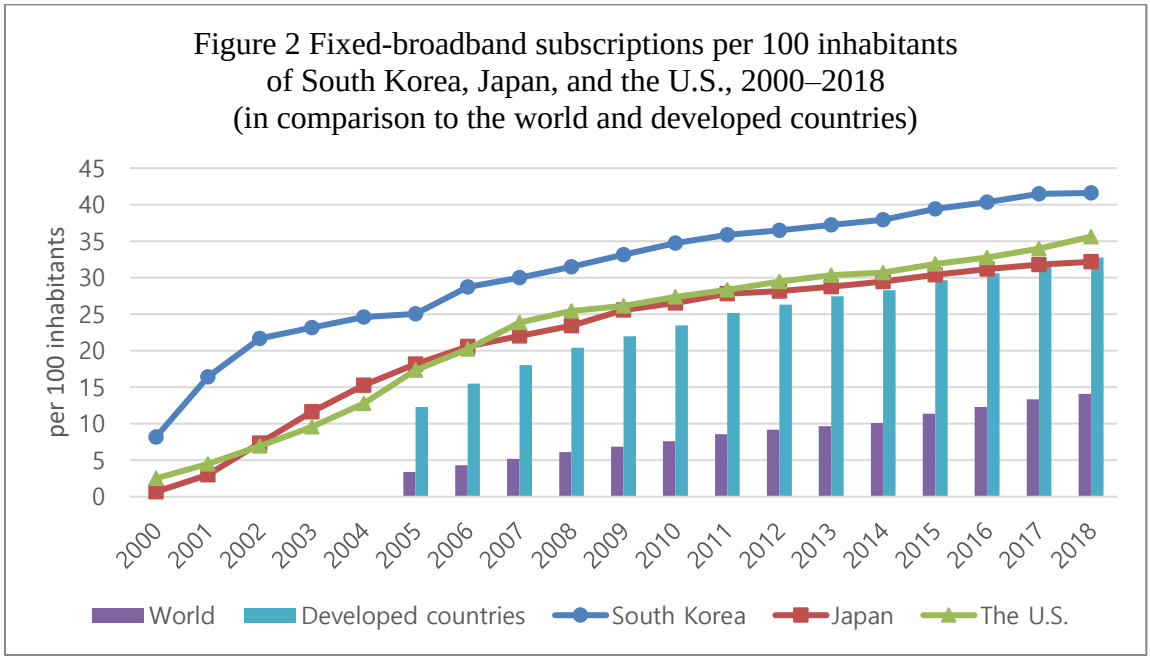


Figure 2 Fixed-broadband subscriptions per 100 inhabitants of South Korea, Japan, and the U.S., 2000–2018 (in comparison to the world and developed countries).

Source: International Telecommunication Union (2018)

Online gaming and the game industry

While people go online for a variety of purposes such as social media, video/music streaming, search, online shopping, online gaming, and so on, among which online gaming is considered the most addictive. Actually, (online) gaming is the only online activity recognized as a public health issue by the World Health Organization (WHO).[1] *The International Classification of Diseases 11th Revision (ICD-11)* defines "gaming disorder" as a pattern of gaming behavior characterized by 1) impaired control over gaming, 2) increasing priority given to gaming over other activities to the extent that gaming takes precedence over other interests and daily activities, and 3) continuation or escalation of gaming despite the occurrence of negative consequences (World Health Organization 2019). The WHO announced that the inclusion of gaming disorder in the *ICD-11* is based on academic evidence and consensus of experts from different disciplines and geographical regions. The American Psychological Association (APA) also included "internet gaming disorder" in *The Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5*). While it is one of the "conditions for further research," the decision has significance as the proposed condition is limited to (internet) gaming and does not include other problems associated with general internet use such as online gambling, social media, or excessive use of a smartphone.

Therefore, the patterns of internet use in each country, of online gaming in

[1] According to the *ICD-11*, the definition of "gaming disorder" is not necessarily limited to "online" gaming which requires connection to the internet. Gaming disorder may include both online and offline gaming as long as a pattern of persistent or recurrent gaming behavior is involved.

particular, may have an impact on the construction of internet addiction. Early statistics on online gaming demonstrate that gaming is quite popular and widespread among internet users in all three countries. In the U.S., the 2004 General Social Survey shows that among the respondents who have ever used the internet, 39.9 percent answered that they had visited website(s) for games. Specifically, 16.5 percent said they had visited website(s) for games more than 5 times in the past 30 days, while 14.8 percent and 8.6 percent answered 1–2 times and 3–5 times, respectively. In Japan, 37.2 percent of PC internet users and 22 percent of mobile phone internet users answered they used free game content in 2005 (Ministry of Internal Affairs and Communications 2005). In South Korea, according to the 2004 *Survey on Internet Addiction*, 44.7 percent of respondents answered they play online games "often." In particular, 14.2 percent and 30.5 percent of respondents said they do online games "very often" and "relatively often." respectively, while 17.1 percent answered "never," and the remaining 38.2 percent answered "not usually."

And online gaming is much more universal and popular among children. According to a South Korean national survey on internet addiction conducted in 2014, children aged 10 to 19 played online games most (77.8 percent) and much more than adults (51.2 percent), and 14.4 percent of children admitted they play online games too much (National Information Society Agency 2015). In 2017, the Japanese government conducted a survey on the internet use patterns of children and their parents. According to the survey, 74.9 percent of teens (between 10 and 17 years old) responded that they play online games, which is much higher than 49 percent of adults, and 59 percent of parents said they are aware of negative consequences of excessive internet use, so 83.5

percent of them answered that they have set rules to control children's internet use (Cabinet Office 2018). In the U.S., a 2008 report found that 97 percent of youth aged 12 to 17 play computer, console, portable, or mobile phone games and that half of teens play on any given day, usually for about an hour (Lenhart 2008). Similarly, in 2018, 84 percent of teens turned out to have a game console at home or have access to one, and 90 percent said they play video games on a computer, game console, or mobile phone (Anderson and Jiang 2018). While those statistics do not necessarily refer to online games, in general, the results imply that (online) gaming is a very prevalent activity among children and so they are more likely to be vulnerable to internet addiction. And not only parents but also children themselves seem to acknowledge the need to control online gaming. Actually, 58 percent of those aged 13 to 17 have tried to limit their use of video games, 55 percent of parents have rules about the amount of time their children can spend online, and 58 percent have rules about how much time their children can spend playing video games (Vitak 2007; Jiang 2018). In general, the above statistics reveal that online gaming is such a prevalent online activity among children regardless of geographical regions, and parents are aware of the potential risks of excessive online gaming well.

Moreover, South Korea, Japan, and the U.S. are top-ranked countries in the global games market. The global games market reached 160 billion USD in 2017 – a 12 percent point increase from the previous year – thanks to the growth of mobile games. Currently mobile games make up 35.6 percent of the global games market, followed by console games (24.6 percent), PC games (20.5 percent), and arcade games (19.4 percent). By region, in 2017, the Asian market share (44.7 percent) is the largest followed by Europe

(30.6 percent) and North America (23 percent), which attributes China and South Korea as the two Asian countries with a strong growth in mobile games. According to 2017 statistics, the U.S., Japan, and South Korea are ranked 1st, 3rd, and 4th, respectively, by market share in the games market worldwide. Especially in regard to mobile games, China (20.7 percent), Japan (16.4 percent), the U.S. (15.6 percent), and South Korea (9.5 percent) constitute the top 4 countries (Korea Creative Content Agency 2019).

Given the leading roles in the global games market and economic profit generated from the game industry, the industry's fierce opposition to the medicalization of internet addiction is a predictable result. The game industry and game users argue that once internet addiction is formally recognized as a mental disorder, it will arouse moral panic by demonizing online gaming and stigmatizing gamers. This is indeed a major threat to the industry, so the game industry is highly likely to take a counterclaims-maker role in shaping internet addiction as either a serious social problem or a mental illness. Therefore, in comparing the social construction of internet addiction, online games' economic aspects and the game industry's stance should be important considerations.

The diffusion of internet and the government

In regard to the social construction of social problems, the government can play a pivotal role. The government itself can be a claims-maker to draw public attention to a particular condition, allocate resources (e.g., fund or subsidies) to shape the condition into a certain direction, and provide solutions for the social problem by establishing policies. Therefore, in comparing how internet addiction is constructed in different national societies, the extent and level of government intervention is an important factor.

In particular, examining the stance of each government on the development and diffusion of the internet provides further background to understand the government's involvement in the construction of internet addiction.

In the diffusion of information and communications technology (ICT), national governments play a significant role in setting up the proper environment for the development of the domestic ICT sector, and successful ICT construction appears to require government involvement. Compared to the Japanese and U.S. governments, the South Korean government showed quite different moves concerning the adoption of the internet. Young (2004) argues that in South Korea, it was the government that played a primary role in the provision and diffusion of the internet, while in Japan, the role of the government was quite minimized. *The Framework Act on Informatization Promotion* was passed in 1995, and the South Korean government articulated a comprehensive plan, "Cyber Korea 21," in 1997 to build a "knowledge-based society" by high-speed telecommunications infrastructure. Since then the country has indeed achieved rapid informatization backed by highly government-led top-down strategies and strong policy support. Numerous state-level projects were implemented to provide high-speed internet to all households, support IT venture companies, promote infrastructural investment, and narrow the digital divide. The Korea Information Infrastructure (KII) project, especially, is known to be the most outstanding example for the successful governmental involvement in broadband diffusion. The government has facilitated broadband development through an early commitment to high-speed infrastructure with specific programs, including a positive and supportive relationship with the private sector, low interest loans, and a certification program for apartment complexes with high-speed

access (International Telecommunication Union 2003; Frieden 2005; Picot and Wernick 2007) As a result, between 1995 and 2002, South Korea experienced enormous quantitative development in informatization including the rapid increase in internet penetration rate. In December 2002, South Korea's penetration of Digital Subscriber Line (DSL) and cable modem internet access was ranked first in the world, which made South Korea a "miraculous exception" as a country that rose from having a low level of ICT access to having one of the highest in the world (International Telecommunication Union 2003). In regard to the broadband adoption, while South Korea benefited from geographic and demographic advantages attributable to small nations with extremely high population density and user behaviors,[2] there is no dissent that the active role of the government was indeed the key factor that led the promotion of broadband in South Korea (Chung 2006; Picot and Wernick 2007).

What makes the South Korean government unique is that the government intervention was not limited to the development of ICTs. Rather, the government further expanded its influence to control the side effects generated from the rapid informatization process. That is, the South Korean government started to detect a need for a policy switch from the quantitative expansion of infrastructure to the enhancement of quality of life through the development of ICTs. Thus, the government started to shift its attention to

[2] According to Chung (2006), the online game share in the South Korean games market is much higher than the average for other countries, which is largely attributable for the early adoption of broadband services. And the diffusion of high-speed internet further promoted the development and launch of more online games in the domestic market.

social problems stemming from the rapid development of ICTs; one of which was so-called internet addiction. Since the early 2000, internet addiction was under the control of the government and the South Korean government has actively engaged in combatting serious problems arising from internet addiction, including the development of diagnostic criteria (so-called, the *K-Scale*), establishment of the Internet Addiction Prevention Center, launch of annual national survey on internet addiction, and so on.

Japan developed a state-level national information strategy, "e-Japan," in 2001, which embraced infrastructure, human resources, e-commerce, e-government, and network security (Prime Minister of Japan and His Cabinet 2001). By blending private and public sector initiatives, the "e-Japan" strategy achieved the goal of linking 30 million households to high-speed internet (Frieden 2005). Compared to South Korea, Japan, however, followed more of a free market model. While the Japanese government set an overall direction for the new ICT, it was the private sector that played the main role in carrying into execution. In Japan, from the very beginning, the internet was widely used via mobile devices, and rather than government policies, users' need for mobile internet in collaboration with major Japanese carriers has driven the diffusion of mobile internet services such as "i-mode."

To be specific, while South Korea, Japan, and the U.S. have a high penetration rate and well-established infrastructure for internet access in common, Japan is distinguished from the others in that their internet has developed by centering around mobile internet. In Japan, mobile internet is neither a substitute for nor a supplement to PC internet. From the very early stage of internet diffusion, mobile phones, not PCs, were the primary platform for internet access. In the late 1990s, Japan looked forward to IT as a key

component for economic recovery. However, unlike Japan's expectation, (desktop) PC internet, which was supposed to be the primary driver of IT economy, did not spread as rapidly as the country hoped. Compared to PC-based internet access, mobile phone-based internet could be accessed through less expensive platforms. Furthermore, it is simple to subscribe to and navigate.

As mobile phone internet services started to spread across the country in early 1999, mobile phones began to come into the spotlight with phrases such as "mobile phones are saviors of Japanese economy" and "mobile phones represent a Japanese-style IT revolution" (Ishii 2004; Matsuda 2005). As early as 2001, 72.5 percent of mobile phone subscribers had internet-enabled mobile phones in Japan, which is the highest diffusion rate in the world,[3] followed by 59.1 percent of South Korea (Ministry of Public Management, Home Affairs, Posts and Telecommunications 2002). The popularity of mobile internet services provided by major carriers such as NTT DoCoMo's "i-Mode," and the government's effort to lower mobile data cost further accelerated the growth of mobile internet, and the mobile phone has become an increasingly popular medium for online access and email, especially among those who are not able to afford PCs. (Akiyoshi and Ono 2008).

That is, unlike in South Korea and the U.S., where PCs were the main platform for internet access, the internet in Japan evolved from mobile phones and mobile internet. One explanation for the popularity of mobile internet in Japanese society is its group-

[3] The diffusion rate of the U.S. was 7.9 percent.

oriented nationality. In Japan, the social function of mobile internet is different from that of PC internet. Mobile internet is positively associated with sociability between friends, while PC internet is not. It was neither technological advantages nor government policy that encouraged mobile internet service in Japan. Actually, the Japanese government placed more importance on broadband than on mobile internet. This is why researchers seek the motivation for the rapid diffusion of mobile internet service from users' need (Institute of Socio-Information and Communication Studies 2001; Ishii 2004).

In the U.S., the internet grew as a collaboration of government agencies and universities with the guidance of the Defense Advanced Research Projects Agency, a branch of the Defense Department of the U.S. Then it evolved under the financial support and management of the National Science Foundation, with the Department of Commerce administering domain name registration. Although the direct financial sponsoring from the U.S. government was eliminated later, it is evaluated as an effective and successful government involvement in ICT development. While the U.S. has excelled in global ICT markets (e.g., computer, software, e-commerce market), which is, in part, through the successful partnership of the public and the private sector primarily during early stage incubation, it comparatively lagged behind in broadband penetration. In 2005, according to the International Telecommunication Union (ITU), the U.S. was ranked 16th in broadband penetration, while South Korea, Hong Kong, the Netherlands, Denmark, and Canada were the top five countries (Frieden 2005; International Telecommunication Union 2005).

While each national government was involved in the development and promotion of internet from its early stage, not all of them gave attention to internet addiction as the

South Korean government did. Technically speaking, the Japanese and U.S. governments did acknowledge a number of side effect derived from rapid penetration of internet, but internet addiction was not their priority. For example, the Japanese government has elaborated a policy to create a "safe and secure" online environment (e.g., filtering software to protect kids from unhealthy online content), and in the U.S., not only the government but the private sector has taken the digital divide very seriously, which has its tradition of "universal service" going back to the era of telephone penetration (DiMaggio and Hargittai 2001). That is, unlike the South Korean government, the Japanese and U.S. governments did not perceive internet addiction as one of the major social problems stemming from the fast development of ICTs.

Although internet addiction received much less governmental attention in Japan and the U.S., there is a significance difference between the two countries in the level of attention. The Japanese government was at least aware of the existence and potential risks of internet addiction but did not recognize it as an urgent social problem. On the other hand, while the concept of internet addiction was generated in the mid-90s, no attention, literally, was given to internet addiction by the U.S. government until quite recently. To be specific, direct evidence of the government's recognition of internet addiction was identified as late as 2017, as a study on internet addiction was funded by The National Institutes of Health (NIH). Before which, no governmental attention was given to issues associated with excessive internet use in the U.S. In other words, in regard to government involvement in internet addiction, the three countries are located in three distinctly different stages, which are distinct enough to make a cross-national comparison.

The medicalization of internet addiction

This study on internet addiction contributes to medical sociology, as it also is about the social construction of illness. As internet addiction rises as a public health issue, it raises questions about the medicalization. A social constructionist approach to illness focuses on "how the meaning and experience of illness is shaped by the cultural and social system" (Conrad and Barker 2010: S67). That is, other than biological conditions that are universal regardless of time and location, some illnesses are particularly associated with certain cultural context of how a society perceives and reacts to the illnesses. For example, the study of Armstrong and Abel (2000) demonstrates how the moral panic over the fetal alcohol syndrome evolved in the U.S. And there are illnesses that are stigmatized in society, such as HIV/AIDS and sexually transmitted diseases (STDs).

Internet addiction is a stigmatized illness, to some extent, as its diagnosis and treatment involve mental health specialists such as psychiatrists. Public perception of addiction or mental illness makes it uncomfortable for parents to bring their kids to mental health professionals just because they are playing online games too long. The access to necessary diagnosis and treatments for internet addiction is hindered by particular cultural meanings embedded in addiction and mental illnesses.

Internet addiction is also a contested illness as it is usually mistaken as not being associated with any proven abnormality. Since the term "internet addiction" was first coined in the mid-90s, there has been a growing body of research on this new illness. However, there is still no consensus on how to define it. It does not have universally accepted diagnostic criteria either. While there are neurobiological findings that

demonstrate internet addiction's association with structural and functional impairments in brains and the similarities and differences between internet addiction and other substance addiction disorders (Park et al. 2017), internet addiction is usually considered to be a debatable status lacking scientific/medical knowledge.

As the World Health Organization (WHO) announced the inclusion of internet addiction – technically speaking, "gaming disorder" – in the *International Classification of Diseases 11th Revision* (*ICD-11*), which is scheduled to take effect in 2022, it is expected that the decision will further accelerate the medicalization process of internet addiction at the global level. Since the *ICD* is the official basis for identification of diseases and health conditions globally, WHO member countries are affected by the decision when establishing public health strategies. Moreover, earlier than the WHO, the American Psychological Association (APA) included "internet gaming disorder" in *the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition* (*DSM-5*) published in 2013. The *DSM* is the standard classification of mental disorders used by mental health professionals in the U.S. The inclusion, however, does not necessarily mean that the APA officially recognized internet addiction as a unique mental disorder, as "internet gaming disorder" is in the section recommending further research with conditions such as caffeine use disorder.

While South Korea, Japan, and the U.S. have well-established infrastructure for internet connection, similar usage patterns, and penetration rate in common, the three countries exhibit significant disparities in the level of public/governmental support for the medicalization of internet addiction. Medicalization matters as it is densely interwoven with the healthcare system and health insurance in particular. Since medicalization has an

impact on what is to be covered by insurance, the medicalization would affect the access to diagnosis of internet addiction and mental health care in general, and medicalization also initiates and encourages further research on the illness. For example, Osada (2013) argues that the reason Japan is behind in internet addiction studies, despite its high status in ICTs in the world, is that since internet addiction is not recognized as a mental disorder in Japan, its ambiguous nature discourages researchers from conducting new studies on the topic.

In regard to the medicalization of an illness, internet addiction is a case that shows how and why the attempts of medicalization ignite major social conflicts. As Conrad and Baker (2010) argue, knowledge about disease is socially and culturally constructed rather than objectively given. Internet addiction is a social problem within which medical, economic, academic, social, and evaluative agendas are all intricately connected. Thus, a variety of claims-makers and interest parties are involved in the processes of knowledge construction about internet addiction. Now neurological studies have proved similarities between online gaming and addictive substances in their consequent changes in the brain. However, as much as medical and scientific findings construct internet addiction as an objective disease, the game industry, scholars, civic groups, and the government also produce social discourses on internet addiction. This process does not necessarily aim to invalidate objective and scientific achievements in internet addiction studies. Rather, through debate and consideration, the two tracks together construct what internet addiction means in a society, and this process is very well observed in South Korea.

Despite the decisions made by two global authorities for health, the APA and the WHO, debates surrounding the nature of internet addiction, on whether it really is an

illness or not, continue. In South Korea, as soon as the WHO announced the inclusion of internet addiction in the *ICD-11*, fierce controversy over its legitimacy was aroused among medical professionals, academics, government ministries, the game industry, civic groups, and game users, which ended up in an extreme polarization of opinions. While major medical associations (e.g., the Korean Pediatric Society and the Korean Neuropsychiatric Association), parent groups, educators, and most government ministries are welcoming the decision, the game industry and the Ministry of Culture, Sports, and Tourism, which has been promoting online games as a major export item, adamantly oppose it. The Ministry of Culture, Sports, and Tourism even officially sent a letter to the WHO to lodge its objection.

According to those who are against the medicalization of internet addiction, the "excessive" medicalization is intended to create a virtual disease and expand medical control over society. Pathologizing a certain behavior gives medical professionals some control over it. Therefore, they insist, given the current state of knowledge regarding the impact of online gaming on individuals, that the inclusion is premature and that without adequate diagnostic standards, the medicalization of internet addiction is no more than just demonizing online games and will create a new stigma by pathologizing a normal behavior. That is, the overdiagnosis is likely to end up with moral panic about online gaming.

To mediate the split, the Office for Government Policy Coordination, an office underneath the prime minister, is to set up a consultative body comprised of government agencies and all interest parties. That is to say, internet addiction is a case that demonstrates how medicalization causes conflicts among interest parties and how

national policies are implemented afterward to adjust the conflicts.

Different Phases of Social Construction of Internet Addiction

From the perspective of social construction of a social problem, internet addiction in South Korea, Japan, and the U.S. is located at different phases of claims-making. While internet addiction in South Korea is a condition that almost everyone agrees to be a significant social problem, in the U.S. and Japan, there is less likely to be such a consensus. In the U.S., internet addiction can be considered as a social problem in search of grounds. There are no statistics, labels, and typical stories to describe internet addiction, and it is unclear whether any public orientation about it (e.g., medical condition or social problem) exists or not. Internet addiction in the U.S. does not seem to be successful at getting audience's attention over innumerable claims about a variety of other social problems.

On the contrary, in South Korea, internet addiction qualified in the three components in Best's (2008) framework as early as the mid-2000s and positioned itself as one of the major social problems. Moreover, the three major rhetorical forms of grounds – typifying examples, naming of a problem, and statistics – have been very well observed since the early period of claims-making about internet addiction. The mass media has presented dramatic stories of homicide, suicide, or juvenile delinquency associated with excessive use of the internet one after another. Those stories were, in fact, neither frequent nor common, but they were enough to illustrate the seriousness of the condition and shape the public's perception of internet addiction as a serious social problem. As for naming and statistics, the government officially labeled it "internet

addiction" over a variety of different labels and started to conduct an annual nation-wide survey on internet addiction as early as 2004. In South Korea, the mass media and the government together have successfully portrayed internet addiction as a serious, real, widespread, and measurable social problem much earlier than other countries. Thus, South Korea could move on to conclusions, seeking for right solutions of internet addiction, and then further refine the social problem so that the public and policymakers keep their interest in it.

Meanwhile, Japan is located somewhere between the U.S. and South Korea in regard to the social construction of internet addiction. The mass media, civil society, and the government are aware of the existence of internet addiction, but in Japan, it is still not certain whether internet addiction will evolve into a major social problem or fade away, overwhelmed by other claims.

Drawing on constructionist theories of social problems developed in sociology, this dissertation examines and compares the public recognition of, concern about, and reaction to a particular social problem in South Korea, Japan, and the U.S. The three countries reach towards different phases of the social construction of internet addiction with varied level of recognition, intensity of concern, pace of response, and direction of policies. So, what are the social, cultural, political, and institutional contexts that have contributed to varied framing of the same phenomenon?

This dissertation attempts to answer the following questions of why and by whom internet addiction was selected to be a social problem, of who qualifies for the authority on internet addiction, and what contributes to the varied responses to internet addiction by society. To find the answers I, in particular, focus on the role of three major claims-

makers: the mass media, academia, and the government.

Several claims-makers are involved in shaping internet addiction as a social problem in various ways, including the media industry, the government, lawmakers, educators, academics, health professionals, the game industry, game users, and the insurance industry. However, constitutions of and relationships among claims-makers vary by country. The comparative analysis of claims-makers enables the examination of underlying social and cultural context regarding why certain individuals or institutions are qualified to have more authority on a particular social problem over others. The social construction of internet addiction is through years of ongoing social interactions and conflicts among a variety of claims-makers over problematization and medicalization of the newly-emerged condition, as each claims-maker would like to shape internet addiction in accordance with its own value orientation, pursuit of interests, or aims. Through the above questions, this study makes a series of theoretical and empirical contributions to the study of public mental health, impacts of a new technology, and social construction of social problems.

Chapter Outline

The analysis is broadly organized into three parts. In Chapter 2, I unpack the construction of internet addiction by the mass media. The mass media is not only one of the public arenas in which social problems are selected, framed, and grown but is also a primary source of information about social problems. To explore how the media industry has portrayed internet addiction, I collected sample from the top three newspapers by circulation figures in each country: The Chosun Ilbo; The Joongang Ilbo; The Dong-A

Ilbo; The Yomiuri Shimbun; The Asahi Shimbun; The Mainichi Shimbun; The Wall Street Journal; The New York Times, and The Washington Post. Then, regarding a total of 781 newspaper articles published from 1993 to 2013, I employ a mix of qualitative and quantitative analyses to capture the overall content of the newspaper articles and make systematic comparisons about media coverage of internet addiction, focusing on 1) label, 2) definition, 3) nature, 4) topic, 5) effect, 6) profile of those who suffer, 7) authority, 8) actor, and 9) responsibility. In this chapter, I provide a comprehensive and chronological analysis of the ways the news media has shaped internet addiction in each country and compare the volume of media attention given to the topic.

In Chapter 3, I offer an account of the construction of academic and professional knowledge about internet addiction. Through a literature review of 651 existing academic articles on internet addiction published between 1996 and 2014, I analyze and compare 1) year of publication, 2) label, 3) specialization of first author, 4) discipline of journal, 5) research participants (if applicable), 6) diagnostic criteria (if applicable), and 7) aim of research. Tracing how academic and medical knowledge on internet addiction has been constructed, I compare the disciplines or professional groups that have the authority on the production of knowledge about internet addiction. Also, I explore how the focus of research and level of academic attention varies by country. In particular, the finding that labels and diagnostic criteria vary significantly by country demonstrates that professional knowledge about internet addiction so far lacks valid and liable standards for comparison and generalization. At the end of this chapter, by comparing the findings of Chapter 2 and Chapter 3, I report the ways that the two major institutions – the mass media and academia – have interacted in framing internet addiction.

In Chapter 4, I explore the role of the governments in shaping internet addiction as a newly emerging social problem. The government can intervene in the social construction of social problems in several ways, such as acting as a claims-maker that identifies a certain issue and brings it to public attention or as a resolution provider that implements public policies to solve social problems. Furthermore, the government plays a pivotal role in regard to the medicalization of illness as well. While the *International Classification of Diseases (ICD)* serves as the foundation for standardization and globalization of public health care worldwide, it is not forcible. Thus, when it is applied to each country, details (except for the *ICD*'s system for statistical comparison) can be different depending on domestic health and medical care environment. That is, it is the government that has administrative authority to classify internet addiction as an illness and enable insurance coding and reimbursement. In this chapter, by reviewing government documents and publications produced by state and local government (e.g., white papers, statistics, government-commissioned research papers, proceedings of public hearings and meetings, and so on), sourced mostly from official government websites, I unpack the ways the government of each country was involved in the construction of internet addiction and its medicalization process, focusing mainly on 1) whether the government is aware of the existence and significance of internet addiction as a social problem, if so, 2) what stance the government adopts on internet addiction, and 3) what state-level moves the government has initiated to combat internet addiction. Then I delve deeper into the social and cultural context the differences among countries are attributed to.

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Chapter 2. The Construction of Internet Addiction in the News Media

Introduction

The social construction of social problems approach attributes the dominant framing of a social problem to three general causes: the activities of claims-makers, media practices, and cultural themes or resonances (Gamson and Modigliani 1989). When facing an issue that is prevalent in a society, government officials, academics, scientists, and social activists attempt to define it in various ways. National culture and the media industry, however, have the capacity to set the boundary within which such definitions can exist in the public sphere. The social constructionist research tradition has focused on the media industry in particular because it is one of the major claims-makers. Claims-makers are the individuals or institutions that influence how audiences think, feel, or give meaning to a concept, so as to match the intentions of those individuals or institutions. The mass media per se is a primary claims-maker, and at the same time it delivers the voices of other claims-makers to the public and offers sources for claims-making. The media industry can easily employ a claims-making strategy associated with encouraging audiences to evaluate a certain phenomenon or condition as a serious social problem. According to Sullivan (2009) such a persuasion strategy can take two forms: logic and emotion.

The mass media reaches a broad audience and has the potential to shape the ways in which audiences define reality or a specific social issue. It presents information to audiences and has the potential to influence the way that audiences construct individual

meaning regarding a certain topic. That is, audiences do not perceive any adverse phenomena as social problems. They understand the phenomena under which the media industry depicts particular situations or conditions as social problems. The mass media provides an arena of attention in the public domain, calls attention to a certain problem, and frames what are seen as the causes of, and solutions to, the problems. According to Spector and Kitsuse (1977: 86), to call a situation a social problem, news articles must give "statements about conditions that ought not to exist" or suggest that "something ought to be done to improve conditions." This is a signal that a news medium is viewing the story as a social problem rather than an isolated episodic incident. By doing so, the story is placed in a more general context as a public issue and encourages readers to attribute responsibility for solving the problem to society. To do so, newspaper articles must link events to broader patterns and portray them as matters for public action (Best, 2010).

The media industry's influence on the construction of social problems has attracted scholars. For example, Davis (1952) and Roshier (1973), demonstrate the effect of the newspaper coverage of crime on public opinions regarding crime trends or public perceptions of crime and criminals. The mass media also plays an important role in the social construction of medical issues. In his review of previous studies on mass media images of mental illness, Whal (1992) argues that mass media sources have a significant effect on mental health attitudes. Armstrong et al. (2006) demonstrate that newspapers and the nightly network news programs bring certain diseases into public view while keeping others out of public sight, and that a systemic process of attention allocation is thus working. Health-related coverage produced by the news industry has the potential to

influence policy makers and health services consumers, and therefore it may affect the provision and use of health services and health-related behaviors in general.

In this study, I focus on the media coverage of internet addiction for a few reasons. Internet addiction is a relatively new phenomenon/condition. The term "internet addiction" was coined in the mid-1990s, and internet addiction started to be recognized as an issue with the fast penetration of internet. Its short history enables researchers to track media attention on a certain issue from its very beginning, including when, why, and how a particular phenomenon/condition was first defined as a social problem. The uncertain, or somewhat ambiguous, nature of internet addiction also prompted the media industry to contemplate how to define and portray the new phenomenon/condition. Internet addiction – "gaming disorder," technically speaking – was officially recognized as a mental disorder by the World Health Organization (WHO) as late as 2018. For approximately 25 years, since the concept originated, the nature of internet addiction – whether it really is a mental disorder/addiction, or whether such a condition even exists – remained largely undetermined.

The level of media attention given to internet addiction varied significantly by country, according to how the media industry defined it. Internet addiction was portrayed as a major social problem in some countries, but its existence was virtually neglected in other countries. For example, internet addiction is regarded as one of the most prevalent social problems in South Korea. In a 2008 survey, 83.9 percent of the South Korean people responded that internet addiction is a serious social problem (Korea Agency for Digital Opportunity & Promotion 2009). Different countries may or may not consider the same conditions/phenomena problematic due to the different economic, historical,

technological, or political context of each society. Because no two nation-states can be exactly the same, the definition of a particular social problem that works in one society may fail to diffuse or be significantly redefined when it travels across countries. Sacco and Ismaili (2001: 25) argue, concerning the diffusion of social problems, that "the greater the cultural dominance of one nation by another, the more likely the diffusion of social problem claims will be one-way, rather than a reciprocal process." Internet addiction as an idea was created and first studied in the U.S. and then diffused to other countries, including South Korea and Japan, but the lack of attention given to internet addiction by the U.S. media implies that it has never been highlighted as a major social problem in the U.S.

A particular phenomenon/condition can be understood by making references to the social context within which it is defined and understood. Such social forces and context may include broad areas such as class, race, gender, history, language, technology, culture, the political economy, and institutional structures. I would expect that newspaper coverage of internet addiction not only shapes the issue but also reflects the national culture from which the issue stems, and is addressed in. By comparing how the discourses on internet addiction, such as those about its prevalence, incidents, treatment, or definition, are constructed by the media industry in South Korea, Japan, and the U.S., I examine and compare the cultural and social-organizational environments that have influenced the public perception of internet addiction in the three countries.

Data and Methods

I analyze coverage of internet addiction in the newspapers of South Korea, Japan, and the U.S., from 1993 through 2013. The sample includes 781 news stories (568 South Korea, 145 Japan, and 68 the U.S.) from major newspapers of the three countries. I selected three newspapers from each country according to national circulation figures as of 2013: the Chosun Ilbo; the Joongang Ilbo; the Dong-A Ilbo; the Yomiuri Shimbun; the Asahi Shimbun; the Mainichi Shimbun; the Wall Street Journal; the New York Times and the Washington Post. Local papers and newspapers for specific groups (e.g. religious groups) were not considered. The nine newspapers may have politically biased stances, and the sample may not represent the full range of all existing news media. As leading national newspapers in each country, however, the newspapers are authoritative and have nationwide influence.

The time period, between 1993 and 2003, captures the creation and early development of media attention to internet addiction. *The Washington Post* published the first news story on internet addiction in 1993, which is the earliest among the 781 news articles, followed by South Korea (1995) and Japan (1996). Given that the term "internet addiction" was coined in the U.S., the location of the earliest coverage makes sense. Concerning the volume of media attention, however, the U.S. (68) has much less news coverage of internet addiction, compared to South Korea (568) and Japan (145).

Articles were identified through an initial search of Factiva (the U.S.) and the official websites of newspapers (South Korea and Japan). U.S. newspapers have the methodological advantage of being available via Factiva, and so complete article texts from the U.S. newspapers were obtained from the Factiva database for the time period.

Articles in the South Korean and Japanese newspapers were retrieved using the search options provided on each newspaper's official website. In this research, "article" refers to any text in the newspaper with a headline, including columns and editorials. Letters to the editor were excluded. Articles were included only if they carried different stories: if multiple newspapers were running the same story provided by a wire service such as the Associated Press, I did not include the repetitions.

I selected 781 published articles, in which the term "internet addiction" or the South Korean and Japanese equivalent appeared in either the headline or in any of paragraphs. Since scholars have not yet reached agreement about an official term for internet addiction, it is currently referred to by a number of different labels. When identifying articles about internet addiction, it is thus especially important to elect the right keywords for the search.

I first randomly selected 100 articles for a pilot study and analyzed the labels that referred to internet addiction, from which I found that most of the labels are a compound noun consisting of 1) internet (or the equivalent wording of internet, such as online or web) or devices that enable internet access (e.g., PC, computer, smartphone, mobile phone, and i-phone) or/and 2) activities available online (e.g., game/gaming, email/e-mail, gambling, porn(ography), shopping, Twitter, social media, messenger, or chatting), and 3) pathological/problematic status (e.g., addiction, disorder, obsession, obsessive use, heavy use/usage, overuse, pathological use, dependence/dependency, compulsive use/compulsion, excessive use, problematic use, abuse, or overindulgence), such as "internet gaming addiction," "smartphone dependence," or "pathological internet use."

Based on the pilot study I developed a list of keywords by combining the above terms in each category.

To explore the intensity of the focus and concentration of each article on internet addiction, I categorized the sample into 1) full text (special features and regular articles), and 2) partial text (paragraph(s) or sentence(s)). For example, if an article is dedicated to reporting only internet addiction from its beginning to end, it was categorized as "full text." When an article mentions internet addiction but as a sub-element of a broader topic (e.g., social problems in a highly wired society), thus simply mentioning it before focusing on another topic (e.g. the digital divide), it was coded as "partial text." The sample shows that the U.S. media attention to internet addiction is not only quantitatively but also qualitatively behind that of South Korea and Japan. The proportion of full text articles was 46 percent in the U.S. sample, which is much lower than the South Korean (76 percent) and Japanese (75 percent) samples. In addition, while 10 percent and 14 percent of the South Korean and Japanese samples, respectively, were special features, there were none in the U.S. sample.

I developed and revised the coding scheme during coding of the randomly selected 100 articles, and subsequently recoded to account for the revisions. Each article was read in full, and coded for the following frames to capture the way internet addiction is portrayed in the news media and make comparisons across countries: 1) label, 2) definition, 3) nature, 4) topic, 5) effect, 6) profile of those who suffer, 7) authority, 8) actor, and 9) responsibility. News stories were coded as "1" for including any explicit mention of a sub-element of a given frame – either once or multiple times –, or as "0" for the absence of any explicit mention.

Results

One of the starkest differences in the news coverage of internet addiction in South Korea, Japan, and the U.S. is the amount of media attention. As shown in Figure 1, South Korea greatly outnumbers Japan and the U.S. in the number of published news stories. In South Korea, overall media attention on internet addiction is increasing, except for a striking fluctuation between 2010 and 2013, where the number almost doubled from 35 (2009) to 75 (2010), then made a rapid decrease to 46 (2011), followed by another sharp increase to 107 (2012) and a drop to 43 (2013) again.

The first peak of 2010 is largely attributable to the occurrence of a specific tragic incident, the death of a three-month-old infant due to malnutrition and starvation while her parents indulged in an online game caring for a virtual child several days and nights in a row at an internet café. While this was not the first death resulting directly or indirectly from internet addiction, the news story sounded an alarm for people in South Korea to be more aware of the seriousness of internet addiction. It influenced to push the government and lawmakers to propose regulations banning excessive online gaming, which contributed to the implementation of the so-called "shutdown law," which became effective as of November 2011, to prohibit the access of underage gamers to online games between midnight and 6 AM. The incident and following policymaking process generated more news-worthy stories than ever before. The second peak media attention year, 2012, was related to a series of featured articles published by a South Korean newspaper, *The Chosun Ilbo.* In January, it started to release a "special" series of 30 articles on internet addiction, which accounted for approximately 30 percent of the South Korean sample of that year.

In Japan, the media attention to internet addiction was not particularly significant since its first coverage in 1996, however, the number of news stories made a sudden jump from 13 to 46 between 2012 and 2013. In 2012, the Ministry of Health, Labor and Welfare supported a national survey on the drinking and smoking patterns of youth, and the questionnaire also included a few items about internet addiction. The results were released in August 2013, revealing that the internet addiction rate among middle and high school students was as high as 8.1 percent. Since it was the first nation-wide survey that measured the prevalence of internet addiction among students, the survey results were repeatedly reported and cited by news media throughout the rest of the year. In 2013, 35 out of 46 articles were published after the release of the survey results on August 1st and most featured the survey. The rapid increase in media attention is thus largely attributable to the release of the unexpectedly high internet addiction rate among students.

While I could identify some peak media attention years in South Korea and Japan, which are mostly the aftermath of special events or incidents related to internet addiction, the U.S. news media, in general, has paid little attention to internet addiction. The most articles about internet addiction per year was seven, in 2006 and 2007, which is much less than in South Korea (107) and Japan (46).

Labels

Internet addiction has been given dozens of different labels in news stories. I found approximately 60 labels in the sample from South Korea, Japan, and the U.S. They may not intend to refer to exactly the same condition or phenomenon but are all used to describe a newly-emerging social issue associated with excessive internet use. Different

countries give internet addiction different labels, and a number of labels are used interchangeably even within a single country (Table 1).

A comparison of the labels reveals that each country has different perception of, and stance on, internet addiction. The number of labels used in the South Korean sample (36) outnumbers that of Japan (15) and the U.S. (28). To compare the convergence rate, I calculated the proportion of the three most frequently used labels in each country: South Korea 76 percent, Japan 84 percent, and the U.S. 52 percent. Despite the existence of dozens of different terms, only a few labels are widely in use in newspaper articles in South Korea and Japan. In Japan, especially, the most widely used term – "internet dependence (disorder)" – accounts for as much as 57 percent. This finding implies that, compared to South Korea and Japan, the U.S. has a relatively low level of social consensus on the concept of internet addiction.

Secondly, one of the notable differences between the three countries is that the most frequently used label varies by country: "game addiction (disorder)"[4] (40 percent) in

[4] The term "game addiction (disorder)" includes "internet game addiction," "internet game addiction disorder," "online game addiction," "game addiction," and "PC game addiction." In the sample, "game addiction" has many variations (e.g. "internet game addiction," "online game addiction"), but I integrated the above four labels into "game addiction (disorder)" because they basically refer to the same activity, playing games that require online access. While coding the sample, if the type of game(s) described in the news stories did not necessarily require online access (e.g., video game, CD-ROM game, or console game – Nintendo or Wii) the article was excluded. "Smartphone/mobile game addiction" was not integrated with "game addiction (disorder)" and coded as a separate category, as it is defined via mobile devices such as

South Korea, “internet dependence (disorder)” (57 percent) in Japan, and “internet addiction (disorder)” (38 percent) in the U.S. Only in the South Korean sample did “‘game’ addiction” (40 percent) outnumber “‘internet’ addiction” (32 percent). In 2003 the appearance of “game addiction (disorder)” outnumbered “internet addiction (disorder)” for the first time in the South Korean sample, and as of 2010 difference between them almost doubled, 58 times versus 32 times (Figure 2).

This implies that in South Korea online gaming was seen as the most addictive online activity and drew the attention of the news media more than any other activity available online, such as chatting, shopping, or internet surfing. According to a 2011 survey, 59.4 percent of those who visited the Internet Addiction Prevention Centers for counseling services had excessive gaming issues, and among teenage internet addicts 65.2 percent responded that they went online mostly for gaming. During the very early stage of internet penetration in South Korea, the high popularity of online games contributed to a sharp increase in domestic internet users: as online games quickly spread among South Korea’s young generation, the number of internet cafés (also known as *PC-Bang*, in Korean) equipped with high-speed internet and high-end facilities accordingly demonstrated a rapid increase. At the end of August 1999, there were 12,050 internet café s in South Korea, which is a huge growth from 3,600 in 1998 (Park 2000). And the shocking 2010 news story about the three month old baby girl who died of starvation while her parents were distracted by online games resulted in further concerns about excessive online gaming (See Figure 1), and the news media has focused more obviously

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smartphone or tables, not PCs.

on “internet gaming (disorder)” since 2010. This may lead to the question of whether “game addiction (disorder)” and “internet addiction (disorder)” refer to the same condition or phenomenon in South Korean sample. The news media makes it clear that “(internet) game addiction” is a subset of “internet addiction.”

Among the more than 60 labels, “game overindulgence” is particularly noteworthy since the term “overindulgence” appeared only in South Korean sample.[5] Thirty one out of 35 news stories containing “game overindulgence” were published between 2010 and 2013, and 17 (55 percent) appeared in 2010 in particular. The term “game overindulgence” reflects political tension between two South Korean government ministries in charge of online gaming: The Ministry of Gender Equality and Family and the Ministry of Culture, Sport and Tourism. The two ministries have conflicting goals related to online games: the prevention of internet addiction among children versus the promotion of online games. The Ministry of Culture, Sport and Tourism aims to develop the (online) game industry into one of the South Korea’s leading export items, and the game industry has no reason not to support the ministry. In 2010 and 2011, the two government ministries showed strongly opposing point of views on the implementation of the “shutdown law,” one of such conflicting stances is reflected in the label. The Ministry of Culture, Sport and Tourism proposed a new label, “game overindulgence,” to deliberately replace “game addiction.” Compared to “addiction,” “overindulgence”

[5] Although “game overindulgence” was identified once in the U.S. sample in 2010 in a reference in *The Washington Post* to South Korea, in which “game overindulgence” appeared in a cited comment given by a South Korean government official.

sounds more like a bad behavior/habit than a pathological condition requiring treatment and diagnosis. In a comment given to *The Washington Post*, the director of the game content industry division at the Ministry of Culture, Sports and Tourism confirmed that "when people are addicted to a substance, you call it addiction, but this is a behavior, so we call it overindulgence" (Harlan 2010). The claim attracted criticism from government officials, mostly from those in the Ministry of Gender Equality and Family, claiming that the label is intended to consciously ignore the seriousness of internet addiction. This debate over "game indulgence" implies that naming a social problem may be a product of political conflicts among stakeholders.

The results also show that the composition of labels differs by country (Figure 3). For example, in the South Korean sample, 90 percent of the labels include the term "addiction," which is significantly higher than the Japanese (26 percent) and the U.S. (65 percent) sample. However, rather than providing any explanation about why "internet addiction" is a kind of addiction or any careful consideration of the correct label with which to name the social problem, the South Korean news media simply started to use the term "addiction" as a matter of habit. In the South Korean sample, "addiction" has several variations according to online activities (e.g., game, internet chatting, or cyber-sex) or devices (e.g., mobile phone or smartphone). Conversely, about half of the different labels identified in the U.S. sample consist of (semi-)medicalized terms such as "pathological use," "excessive use," "overuse," "compulsive use," "heavy use," or "abuse." The U.S. news media tends to be more careful in labeling internet addiction as a medical condition.

The Japanese sample is distinguished from the others in that all 16 different labels include either "addiction" or "dependence," but no other terms referring to a medical condition such as "abuse," "overuse," or "compulsive use," as seen in the U.S. sample. Furthermore, approximately 74 percent of the labels consist of "dependence" and a specific device/activity, including the most frequently used label "internet dependence (disorder)." While the Japanese language does have an exact equivalent for "addiction" (*chu-doku,* in Japanese), it prefers to translate it as "dependence" (*ison,* in Japanese). An obvious example is identified in a 2006 article, which was intended to teach Japanese readers how to talk about various topics in English. While mentioning cases of internet addiction being reported overseas, it says "(the phenomenon) is called 'internet dependence (*netto isonshou*, in Japanese),'or internet addiction (in English)" (Ishida 2006). Given that, *The White Paper on Information and Communications in Japan,* published annually by the Ministry of Internal Affairs and Communications, also adheres to the term "dependence," "(internet) dependence" is the label used not only widely but officially in Japan.

In Japanese news stories, "internet addiction," was in fact, used more frequently than "internet dependence" until the early 2000s. In recent years, however, "internet addiction" seldom appears other than in international news section. When referencing other countries (e.g., a news story about South Korea's internet addiction treatment program), Japanese news media tends to use the label "internet addiction" rather than "internet dependence." This is largely because international news stories usually translate official reports or announcements published in foreign countries, and while the use of

"internet dependence" is limited within Japan, "internet addiction" is a more widely-accepted label across countries.

Definition and nature

Since the term "internet addiction" was coined in the mid-1990s, academic and public discourse on internet addiction has grown steadily in both amount and complexity. Despite the growing body of research, however, the definition of internet addiction remains uncertain and there is as yet no agreed definition. A definition of internet addiction is missing in most news stories. In the sample, the percentage of articles including a definition of internet addiction was as low as 3.5 percent in South Korea, 1.4 percent in Japan, and 2 percent in the U.S. When the first news coverage of internet addiction appeared around 1995 in each country, internet addiction was a new and unfamiliar concept for the public. The news media, however, rarely clarified what the new term referred to. Instead, when reporting on internet addiction, it tended to focus on events or incidents that readers may easily find interesting, or make comparisons with pre-existing and well-known addiction disorders (e.g. alcoholism or substance addiction) so that readers gained a sketchy understanding of why it is problematic.

Although the number of definitions available for comparison is very limited, especially in the Japanese and the U.S. sample, there is a difference between South Korea and the other countries (Table 2): the definitions in the South Korean sample have some degree of consistency, while others do not, which may be attributable to the existence of a definition for internet addiction announced by the government. In 2003 the South Korean government defined internet addiction as "the state in which internet users suffer

serious physical, psychological and social problems in their everyday lives as the intensity of their psychological dependency on internet use increases," and confirmed that its primary symptoms include withdrawal and tolerance. Since then, when the news media defines internet addiction in news stories, even when not quoting the full definition, news stories at least include key concepts such as "withdrawal," "tolerance," and "problems in everyday lives" in the definition.

The news media, in general, does not have a standard definition of what qualifies as internet addiction. Rather, to help readers understand what internet addiction is and to convince them why internet addiction is a newsworthy topic, news stories mention the "nature" of internet addiction. Actually, from the very early stages of internet addiction study, the nature of internet addiction – whether or not it is a mental disorder/addiction – was as yet undefined among academics. Especially, the time period of 1993-2013 was before the official recognition of internet addiction, or "gaming disorder" as is defined in the *International Classification of Diseases 11th Revision (ICD-11)*, as a mental disorder by the World Health Organization (WHO). Despite the WHO's decision to include internet addiction in the *ICD-11*, however, the debate never ceases.

The news media did acknowledge such ongoing debate among academics and health practitioners on the nature of internet addiction. The ambiguous nature of internet addiction, in addition to the absence of a standard definition, made it even more difficult for the news media to define internet addiction. News stories therefore tended to avoid making assertive statements about the nature of internet addiction (e.g., mental illness or addiction). Since internet addiction was a new social problem lacking a scientific/academic basis, early news stories had further difficulties in defining its nature.

The news media, therefore, rather than making any assertive statement, tended to take a safer way when mentioning the nature of internet addiction. For example (see Table 3), internet addiction is usually described in news stories as a condition "like" other well-established behavioral (e.g., gambling) or substance (e.g. alcohol, drug) addiction. In this way, the news media can avoid the responsibility of defining it as addiction, but gently persuade readers, who lack knowledge about the controversial nature of internet addiction, to perceive it a new kind of addiction. Since the public is already familiar with the seriousness of pre-existing addiction such as alcoholism or drug addiction, the strategy is quite efficient in conveying the potential significance of internet addiction. Compared to the South Korean and Japanese sample, U.S. news stories have more such descriptions, which may be attributable to the fact that the U.S. has a longer history of addiction research and thus has a higher threshold for what qualifies for addiction.

The U.S. and Japanese news media carry more accurate information about the nature of internet addiction in general. While the percentage is very low (1 percent), a few South Korean news stories have incorrect descriptions of internet addiction, classifying it as a mental disorder or addiction. Conversely, the U.S. and Japanese news stories note the ambiguous nature of internet addiction. Twenty-four percent of the U.S. samples pointed out that there is skepticism/controversy about whether internet addiction is really addiction, and 6 percent and 4 percent of the Japanese and the U.S. news stories, respectively, clarified that internet addiction was not yet officially classified as a disorder/addiction.

Until 2018, the ambiguity of internet addiction's nature was largely attributable to *The Diagnostic and Statistical Manual of Mental Disorders (DSM)*, which is the standard

classification of mental disorders used by mental health professionals in the U.S. The validation of internet addiction as a psychiatric disorder depends upon its inclusion in the *DSM*. The fifth edition of the *DSM* (*DSM-5*), published in 2013, included "internet gaming disorder" in Section III, "Conditions for Further Study." Internet addiction (or "internet game disorder") is not an official disorder in the *DSM-5* and depending on further research it may or may not be recognized as a mental illness in future editions. What the U.S. news media claimed about the nature of internet addiction – that it is controversial and not yet a verified disorder – is thus correct and accurate.

Topic

As shown in Table 4, I categorized news stories by topic, and the nine categories were: 1) comprehensive analysis, 2) practical information, 3) research/survey results, 4) government policy, 5) incidents, 6) international news, 7) industry/business, 8) opinion/editorial, and 9) others. The three countries have one thing in common: the "comprehensive analysis" of internet addiction is the biggest category by percentage in all countries. The category includes in-depth reports on internet addiction, which embrace a wide range of information (e.g., prevalence, cause and effect, reference to other countries, notable studies, and so on) in one article. Such articles are usually filled with broad and general information rather than specific details about internet addiction. This therefore enables readers to easily identify the overall trend in a certain social issue. In Japan and the U.S. comprehensive analysis accounts for as much as 41 percent, which is higher than the 29 percent in South Korea. As shown in Figure 1, compared to Japan and the U.S., the news media has covered internet addiction much more frequently in South

Korea. Internet addiction is a relatively familiar topic to South Korean readers, so they may be no longer in need of comprehensive stories about internet addiction.

As the results in Table 4 demonstrate, the South Korean news media tends to cover more diverse and detailed topics. The distribution of topics in the South Korean sample suggests that internet addiction has grown to become a broad topic encompassing social, political, and even economic aspects, in contrast to Japan and the U.S. For example, the proportion of "practical information" is significantly higher (17 percent) than for Japan (3 percent) and the U.S. (6 percent). While comprehensive analysis focuses more on conceptual information, this category intends to provide more useful and helpful information about internet addiction in real life (e.g., how to contact treatment centers specializing in internet addiction or advice for parents on children's internet use during school holidays). The results also show that South Korean news stories cover "government policy/measures" (7 percent) more than Japan (2 percent) and the U.S. (none), which implies that internet addiction has grown into a social problem requiring government involvement and is being treated at the state-level.

"Industry/business" (2 percent) is a unique category identified only in the South Korean sample. Internet addiction started to appear in the business section of South Korean newspapers on the occasion of the implementation of the "shutdown law": 11 out of 12 news stories in this category were released after 2010 and they covered the effect of the new regulation on the game industry. Unlike articles from other newspaper sections, such as health or society, the articles in the business/economy section manifested a relatively favorable perspective on the game industry. Such news stories seemed to reflect the voice of the game industry and focused especially on the hardships of the

industry attributable to the “shutdown law.” The stories emphasized that the implementation of the “shutdown law” burdened the game industry with extra costs, would stigmatize the entire industry, and affected its stock prices.

Another noteworthy category is the “international news.” Nineteen percent of the U.S. stories fall into this category, which is much higher than South Korea (4 percent) and Japan (8 percent). All of the 13 international news stories in the U.S. sample were released after 2000 and cover either South Korea or China. In South Korea, on the other hand, the majority (63 percent) of international news published before 2000 was reporting on the U.S. In Japan international news articles before 2000 mostly covered the U.S. as well. After 2000, however, South Korea or China appeared in international news stories. The result implies that overall the U.S. led discourses on internet addiction before 2000, in that the term “internet addiction” as well as the earliest study on internet addiction was originated there.

It seems, however, as of around 2000 the U.S. gave its way to South Korea and China as the leading country in internet addition discourses. In foreign newspapers, South Korea and China are portrayed as countries suffering seriously from the prevalence of internet addiction. From the early 2000s, South Korea started to outdo the rest of the world in the penetration of broadband internet and rose to be one of the most wired countries in the world. China has the largest number of internet users and has also shown a rapid increase in users. In such an environment, internet addiction has grown into a major social problem in both South Korea and China, which resulted in government involvement and measures being put in place. The two countries have thus become good examples for the

news media, to show the seriousness of internet addiction, and this is why media attention is particularly given to South Korea (and China) in the world news section.

Effects of internet addiction

Table 5 shows the effects of internet addiction identified in newspaper articles. While the news coverage addresses a variety of effects, it does not specify the causality between risk factors and effects. For example, a number of articles carry the story of unhappy families suffering from conflicts between parents and children due to children's excessive online gaming, or those who isolate themselves from social relationships and indulge themselves online. The news stories, in most cases, simply state that the apparently undesirable and negative effects all result from internet addiction. Regardless of the causality – whether internet addiction results in family problems, or whether already-existing family conflicts encourage children to be more addicted to the internet – internet addiction is currently being blamed for any bad consequences (e.g. homicide, poor academic performance, mental health problems, and so on). Instead of analyzing the causes of an incident from various perspectives, the news media attributes any social problems (especially, juvenile delinquency) merely to the prevalence of internet addiction. According to Manjikian (2016), such "demonization of the internet" makes blame for internet addiction direct to addicts, letting society and technology off the hook.

The results demonstrate some similarities and differences among the three countries. In all of them, "(crimes accompanying) homicide or suicide," "poor academic performance," "family problems," and "social relationship issues" were addressed more frequently than other possible effects of internet addiction. Compared to other effects,

"homicide or suicide" that is attributable to internet addiction is rare. When it does occur, however, it gains extra media attention and the mass media tends to cite it repeatedly to gain the interest of audiences. Presenting homicide/suicide as an effect of internet addiction is an effective way for the news media to emphasize the seriousness of internet addiction. Fatal risks thus tend to appear in news stories more often than its actual significance warrants.

"Poor academic performance" and "family problems" are the effects most closely related to children. The category also includes divorce, disrupted marriage, and the neglect of children, but it mostly involves parent–child conflict over internet overuse. "Poor academic performance," which includes neglecting schoolwork, dropping grades, or skipping school, is what parents worry most about regarding their child's internet addiction. Because children/teenagers are the demographic group most vulnerable to internet addiction, the mass media pays extra attention to its risks to children when reporting on internet addiction.

"Social relationship issues," such as a decrease in interpersonal skills, social isolation, or broken relationships, are depicted as one of the most obvious effects of internet addiction across countries, but this is especially salient in Japan. In the Japanese news stories "social relationship issues" (29 percent) and "an obsession with the virtual world" (14 percent) are usually reported together to emphasize the gap between the real world and the virtual world. According to the analysis of the Japanese news media, people take refuge in virtual space because they have difficulties with interpersonal relationships in the real world: in the virtual world they can stay connected and gain recognition from others, especially in games, which is hardly possible in the real world. Furthermore, 43

percent of "social relationship issues" cited *hikkikomori* phenomena,[6] or severe social withdrawal, which is one of the most serious social concerns in Japan over the last two decades. In general, the Japanese news media is more likely to interpret internet addiction based on social relationships, and "interpersonal skills" have become the key concept through which to explain both the risk factor and effect of internet addiction in Japan.

The mention of the "social costs" (3 percent) of internet addiction is identified only in the South Korean sample, which implies that the consequences of internet addiction are not limited to an individual's physical, social, psychological, and mental problems, and internet addiction is treated as a more macro-level issue there.

[6] *Hikikomori* is a Japanese term referring to people who refuse to leave their house and isolate themselves from society in their homes for a period exceeding six months (Itou 2003). It is a state that had become a problem by the late 2000s and is considered as the individualized expression of a Japanese national ethos characterized by parochialism, withdrawal, and isolationism exemplified by excessive bureaucracy, closed markets, and so on (Zielenziger 2006). Teo and Gaw (2010) have suggested six specific criteria to diagnose *hikikomori*: 1) spending most of the day and nearly every day confined to home, 2) the marked and persistent avoidance of social situations, 3) symptoms interfering significantly with a person's normal routine, occupational (or academic) functioning, or social activities or relationships, 4) perceiving the withdrawal as ego-syntonic, 5) duration at least six months, and 6) no other mental disorder that accounts for the social withdrawal and avoidance. In 2006, the World Mental Health Japan Survey reported that the prevalence of *hikikomori* was approximately 1.2 percent of the Japanese population (Koyama 2016).

The profile of those who suffer most from internet addiction

In the mass media coverage of internet addiction, those who are suffering from excessive internet use are usually portrayed as children, especially middle/high school students (Table 6). According to surveys on internet addiction, the internet addiction rate is indeed higher among children than adults (National Information Society Agency 2014). The South Korean and Japanese news media also attribute juvenile delinquency (e.g., violence, school bullying, or suicide) to internet addiction, regardless of the actual causality. In general, news articles on internet addiction see children as potential internet addicts and parents as those in charge of supervising their children's internet use.

While most news coverage describes internet addicts as either children or adults, a few articles specified the demographic profile of those most vulnerable to internet addiction in more detail, such as "lonely older women." U.S. news stories before 2000 defined university students as fitting the typical profile of internet addicts in particular, which is largely attributable to the context wherein university students were able to access the internet from a very early stage of internet service, as universities offered free access on campus. Accordingly, between 1995 and 2000, the U.S. news media quite often reported the efforts of universities to prevent internet addiction among students, including offering counseling services or imposing limits on the time students spent online daily.

Authority on internet addiction

The source of comments in news articles reveals who the news media considers an authority on a specific topic. Table 7 shows the comments cited in the news stories were given by various expert groups, the composition of which varies by country. Medical

professionals and academics (in specific specializations) are, in general, considered to have expert knowledge and insights about internet addiction across countries. The South Korean and Japanese news media cited the comments from medical professionals the most: 33 percent and 29 percent, respectively. They were ranked third in the U.S. (19 percent), after psychologists/counselors (37 percent) and academics (27 percent), but in general the result reveals that the news media considered medical professionals as the foremost authority on internet addiction. The actual number of medical practitioners with specific expertise in internet addiction and its treatment, however, may be quite small in South Korea and Japan. The cited comments were, in fact, from only a few specialists. Especially in Japan, where the pool of medical professionals specializing in internet addiction is much smaller than in South Korea, two specific hospitals accounted for 73 percent of the total comments.[7] In other words, in Japan, although internet addiction is regarded as a medical issue – a psychiatric illness, to be specific – medical resources available for the treatment and prevention of internet addiction are quite limited.

The specialization of medical professionals is highly concentrated in psychiatry (Table 7-1), which demonstrates that internet addiction is indeed regarded as a mental illness. In South Korea, there is some variation in specialties, other than psychiatry, such as nuclear medicine, neurosurgery, and neuroscience. As some research on the association between internet addiction and the brain, employing positron emission

[7] 14 out of 33 comments were given by a psychiatrist who is running a clinic in Tokyo, and another 10 comments were made by two physicians at the National Hospital Kurihama Alcoholism Center, which is Japan's first treatment facility specializing in internet addiction.

tomography (PET), drew the attention of the news media, several news articles cited comments from the physicians who led the research, particularly about the risk of excessive online gaming to the brain or the similarity between a brain addicted to gaming and to drugs. In South Korea, there were attempts to expand the scope of internet addiction research beyond psychiatry to include brain dynamics and functions, and the news media saw such advanced studies as worth media attention.

While the specialization of medical professionals is concentrated mainly in psychiatry, the specialization of academics shows a wider range (Table 7-2), from psychology to medicine. Most of the academics from whom the news media sought comments specialized in the social sciences, especially psychology (45 percent in South Korea, 36 percent in Japan, and 38 percent in the U.S.), followed by sociology and media/communication studies. Given that psychiatry and psychology are the most cited specializations, the news media does confirm internet addiction as a mental health issue.

Regarding comments from academics, the name of one U.S. academic appeared in all three countries: Kimberly Young, who was an associated professor in psychology at the University of Pittsburgh in the 1990s, then established the Center for Online Addiction, and started to appear in news stories as an authority on internet addiction from the very early stage of internet penetration; between 1996 and 1999 her name appeared four times in South Korea, three times in Japan, and twice in the U.S. Furthermore, before 2000 the news media of South Korea and Japan used to seek comments from specialists overseas: 8 out of the 10 such comments in South Korea and Japan between 1995 and 1999 were given by U.S. academics, including Kimberly Young, which implies that the U.S. was indeed the pioneer in internet addiction studies and was leading the

field at least until around 2000. After 2000, however, the names of foreign academics seldom appeared in the South Korean and Japanese newspapers, as South Korea and Japan began to conduct their own research into internet addiction, and the media no longer needed to seek comments overseas.

While in South Korea and Japan, medical professionals account for the largest proportion of cited comments, it is psychologists/counselors who ranked at the top of the list in the U.S. This proportion was as large as 37 percent, which greatly exceeds that of South Korea (7 percent) and Japan (10 percent). In the U.S., addiction is a topic that has a long history and well-established institutional, political, and cultural understanding. When the concept of internet addiction was created for the first time around 1995, the U.S. society already had a market for addiction treatments, including therapies, counseling services, and rehabilitation centers. The introduction of internet addiction was therefore a new opportunity for those who were seeking to expand the addiction treatment market. While most of the psychologists/counselors in South Korean and Japanese news stories belonged to government-run treatment centers, in the U.S. they were affiliated to privately-run treatment centers or rehab facilities. The U.S. treated internet addiction chiefly in the private sector, which is one of the key differences with South Korea, where the government has managed internet addiction at the state-level from the very beginning.

The results reveal that, unlike Japan and the U.S. where medical professionals, academics, and/or counsellors are usually recognized as the authority on internet addiction, South Korea has an additional category: government officials. In South Korea, government officials (23 percent) and politicians (4 percent) together accounted for a

quarter of the cited comments.[8] The government officials mostly belong to ministries (38 percent) or specialized government agencies (60 percent). The news media cited officials from the Ministry of Gender Equality most commonly (21 comments), followed by the Ministry of Culture, Sports and Tourism (12 comments), which brings to mind the conflicts between the two ministries concerning the implementation of the "shutdown law." Actually, given that 30 out of the 33 comments from the two ministries appeared after 2010, the intensified political tension over the seemingly incompatible goals – the prevention of internet addiction versus the promotion of the online game industry – seems to have gained extra media attention.

According to Koh (2015), South Korean government officials belonging to ministries are transferred to different departments or assigned to different projects every couple of years, so they are less likely to accumulate the extensive knowledge required to plan and execute policies for highly specialized fields. On the other hand, specialized government agencies under government ministries operate via funding provided by the government and consist of staff with master's or doctorate degrees, so they have more extensive expertise in specific areas. The news media particularly prefers the National Information Society Agency (NIA), a statutory agency under the Ministry of Science, ICT, and Future Planning, which intends to promote informatization and support policy development, as the source from which to seek comments on internet addiction. The NIA runs Internet

[8] While news stories in Japan and the U.S. included one and five comments from government officials, respectively, all the comments, regardless of country, cited South Korean government officials.

Addiction Prevention Centers across the country, which is the first state-run internet addiction treatment center in the world, and is in charge of counseling services, campaigns, training programs for counselors and teachers, and the development of diagnostic criteria. The South Korean government has thus made extensive efforts for the prevention and treatment of internet addiction, through which it is recognized as an authority on issues concerning internet addiction.

In the Japanese sample, 18 percent of comments on internet addiction cited non-profit organization (NPO) activists (e.g., *Media and Children*), which accounts for a distinctively large proportion compared to South Korea (4 percent) and the U.S. (none). In Japan, NPOs have actively participated in activities to raise an awareness of internet addiction, including campaigns, conferences, and research, some of which were commissioned by the government. The particularly high media attention to NPOs has a historical and social context. According to the Johns Hopkins Comparative Non-profit Sector Project (CNP), which provides data on the private non-profit sector in countries around the world, the non-profit sector in Japan competes with Western countries in terms of workforce and contribution to GDP. Japan has a long history of non-profit and community organizations, going back to the late 19th century. The non-profit sector has grown rapidly in Japan since the late 1990s. The emergence of the non-profit sector is particularly attributable to the rise of public attention to voluntary activities after the Hanshin-Awaji Earthquake (1995), the enactment of *the Law to Promote Specified Non-Profit Activities* (1998), and the expansion of the "quasi-market" regime facilitating competition between public and private social service providers since 2000. Among the 12 NPOs identified in the news stories, approximately half are region-level civic

organizations. NGOs in Japan, in general, are in partnerships with local governments, not with the central government, and under which local partnerships local governments regard the NPOs as inter-dependent and equal partners when dealing with social problems, improving the quality of public services, and encouraging community involvement in local issues (Tsukamoto and Nishimura 2006).

Actors

Table 8 shows the actors that have taken part in the social construction of internet addiction. A number of institutions, ranging from the government to non-profit organizations (NPOs), have participated in the development of discourses on internet addiction through research, policymaking, campaigns, treatment services, and so on. The results demonstrate that in South Korea the government/the legislative body have played a pivotal role in the prevention and treatment of internet addiction. 196 out of 297 actors (66 percent) identified in the South Korean sample turned out to be either the government or the legislative body, which distinguishes South Korea from the U.S., where the government has never appeared as an actor.

According to Yoon and Park (2010), who conducted a comparative study on internet addiction, the U.S. is classified as a private-sector-led country. That is to say, as the public sector in the U.S. does not pay much attention to internet addiction, those who are suffering from internet addiction have nowhere to seek help but the private sector. In the U.S., newspaper coverage of internet addiction, psychologists or counselors affiliated with privately-run clinics or rehabilitation centers indeed appear more frequently than in the South Korean and Japanese news stories. For example, private organizations such as

the Center for Internet Addiction (1995), which was found by Kimberly Young, or the reSTART Internet Addiction Recovery Center (2009) received media attention as the primary actors at the forefront of internet addiction treatment.

Internet addiction in South Korea is largely under the control of the government. News stories have always portrayed the government as the primary institution responsible for internet addiction since the early 2000s, and indeed the South Korean government has worked on issues relating to internet addiction, including the development of diagnostic standards, the implementation of policies, provision of treatment services, and so on. According to Koh (2015), South Korea's response to internet addiction is quite remarkable in that it is very much government-led. South Korea is the first country in the world where the government develops national policies and allocates a national budget in order to tackle internet addiction. In addition to the annual nationwide survey on internet addiction, preventive education, and counseling programs, the South Korean government has established specific laws and systems for the prevention and treatment of internet addiction. Furthermore, it imposed the responsibility to respond to internet addiction on itself through *The Framework Act on National Informatization*,[9] following which, in

[9] According to Article 30 of *the Framework Act on National Informatization,* (1) The Minister of Public Administration and Security shall, each year, establish a plan to prevent and treat internet addiction containing the following matters, following consultation with the heads of relevant central administrative agencies in order to prevent and treat internet addiction under *the Framework Act on Informatization Promotion,* Article 30 of the Act: 1. Objectives and basic direction of the plan; 2. Investigation and analysis of the actual conditions of internet addiction; 3.

2010 the South Korean government established *The Comprehensive Plan to Prevent and Resolve Internet Addiction* based on discussion among government officials from the relevant ministries and expert groups.

The role of the government in Japan is located somewhere between that of South Korea and the U.S. It neither entirely avoids issues about internet addiction like the U.S government nor fully controls it at the state-level like the South Korean government. The Japanese government did not specifically appear in news stories until 2011, but in 2012 and 2013 its appearance increased and even outnumbered that of NPOs. This is largely because of the nationwide survey on internet addiction conducted by a research team of the Ministry of Health, Labor, and Welfare,[10] according to which the internet addiction

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Research and development concerning internet addiction; 4. Education, counseling and public relations for the prevention and treatment of internet addiction; 5. Training specialized human resources in the prevention and treatment of internet addiction; 6. International cooperation in internet addiction; 7. Other matters necessary for the prevention and treatment of internet addiction. (2) The Minister of Public Administration and Security may request from the heads of national agencies, etc. data necessary for efficiently implementing the plan to prevent and treat internet addiction under paragraph (1). (3) The Minister of Public Administration and Security shall report the plan to prevent and treat internet addiction under paragraph (1) and its annual implementation records to the Council.

[10] Technically speaking, the newspaper articles carried a sort of false report, as the survey was merely funded by the Ministry of Health and Labor and Welfare, and the research team did not belong to the ministry. However, the articles reported as if it was the ministry that conducted the research.

rates among middle and high school students reached 8.1 percent. Since it was actually the first nationwide survey targeting the specific age range that is most vulnerable to internet addiction and the result showed a higher-than-expected prevalence of internet addiction, the survey drew the attention of the public as well as the news media, which accordingly increased the citation of the government ministry in news stories. In 2013, the Ministry of Education, Culture, Sports, Science and Technology announced that it had secured a budget for internet addiction for the first time. These examples imply that the Japanese government started to pay attention to internet addiction.

Another noteworthy actor is support groups (or self-help groups), an institution that is identified in the U.S. sample only (7 percent): a campus support group named "Caught in the Web" at the University of Maryland counseled students spending too much time on computers (*The Washington Post*, May 22, 1996), and "Online Gamers Anonymous" is for those who are addicted to online gaming (*The Washington Post*, October 5, 2004). In the U.S., the importance of support groups (or self-help groups) has made them a major institution (Wuthnow 1994; Kessler et al. 1997). Although self-help groups exist to address a wide range of problems in life, more than one third of participants (accounting for more than 70 percent of self-help meeting attendance) are involved in groups for substance use problems. According to Kessler et al. (1997), the largest single sector in the U.S. mental and addictive disorders treatment system is the self-help sector. A new interest in self-help groups has developed among clinicians and social policy analysts as financial constraints increasingly restricted the range of services available to clients. In this context, family self-help groups have acted as a social movement group, including supporting mental health research and education, advocating for family members with

mental illness, and making an alliance with mental health professionals (Riessman and Carroll 1995; Park 2009).

The state of support groups in South Korea and Japan, however, is quite different from in the U.S. In South Korea, official statistics on self-help groups are scarce, and family self-help groups have a short history. These organizations are not common in the society, in general. This is largely due to the social mood that severely stigmatizes mental disorders and cares about "saving face" (Park 2009). The stigmatization of mental disorders was further instigated by the mass media. For example, Jo and Kim (2010), who analyzed 668 television news articles on mental health and mental illness, found that the media over-emphasizes the negative aspects of mental illness by focusing primarily on accidents, crime, or suicides attributable to mental illness, while treatment, prevention, or diagnosis is hardly covered. This social stigmatization of mental disorders may discourage those who suffer from mental illness from seeking for professional medical treatments. The families of people with mental illnesses therefore tend to avoid any social exposure in the media, and instead of making a collective voice through organizations such as self-help groups they choose to endure the burden and hardship individually. A social environment that is not particularly in favor of social movements advocating the voice of disadvantaged groups has also delayed the development of self-help groups. In fact, in 2012 the National Information Society Agency (NIA), the government agency responsible for running Internet Addiction Prevention Centers and administering relevant policies, suggested organizing self-help groups for those who had recovered from internet addiction as a type of aftercare, but this had little success.

In Japan, while there are numerous groups of stigmatized people, several cultural and political obstacles prevent them from developing into real self-help groups: the long Japanese history of isolation and feudal suppression generated a peculiar groupism or group-oriented culture, which involves emotional cohesiveness, non-individualism, homogeneity, hierarchy, and undeveloped talking skills. The secretive attitude about family problems also hinders the development of self-help groups. In traditional Japanese religions, mental and/or rare diseases and disabilities are, in particular, often considered to be due to the bad actions of parents or ancestors, which prevents people from contacting self-help groups to discuss their problems (Oka 1994). Although public perception of self-help groups may be low in comparison to the U.S., it seems the Japanese government is aware of the significance of self-help groups for addiction treatment: the Japanese Ministry of Health, Labor and Welfare provided comprehensive information on addiction in its official website, which introduces self-help groups as one of the resources available for counseling/treatment services with a list of such groups.

The existence of support groups (or self-help groups) implies attempts to lift personal issues to socio-political issues. Support groups for internet addiction have never received any media attention in South Korea and Japan. Given the volume and scope of the news stories in South Korea, this may imply that there is literally no support group for internet addicts. Support groups were identified only in the U.S., where internet addiction is a matter for the private sector, so those suffering from internet addiction have no alternative but to struggle against it at the individual level, and internet addicts in South Korea are less likely be motivated to organize such groups. Setting aside the cultural context that stigmatize mental illnesses, they may have less need to create a collective

voice, as internet addiction is well recognized as a public health issue and managed by the government. In this environment they have sufficient resources for diagnosis, prevention, and treatment within reach, and the state-level attention may reduce the need for support groups.

Responsibility

Table 9 shows the groups and institutions on whom the mass media have imposed the responsibility to combat internet addiction. According to the results, the news media views the responsibility as lying with parents or family, which is especially salient in the U.S.: while the number of U.S. news articles that included any statements about responsibility is very limited, all five of the articles depicted internet addiction as a family problem. Children's internet use is one of the main causes of parent-child conflicts, so people may think poor parental supervision is to be blamed for internet addiction among children. Given that, in the U.S. the discourses on internet addiction have evolved in the private sector and families with internet addicts are unable to expect any society-level support in their struggle against internet addiction, they have no other way but to depend on family-level solutions. In Japan, on the other hand, among news stories that identified the responsibility, the proportion of "parents/family" is reduced to 63 percent. Responsibility for the prevalence of internet addiction also covers more public sectors, such as schools (19 percent) and the government (6 percent). Overall, however, the Japanese newspapers also regard internet addiction as something to be treated within the boundaries of family.

The percentage of "parents/family" further drops to 49 percent in South Korea, but which percentage is higher than that of any other categories. The proportion of news articles imposing responsibility on the government is highest in South Korea (15 percent) but given the sustained efforts and national budget that the South Korean government has put into the issue the results may seem somewhat different from expectations. According to the 2008 nationwide survey on internet addiction, 83.9 percent of respondents evaluated internet addiction as a serious "social" problem, and 73.8 percent agreed that the government should resolve the problem (Korea Agency for Digital Opportunity & Promotion 2009). In the 2012 survey asking whose or which institution's role is the most important in resolving internet addiction problems (3 choices), 88 percent answered "myself," followed by "family" (74 percent), "schools" (57 percent), "the (online game) industry" (27.7 percent), "medical institutions" (17 percent), and "the government" (14.5 percent) (National Information Society Agency 2012). While internet addiction is a macro-level problem, people, in general, seems to think that it is not only the public sector but also individuals/family who are responsible for solving it.

Discussion and Conclusion

The disparity in the volume of media attention

The comparison of the media coverage of internet addiction reveals that the most salient and noticeable difference between South Korea, Japan, and the U.S. lies in the volume of media attention. The great disparity in the number of newspaper articles about internet addiction (568 South Korea, 145 Japan, and 68 the U.S.) implies that internet addiction is a newsworthy issue in some countries, and not in others.

One possible explanation for the disparity is that the competition for public attention is much more severe in the U.S. than in other countries. As Hilgartner and Bosk (1988) argue, in order to become a social problem, an issue should compete for public attention. Public attention, which usually relies on the selection process by the mass media, is, however, a limited resource. The carrying capacity of the news media is limited, and institutional, political, and cultural factors affect the selection process of social problems.

In the U.S., addiction, especially substance addiction, is as much a social problem as it is a public health issue and has a long history of research backed by well-established institutional, political, academic, and cultural discourses. For example, Brown (1981), in his study on the history of substance abuse, demonstrates that drug-seeking behavior has been a part of life in the U.S. from as early as around 1840, and many factors, including health professions, the federal government, economic and political considerations, and public health issues, have evolved with psychoactive substance use. Substance addiction has thus grown to be an extremely serious problem in the U.S. According to Ravenholt (1984), drug abuse is one of the leading causes of death in the U.S., and in 1980 more than a half million deaths were attributable to the addictive use of psychoactive substances (e.g., alcohol, heroin, cocaine, or stimulants). In 2008, 22.2 million people aged twelve or older (8.9 percent of that population) were identified as having substance abuse or dependence problems (Substance Abuse and Mental Health Services Administration 2009). The U.S. invests a considerable amount of funds on treatments for mental health and substance abuse, which accounted for 1.07 percent of the gross domestic product (135 billion USD) in 2005 (Mark et al. 2011).

When the concept of internet addiction was born around 1995, the U.S. therefore already had well-established discourses on addiction, and the arena of public attention was fully occupied by pre-existing addiction, such as alcoholism, drug abuse, or gambling. The space left for a newcomer, new addiction, might therefore have been too small and limited to gain media attention. Furthermore, given the ongoing controversy over the nature of internet addiction – whether it really is a mental disorder/addiction –, even after "gaming disorder" was officially included in the *ICD-11*, internet addiction has several disadvantages when competing with pre-existing addiction, which were officially recognized as mental disorders, for media attention.

In South Korea it was not until more recent years that addiction, not just internet addiction but addiction in general, started to make headlines. In early 2013, the Ministry of Health and Welfare designated alcohol, gambling, the internet, and drugs as "the four major addictions" of South Korea. The number of addicts who were addicted to one of the substances or behaviors was estimated to be as high as six million, which is almost an eighth of the population of South Korea (The Ministry of Health and Welfare 2011). In South Korea, the overall public perception of addiction remained at a superficial level, and the government had shown insufficient attention to addiction to reflect its seriousness, which is largely attributable to South Korea's permissive attitude to addiction: the easy accessibility of addictive substances – especially alcohol – and behaviors, but lack of policy to regulate them (Lee and Lee 2013). For example, the prevalence of alcoholism in South Korea (6.76 percent) is 1.8 times higher than the WHO average (3.6 percent), but there are no restrictions on the on-/off-premise sales of alcoholic beverages, including time (hours and days), location (places and density),

specific events, intoxicated persons, and petrol stations (World Health Organization 2011). South Korea is also said to be a country that encourages excessive drinking as a way of building friendships and social relationships, and, sometimes heavy drinking is even considered a source of pride. Misbehavior or crimes (e.g., rape and homicide) committed under the influence of alcohol are considered forgivable (Choe 2012).

The permissive atmosphere might have discouraged alcoholism from being perceived as a mental disorder: only 4.3 percent of alcoholics considered it a mental disorder and visited experts for advice. Others, however, never sought professional help, simply because they did not think they had a mental illness (The Ministry of Health and Welfare 2011). While the statistics show that addiction is a prevalent public health issue in South Korea, it lacks sufficient infrastructure for treatment and prevention: current mental health law lacks the legal basis for training experts specialized in addiction treatment, and the quantity and quality of local treatment centers are inadequate.

According to Hilgartner and Bosk (1988), the selection principles of social problems are influenced by culture. Given the permissive attitudes towards substance abuse, especially alcohol, South Korea was not a favorable environment for the development of addiction discourse. Unlike in the U.S., when internet addiction was introduced in South Korea, it did not have pre-existing competitors, and it could more easily draw the media's attention as a newly-emerging social problem, not as a sub-category of addiction.

The situation in Japan is not that different from South Korea. According to studies on the prevalence of addiction in Japan, addiction, especially alcoholism and pathological gambling, is relatively common in Japanese society, but the public perception of such problems remains at low level. For example, according to Nakamura et al. (1993), in

1987 the cost of medical care attributable to alcohol was estimated at over one trillion Japanese Yen, which accounted for 6.9 percent of the total national medical expenditure of that year. The loss of productivity and lifetime economic value, and the total social costs attributable to alcoholism were approximately 6.6 trillion Japanese Yen or 1.9 percent of the gross national product in 1987. And according to Osaki et al. (2005), a 2003 national survey revealed that the prevalence of alcoholism was 1.9 percent in men and 0.1 percent in women. The estimates, however, could vary between 0.6 and 5.1 percent (approximately 0.8–4.4 million) depending on the methods and criteria employed.

Alcoholism in Japan might be attributable to the national drinking culture, like South Korea, which is characterized by a high social tolerance for drinking based on the widespread belief that drinking facilitates socialization and mutual understanding between individuals (Shimizu et al. 2004). People suffering from alcoholism, however, are highly stigmatized and negatively stereotyped as "people with weak will" or "drifters from society" (Noguchi 1996), which deters individuals from seeking medical treatment: actually, no more than 5.4 percent of people with alcoholism sought medical advice concerning the problem (The Japanese Society of Alcohol-Related Problems 2011). Furthermore, according to Hirofuji et al. (2005), it takes as long as 7.4 years on average for people with alcoholism to visit specialized clinicians after their initial visit to non-specialized clinicians. In addition to the relatively low awareness of alcoholism, the diagnosis per se tended to be stigmatized in Japan. The family and friends/colleagues of alcoholics have a negative perception of those diagnosed with alcoholism, but not necessarily toward those who have never been diagnosed, even if they have excessive

alcohol consumption. The stigmatization of alcoholism is a common phenomenon across countries, however, the highly stigmatized perception of diagnosis, while excessive drinking patterns are somewhat tolerated, is considered to be one of the reasons for the low consultation and treatment rates in Japan (World Health Organization 2000; Taguchi et al. 2014).

In Japan, alcoholism is, at least, recognized as a disease, and there are hospitals and clinics that specialize in its treatment, and the cost is covered by the national health insurance system. Conversely, while the Ministry of Health, Labor and Welfare recognized the diagnosis of pathological gambling as defined by the *ICD-10*, it was not covered by the national health insurance (Takiguchi 2011). While gambling is technically banned in Japan, people can play *pachinko*, an arcade type machine that is popular throughout Japan, to win prizes they can trade for cash (Safi 2014). *Pachinko* is simple and easy to play, and it has all the hallmarks and structural features of gaming machines worldwide. According to Brooks et al. (2007), it was estimated that 17.1 million "players" spent 2.87 trillion Japanese Yen (approximately 250 billion USD) on *pachinko*. Japanese people cope with stress through withdrawal, and gambling – specially *pachinko* – offers an escape from work-related pressures and feelings of inadequacy (Takiguchi 2011). However, its addictive potential was largely ignored because *pachinko* is usually portrayed as a game rather than gambling in Japan.

Even though gambling is illegal in Japan, due to the loophole in the law[11] and inconsistent policies, many forms of gambling are, in fact, allowed to exist. For example, *pachinko* machines are not supposed to pay cash as prizes, but it is known that prizes are exchangeable for cash indirectly. Multiple government agencies are involved but none has the legal responsibility for addressing the consequences of excessive gambling. According to the content at the official website of the Ministry of Health, Labor and Welfare of Japan, which provides specialized information about addiction – including alcoholism and gambling addiction – while addiction is a recoverable illness, the scarcity of specialized medical institutions and information denotes that those with such illnesses are unable to access the medical service they are in need of. The lack of infrastructure for addiction treatment as well as the low-level social perception of addiction may thus delay the further development of addiction discourses in Japan.

The disparity in the volume of media attention given to internet addiction may be attributable to the level of perception of addiction that each national society has. In an environment like the U.S., where there are well-established academic, medical, and social discourses on addiction, internet addiction has to cross a higher threshold to have it

[11] The policies of the Japanese government on gambling are contradictory and inconsistent. Gambling is prohibited by the Japanese Penal Code (2007, Articles 185, 186), which states "A person who gambles shall be punished by a fine of not more than 500,000 Japanese Yen," and "A person who gambles habitually shall be punished by imprisonment with labor for not more than three years." However, the law contains a loophole, as it also states, "This shall not apply when a bet is made only for momentary amusement."

recognized as a new type of addiction and draw the attention of the news media as a newsworthy topic. The controversial nature of internet addiction, however, may have attracted little media attention, and especially during the earlier years that attention was filled with rather sarcastic or skeptical expectations about the future of internet addiction. Compared to well-recognized substance/behavioral addiction (e.g. alcoholism, drug addiction, or gambling addiction), internet addiction did not seem to deserve full media attention.

Conversely, in South Korea, internet addiction was seen to be deserving of space in news stories as a social problem, rather than a pathological condition that has to qualify for specific standards. Internet addiction was called an "addiction" from the very beginning of media coverage, and no news media hesitated to adopt the term. Despite its ambiguous nature, newspapers never minded calling it addiction, and simply started to report the new phenomenon without further deliberation. Internet addiction, then, grew to become a broad topic that fit literally any newspaper section, including national, international, business, health, entertainment, and editorial. The news media is, currently, using internet addiction as a convenient means to explain almost any social issue, including juvenile delinquency, violence, and suicide. Although Japan has much fewer news stories on internet addiction than South Korea, the acceptance of internet addiction in the news media was also relatively smooth.

Comparisons among the three countries

The South Korean news stories reveal that the government has played a primary role in shaping internet addiction. Compared to the Japanese and the U.S. news coverage, the

South Korean government has been very frequently reported as an authority or/and actor, more than any other institutions. Actually, 7 percent of the South Korean news covered internet addiction focusing exclusively on the government and its policy. The government encompasses as many as up to nine central ministries, local governments, and specialized government agencies (e.g., the Korea Information Society Agency or the Korea Communications Commission). The government's efforts to prevent internet addiction include, but are not limited to, the development of diagnostic criteria, the launch of a nationwide annual survey, training counselors specialized in internet addiction, the implementation of laws and policies, and the establishment of master plans. Unlike Japan and the U.S. where there is no agreed definition of internet addiction, the definitions identified in the South Korean newspaper articles tend to maintain overall consistency, which is also attributable to the "official" definition announced by the government. The range of government involvement is so broad that it may seem that some of the roles cover the remits of other institutions (e.g., academia and the private sector such as addiction treatment centers).

The frequent appearance of the government has its roots in South Korea's informatization process. Until the early 1980s, South Korea was a latecomer to informatization, with a telephone penetration rate of no more than 7.2 percent. As the wave of informatization started to sweep the globe around 1990, it became South Korea's first priority, under the phrase, "lagging behind in industrialization, but taking the lead in informatization." What made South Korea excel in rapid informatization was its highly government-led top-down strategies, accompanied by a substantial investment in ICT infrastructure (Park 2000). In 1994, South Korea became the first country in the world to

establish a Ministry of Information and Communication, a central ministry exclusively devoted to ICT-related issues, and in 1995 it enacted *The Framework Act on Informatization Promotion* to "improve the quality of life for the nation and to contribute to the development of the national economy" by promoting informatization (The Ministry of Information and Communication 2003). The 1997 Asian Financial Crisis in particular encouraged the government to recognize the necessity of a new growth engine for the future, so in 1999 the government decided to allocate 1.4 percent of the government budget to informatization, which was a huge increase compared to previous years (0.99 percent in 1997 and 0.79 percent in 1996). The funds injected to promote informatization (e.g., the construction of infrastructure or ICT-related research and development) had doubled between 1996 and 2000 (Hwang 2003; The Ministry of Information and Communication 2003).

As a result, between 1995 and 2002, South Korea had experienced enormous quantitative development in informatization. During this period, the statistics on the internet penetration rate showed an especially marked increase: the number of internet users increased explosively from 370,000 to 26,270,000, and the number of households with high-speed internet access also grew significantly from 14,000 (in 1998) to 10,400,000 (The Ministry of Information and Communication 2003). At the end of 2002, South Korea had 29 million internet users (the fifth most in the world) and the internet penetration rate had reached 60 percent (third highest in the world), which is an astonishing achievement compared to five years before, when it was one million and 1.6 percent. According to Park (2000), while several social and technological factors contributed to the sharp increase in domestic internet users, it was chiefly government

policy that enabled the achievement: the consistent direction of ICT policy, support for venture start-ups in the private sector, more ICT-related courses in schools, policies to distribute more PCs, and so on.

As the intensive investment in informatization achieved visible results around 2000, however, the government began to be concerned with the overall the direction of its informatization policy. It perceived a need to change the focus of the policy from the quantitative expansion of infrastructure to an enhancement of the quality of life. The government thus started to pay attention to the side effects resulting from rapid informatization, such as the digital divide, personal data breaches, and internet addiction. Furthermore, in the early 2000s, the South Korean people were alarmed by a series of unprecedented incidents attributable to internet addiction, including homicide, suicide, and juvenile delinquencies.[12] Reports of such incidents are helpful in persuading the public to evaluate a phenomenon or condition as a serious social problem (Sullivan 2009). The media coverage of such incidents may have performed a major role in alerting public attention to internet addiction, which also may have influenced the government to view internet addiction as one of the most serious social problems of the time, and to initiate preventive measures to control internet addiction at the state-level. That is to say,

[12] For example, "The Death Caused by Internet Games (*The Chosun Ilbo*, April 6, 2000)," "Internet Addiction: A Middle School Boy Killed his Brother (*The Chosun Ilbo*, March 5, 2001)," and "The Bizarre Behaviors of Internet Addicted Children (*The Chosun Ilbo*, March 7, 2001)" to name a few.

as the informatization process was led by the government, its side-effect – internet addiction – was also under governmental control in South Korea.

In South Korea, the lead of the government was further expanded as internet addiction was politicized. In addition to being a social, medical, and academic issue, internet addiction became a political issue around 2010, in line with the tragic incident where a baby girl was found dead of malnutrition and starvation while her parents were distracted by online games. As the tragic incident further enhanced the public awareness of the risk of internet addiction, government officials and lawmakers hastened to propose bills to ban excessive online gaming, including the "shutdown law." Throughout the policymaking process, the introduction of such laws brought about heated debates among government officials, game industry insiders, academics, parent groups, and game users over its effectiveness. The politicization of internet addiction became more intensified due to a remark by the head of the ruling party in October 2012: during his speech at the National Assembly, he stated that "we should make South Korea a clean country free from the four types of addiction – alcohol, gambling, drug, and internet." In the following year, 2013, the leading party proposed a bill on the so-called "four major addiction," which provoked another round of huge political and social debate in South Korea, surrounding whether it makes sense to put the internet on the same level as other substance/behavioral addictions – drugs, alcohol, and gambling – and whether it is even possible to regulate online gaming by law.

In accordance with the transition of internet addiction from a social/medical/academic issue to a political issue, there were changes in the overall direction of the media coverage of internet addiction. First of all, the politicization contributed to an increase in

the volume of media coverage, as the range of topics further expanded to include the policymaking process, details of newly proposed laws, public responses to the laws, editorials, and so on. Articles of such topics were concentrated between 2010 and 2013. The proportion of news stories including any references to the bills or regulations also increased during the same period of time, which may imply either the actual number of proposals or the implementation of laws to restrict excessive online gaming had significantly increased during the period, or that as internet addiction had brought about a series of serious political discourses the mass media/public paid more attention to it.

Second, the politicization of internet addiction had an effect on the label used to refer to internet addiction, as identified in the news stories: the sudden appearance of "game overindulgence" was mainly attributable to the conflicts between the Ministry of Gender Equality and Family – and NPOs and parents groups on its side – and the Ministry of Culture, Sports and Tourism – and the game industry and game users taking its side – regarding two somewhat contradictory goals: the prevention of internet addiction versus the promotion of online games. The introduction of "game overindulgence" was a deliberate strategy by the Ministry of Culture, Sports and Tourism to decrease the negative image embedded in "internet 'addiction.'"

While in South Korea internet addiction could easily secure a position as a separate topic, the Japanese news media did not treat internet addiction as a separate social problem until recently: rather it was portrayed as "one of" the "shadows" of the internet age, along with harmful online content, online bullying (or *ijime,* in Japanese), or personal data breaches. And the concept of internet addiction (or "internet dependence" as it is usually named in Japan) is neither clearly defined nor coherently presented in

news stories. For example, one of the articles described it as if the term "internet dependence" had a double meaning, either being addicted to the internet or excessive internet use, which is the typical usage of the term "internet addiction," or relying too much on the internet, which refers to more psychological implications. In a news story, the tendency to try not to memorize any information (e.g., phone numbers or names), but instead rely totally on googling was also depicted as an example of "internet dependence." Moreover, Japanese news stories seldom included the definition of internet addiction. Even the single identified definition did not contain any concrete or medicalized terms, such as "tolerance," or "withdrawal."

Since the Japanese news media did not have guidelines to define internet addiction, it adopted an approach linking it to already prevalent or well-known social problems in Japan, such as severe social withdrawal (or *hikikomori*, in Japanese) or school refusal (or *futōkō*, in Japanese). In the Japanese news articles, the term "internet addiction" tended to appear in line with the *hikikomori* phenomenon, as its primary factor. For example, newspapers made statements about the association between internet addiction and the *hikikomori* phenomenon, suggesting that the *hikikomori* phenomenon is intensified by internet addiction (e.g., "there are concerns that internet addiction prolongs *hikikomori*," or "60 percent of those with *hikikomori* are attributable to gaming addiction").

Unlike South Korea or the U.S., internet addiction is less medicalized in Japan. Japan has few medical resources specialized in the prevention and treatment of internet addiction. According to the articles, the first medical center specializing in internet addiction treatment and research, the National Hospital Organization Kurihama Medical and Addiction Center, opened in 2011, which is quite far behind, given that the Center for

Internet Addiction was founded in the U.S. by Dr. Kimberly Young in 1995 and the first Internet Addiction Prevention Center in South Korea opened in 2002. As shown in the analysis of authority, the finding that 24 out of the 33 comments given by medical professionals belonged to just two hospitals – Seijou-Sumioka Clinic in Tokyo and the National Hospital Kurihama Alcoholism Center – also confirms the lack of medical institutions available for the treatment of internet addiction. The coverage of "smartphone dependence" also implies that the Japanese media did not frame such addiction from pathological perspectives: newspapers depicted smartphone addiction as an issue about a lifestyle or manners rather than a psychiatric condition. For example, according to multiple news articles, smartphone addiction, described as using smartphones 24/7 and even in concert halls, is inappropriate because such a lifestyle may disturb others. Since the news media linked internet addiction to lifestyle or manners, the solutions suggested in news articles also remained at an individual level, such as urging parents and schools to educate children about online ethics/manners or to make rules for internet use at home.

Lastly, the way the Japanese media views internet addiction is quite different from the other countries: compared to South Korea and the U.S., much fewer articles paid attention to the academic, medical, or political aspects of internet addiction. Instead, the Japanese news stories tended to interpret the phenomenon based on a more social factor, human relationships. For example, the causes of internet addiction identified in the sample showed a stark contrast between South Korea and Japan.[13] According to South

[13] Among the U.S. sample of 68 articles, only one article included a statement about the causes of internet addiction (*The Washington Post*, May 27, 2006), but it was an international news

Korean articles, there are a number of factors that drove South Koreans to be addicted to the internet: the addictive nature of online games, the increase in the unemployment rate due to the recession (which led to an increase of internet addicts aged in their 30s in particular), the highest internet speed in the world, the prevalence of mental disorders (e.g., depression or ADHD), acute stress attributable to overheated educational pressure, and so on. In Japan, on the other hand, the news media highlighted "human relationships" more than anything else as the major risk factor with internet addiction. Being "not good at interpersonal relationships" is emphasized as a feature of internet addicts in the Japanese sample. Statements such as "regarding online games, in addition to gaming itself, players are getting addicted to their relationships with peer gamers," and "since the internet provides the pleasure of being connected to others, you are more likely to be attracted by the internet when you have difficulties in communication with people around you" imply that the newspapers suggest the recovery of human relationships as the solution to internet addiction.[14]

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article about South Korea. Thus, no U.S. sample is available for comparison.

[14] A 2013 article published by *The Mainichi Shinbun* is a good example of how the Japanese news media interprets internet addiction based on human relationships: "…a real human relationship is the key to the treatment of internet dependence… Dr. Nishimura says "Internet dependence is 'not a disease curable by medicine.' In addition to medical treatment, it requires educational support as well, such as learning interpersonal communication skills."…According to the analysis of Dr. Nishimura, 'internet dependence' in Japan is more 'network dependence' than merely 'internet dependence.'"*(The Mainichi Shinbun*, November 11, 2013)

U.S. news stories on internet addiction particularly emphasize the unclear diagnostic criteria and medicalization. The fact that internet addiction had not yet been officially classified as addiction or a mental disorder by the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM)* was underlined from a very early stage of media coverage. Given that the U.S. has well-established academic and medical discourses on addiction and that people are quite familiar with the prevalence of addiction such as alcoholism and substance abuse, internet addiction had to cross a higher academic, medical, and social threshold to be admitted as real addiction in the U.S. The ambiguous nature of internet addiction may thus have discouraged the mass media from paying serious attention to the newly introduced topic. Rather, the news coverage adopted a skeptical, doubtful, or even sarcastic stance on internet addiction, in the early years in particular.[15]

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[15] For example, "...several well-known farcical internet groups now parody the support groups. Internetters Anonymous, modeled after Alcoholics Anonymous, jokingly requires "net addicts" to "surrender their will, lives and mouse pads to the almighty Webmaster" and "promise never to make payments to America Online, CompuServe or the Microsoft Network." Netaholics Anonymous, another satirical group, has compiled a list with which to determine whether you're hooked: "Your phone bill comes to your doorstep in a box…." (*The Wall Street Journal*, May 24, 1996), or "...Kimberly Young, a University of Pittsburgh psychology professor, established the Center for On-line Addiction in Rochester, N.Y., after hearing that some colleagues turned away Net addicts. "Many people sought treatment and their doctors simply laughed at them," she says… Robert J. Bischoff, a psychotherapist and computer program designer in Cupertino, Calif., is a nonbeliever. The term "Internet addiction," he says, was coined by a New York psychiatrist as a joke...." (*The Washington Post*, July 10, 1997).

While the internet is portrayed more as a social problem than a pathological disorder in South Korea and Japan, the U.S. media focuses more on its medicalization. Describing diagnostic criteria is a must for the coverage of internet addiction, which usually refers to its inclusion in the *DSM*. The controversy over internet addiction dates back to the time of the *DSM-4*. Actually, the *DSM-4* was released in 1994, before the term "internet addiction" was born. In the *DSM-4*, the term "addiction" mostly refers to "substance dependence" and "substance abuse." The relationship between addiction and certain kinds of compulsive or impulsive "behaviors" is, however, unclear in the *DSM-4* (Pies, 2009).

Since internet addiction was not defined by the *DSM-4*, the issue of how the upcoming edition of the *DSM* – the *DSM-5* – would treat it was raised among psychiatrists. As the publication of the *DSM-5* approached, scheduled for May 2013, debates over the inclusion of internet addiction in the *DSM-5* further intensified. According to those arguing that internet addiction is a common disorder that deserves inclusion in the *DSM-5*, internet addiction is conceptually a compulsive-impulsive spectrum disorder and consists of at least three subtypes: excessive gaming, sexual preoccupations, and e-mail/text messaging. And internet addiction shares four components that characterize many substance addicts: excessive use, withdrawal, tolerance, and negative repercussions. They insisted that internet addiction was eligible to be included in the substance addiction section. Those who opposed the inclusion noted that the category on behavioral addiction was going be included with the substance addictions section and would start life alongside pathological gambling (transferred from the impulse disorders section), and that a new category for internet addiction might be

next in line. Labeling it a "problematic new diagnosis," they stressed that it could be an excuse for including a variety of "silly" and "potentially harmful" diagnoses under the broad rubric of behavioral addiction, such as addictions to shopping, sex, work, credit card debt, videogames, and so on (Block 2008). Pies (2009) argued that what is called internet addiction did not even reach the threshold of specific disease entity, based on any of the criteria that validate a syndrome for acceptance as a specific disease.[16]

In the *DSM-5*, "internet gaming disorder" was eventually adopted instead of "internet addiction," but it ended up in Section III, which includes assessment measures, guidance on cultural formulation, an alternative model for diagnosing personality disorders, and conditions for further study. According to the *DSM-5* fact sheets, internet game disorder falls under "a condition warranting more clinical research and experience before it might be considered for inclusion in the main book as a formal disorder." Internet gaming disorder thus failed to be validated as a psychiatric disorder in the *DSM-5*.

The revision of the *DSM* was, actually, such a complex issue in the discourse on internet addiction in the U.S., because a number of institutions became involved in the process and any change would have a substantial effect on institutions such as academia,

[16] The criteria are as follows: 1) a pattern of genetic transmission is discovered, sometimes leading to the identification of a specific genetic locus, 2) the syndrome's etiology, pathophysiology and/or pathologic anatomy becomes reasonably well understood, and 3) the syndrome's course, prognosis, stability, and response to treatment are seen to be relatively predictable and consistent across many different populations.

the medical world, and privately-run treatment centers. This is why academics and mental health professionals appear to be the primary authorities and actors in U.S. news stories.

There is one more institution that is closely intertwined with the medicalization process: the insurance industry. Whether or not internet addiction is officially recognized as a disorder is a crucial issue for the insurance industry, because it will determine whether insurance companies must begin paying for the treatment of it.[17] Until it is recognized by the *DSM*, insurance will not cover those with internet addiction. According to previous studies on health insurance and mental disorders (including addiction), the idea that health insurance coverage and other resources for the treatment of addiction should be on a par with insurance coverage for the treatment of other medical illnesses is not new. Ever since the American Medical Association (AMA) identified alcoholism as a disease in 1956, the logical position taken by recovery advocates is that there is no reason for alcoholism and other chemical dependence to receive different levels of benefits or fewer available resources than other diseases (Roy and Miller 2010). According to Klick and Stratmann (2006), to combat the large and apparently growing problem of mental illness in the U.S., most states enacted mental health parity legislation in the 1980s and

[17] For example, "...because the condition is not recognized in psychiatry as a disorder, insurance companies do not reimburse for treatment. So patients either pay out of pocket, or therapists and treatment centers bill for other afflictions, including the nonspecific impulse control disorder...(*The New York Times*, December 1, 2005)" or "…health insurance companies are fretting that the new diagnostic criteria may cost the health care system hundreds of millions of dollars annually, as addiction diagnoses multiply... " (*The New York Times,* June 6, 2012).

1990s. The enacted legislation mandates at the state-level that the treatment for mental illness is covered by insurance plans at terms similar to those applying to physical illness. While the details vary from state to state, the strongest mental health parity laws require that health plans set the same deductibles and copayments, as well as annual expense and visit limits, for mental health patients as for patients with physical health problems. The mandates also vary in terms of what illnesses are covered under mental health parity, with some mandates including any disorders listed in *DSM*, while others cover only specified diseases. McLellan and Meyers (2004) argue that a major reason for the inadequate capacity and poor access to addiction treatment is the funding system. Given that insurance is closely linked to addiction treatment and the decision of the insurance industry mainly depends on inclusion in the *DSM*, it is understandable that the U.S. news stories tended to mention "insurance" more often than the South Korean or Japanese newspaper articles.[18]

The analysis of the newspaper coverage of internet addiction between 1993 and 2013 reveals that there is a considerable disparity in the volume of media attention to internet addiction among South Korea, Japan, and the U.S., which seems to be attributable to the pre-existing public perception of addiction. In a society where there is a well-established social, academic, and medical discourse on addiction, internet

[18] While insurance is hardly mentioned in the South Korean articles, one Japanese article made a statement about insurance as follows: "Although internet addiction is considered to be a kind of mental illness, it is usually not covered by insurance as it has never been recogn ized as a "disease" in Japan."

addiction, with its ambiguous nature – whether it indeed is a psychiatric disorder –, can hardly compete with "verified" addictions (e.g., alcoholism or substance addiction) for media attention. The U.S. news media thus rarely paid attention to internet addiction, and even when it did, news stories underlined the definitional confusion inherent in the *DSM-4*. In South Korea and Japan, however, where the history of addiction studies is relatively short, internet addiction was embraced as a (newly introduced) social problem rather than a pathological condition. The controversy over its definition was thus largely neglected, and instead news stories focused on its prevalence per se, especially the occurrence of newsworthy incidents and events attributable to internet addiction. In South Korea, the state-level response to internet addiction accompanied by the direct government involvement helped internet addiction grow into a topic broad enough to encompass social, academic, medical, economic, and even political discourses. On the other hand, the Japanese news media tended to interpret this new social problem as a matter of human relationships rather than either a medical or academic issue. That is, the same phenomenon thus does not necessarily attract the same media attention. Rather, this study demonstrates the amount of media attention to a specific social problem, and that the way that social problem is shaped by the news media differs by national society.

Tables and Figures

Table 1. Labels referring to internet addiction identified in the news coverage of South Korea, Japan, and the U.S. between 1993 and 2013.

South Korea (N*=793)		Japan (N*=214)		The U.S. (N*=109)	
Game addiction (disorder)	314 (40%)	Internet dependence (disorder)	123 (57%)	Internet addiction (disorder)	41 (38%)
Internet addiction (disorder)	255 (32%)	Internet addiction (disorder)	47 (22%)	Computer addiction	8 (7%)
Game overindulgence	35 (4%)	Game dependence (disorder)	11 (5%)	Game/Gaming addiction	8 (7%)
Cyber addiction (disorder)	27 (3%)	Smartphone dependence disorder	8 (4%)	Heavy internet usage	7 (6%)
Smartphone addiction	27 (3%)	Media dependence	6 (3%)	Compulsive internet use	5 (5%)
Internet game overuse	19 (2%)	Mobile phone dependence disorder	5 (2%)	Online addiction	4 (4%)
Internet chatting addiction	17 (2%)	Game addiction	3 (1%)	Web addiction	4 (4%)
Cyber sex addiction	13 (2%)	Media addiction	3 (1%)	Excessive internet use	4 (4%)
Mobile phone addiction	10 (1%)	Electronic media dependence	2 (1%)	Pathological internet use	3 (3%)
Internet syndrome	9 (1%)	PC addiction	1 (0)	Excessive computer use	3 (3%)
Computer addiction	8 (1%)	Mobile phone internet dependence	1 (0)	Internet abuse	2 (2%)
Webaholism	7 (1%)	Mobile phone addiction	1 (0)	Obsessive computer use	2 (1%)
Internet gambling addiction	6 (1%)	Smartphone addiction	1 (0)	Cybersex addiction	2 (2%)
Online shopping addiction	5 (1%)	Smartphone game dependence	1 (0)	Internet overuse	2 (2%)
Online addiction	5 (1%)	Chatting dependence	1 (0)	Pathological computer use	2 (2%)
Smartphone overuse	5 (1%)			Online abuse	1 (1%)
(PC) Communication addiction	4 (1%)			Computer abuse	1 (1%)
PC addiction	3 (0)			Heavy computer use	1 (1%)
Mobile addiction	3 (0)			Internetomania	1 (1%)
Smartphone/Mobile game addiction	3 (0)			Net addiction	1 (1%)
Internet overuse	2 (0)			Email addiction	1 (1%)
Mobile phone overuse	2 (0)			Online overuse	1 (1%)
Internet café addiction	1 (0)			Web obsession	1 (1%)
Cyber-relationship addiction	1 (0)			Problematic internet Use	1 (1%)
Net compulsion	1 (0)			Smartphone addiction	1 (1%)
Information overload	1 (0)			Cyber addiction	1 (1%)
Cyber dating addiction	1 (0)			Internet overindulgence	1 (1%)
E-mail addiction	1 (0)			i-Phone addiction	1 (1%)

Pathological internet use	1 (0)
Twitter addiction	1 (0)
Messenger addiction	1 (0)
Net addiction	1 (0)
Internet search addiction	1 (0)
Internet porn addiction	1 (0)
Smart-device addiction	1 (0)
Network access addiction	1 (0)

* N is the total number of labels referring to internet addiction identified in newspaper articles. Since some articles used more than one term, the N in Table 1 may be greater than the actual number of newspaper articles.

Table 2. The definition of internet addiction identified in the news coverage of South Korea, Japan, and the U.S. between 1993 and 2013.

Country	Label (Year)	Definition
South Korea	Internet addiction (2000)	"...the state falling in mental chaos and lethargy when internet use is not allowed and lacking self-control over internet use."
	Cyber addiction (2001)	"the phenomenon that information users have social, physical, or mental difficulties due to the overindulgence to internet-mediated activities such as online game, porn, online bidding, or online stock market."
	Internet addiction (2001)	"the state having difficulties in social and family life due to the overindulgence to the internet."
	Internet addiction (2001)	"the symptom that tries to seek comfort through internet access and suffers from anxiety and curiosity while off-line."
	Cyber addiction (2001)	"the state that a user suffers from serious psychological, physical, and financial problems due to excessive internet use."
	Internet addiction (2002)	"the state that once connected a user is unable to control the time spending online, and when off-line curiosity and anxiety result in distractions."
	Internet addiction (2002)	"the state that shows obsession with internet access…once connected unable to quit the access and shows withdrawal while disconnected."
	Internet addiction (2003)	"(The *K-Scale* defines internet addiction) as the state withdrawal and tolerance due to excessive internet use causes problems in everyday lives."
	Cyber addiction (2003)	"the phenomenon being immersed in game or chatting via computers to the extent it causes problems in everyday lives."
	Internet addiction (2003)	"(Internet addiction refers to) being overindulged in internet to the extent it causes problems in everyday lives."
	Internet addiction (2006)	"(According to the National Youth Policy Institute, internet addiction is) the state withdrawal and tolerance due to excessive internet use causes problems in everyday lives."
	Internet addiction (2008)	"the state that loses control over internet, shows tolerance and withdrawal, and causes problems in everyday lives."
	Internet addiction (2010)	"the state pathologically obsessed with internet to the extent that unable to self-regulate internet use."
	Internet addiction (2012)	"the state of experiencing anxiety and depression when internet is not within reach, ...caused by internet overuse."
	Internet overuse (2012)	"the state that the withdrawal and tolerance due to overindulgence in internet (game) causes problems in everyday lives such as sleep, health and school performance."
	Smartphone addiction (2013)	"the state that smartphone use causes problems in everyday lives and withdrawal when unable to use."
	Internet addiction (2012)	"the state that has withdrawal such as anxiety, or problems in everyday lives due to internet."
	Internet addict (2012)	"those who have problems in everyday lives or symptoms such as withdrawal due to internet."
	Internet addiction (2012)	"the state feeling anxious and depressed, or having problems in everyday lives due to excessive internet use."

Japan	Internet addiction (2011)	"(*The National Informatization Framework Act* of South Korea defines internet addiction as) the state that has physical, mental, or social dysfunction due to internet dependence."
	Internet dependence (2013)	"….if someone has emotional instability when he/she is not wired via a smartphone or computer, so it causes an influence on his/her everyday life…(this is the broad definition of internet dependence)."
The U.S.	Internet addiction (2010)	"(In China, the definition includes) children who spend more than six hours a day staring at a computer screen while avoiding sleep, social interaction and schoolwork."
	Smartphone addiction (2013)	"(This addiction is defined as) spending more than seven hours a day using the phone and experiencing symptoms such as anxiety, insomnia."

Table 3. Description of the nature of internet addiction identified in the news coverage of South Korea, Japan, and the U.S. between 1993 and 2013.

	South Korea (N=568)	Japan (N=145)	The U.S. (N=68)
A disease/illness/ailment	13(2%)	1 (1%)	1 (1%)
Like gambling/gambling addiction	12 (2%)	2 (1%)	2 (3%)
Like drug/cocaine/heroine/drug addiction	47 (8%)	4 (3%)	8 (12%)
Like alcohol/alcoholism	16 (3%)	5 (3%)	8 (12%)
Like smoking	2 (0%)	1 (1%)	0
Like compulsive overeating	0	0	1 (1%)
Not yet officially classified as a disorder/addiction	4 (1%)	9 (6%)	3 (4%)
Controversial/Skeptical whether it is a disease or not	0	0	16 (24%)
Classified as a mental disorder	8 (1%)	0	0
Classified as addiction	6 (1%)	0	0

Table 4. The topics of news coverage on internet addiction in South Korea, Japan, and the U.S. between 1993 and 2013.

	South Korea (N=568)	Japan (N=145)	The U.S. (N=68)
Comprehensive analysis	165 (29%)	60 (41%)	28 (41%)
Practical information	96 (17%)	5 (3%)	4 (6%)
Research/Survey results	51 (9%)	15 (10%)	9 (13%)
Government policy	41 (7%)	3 (2%)	0
Incidents	39 (7%)	7 (5%)	4 (6%)
International news	21 (4%)	11 (8%)	13 (19%)
Industry/Business	12 (2%)	0	0
Opinion/Editorial	76 (1%)	24 (17%)	4 (6%)
Others (e.g., interviews, book reviews)	67 (1%)	20 (14%)	6 (9%)

Table 5. The effects of internet addiction identified in the news coverage of South Korea, Japan, and the U.S. between 1993 and 2013.

			South Korea (N=568)	Japan (N=145)	The U.S. (N=68)
Society-level effects		Social costs	17 (3%)	0	0
		Homicide or suicide	61 (11%)	16 (11%)	9 (13%)
		Crime and delinquency	68 (12%)	13 (9%)	4 (6%)
Individual-level effects	Psychological consequences	Mental disorders	48 (8%)	2 (1%)	3 (4%)
		Dramatic change in person's nature	43 (8%)	11 (8%)	6 (9%)
		Obsession with the virtual world	0	21 (14%)	0
	Physical health issues	Health problems	53 (9%)	25 (17%)	3 (4%)
		Harmful influence on brain	32 (6%)	1 (1%)	0
		Pathological symptoms of addiction	23 (4%)	7 (5%)	7 (10%)
	Social consequences	Poor academic performance	87 (15%)	37 (26%)	8 (12%)
		Decreasing productivity at work	21 (4%)	12 (8%)	8 (12%)
		Family problems	100 (18%)	26 (18%)	11 (16%)
		Disruption of daily routine	0	36 (25%)	4 (6%)
		Social relationship issues	65 (11%)	42 (29%)	11 (16%)
	Monetary problems	Economic losses	28 (5%)	9 (6%)	4 (6%)

* Since some articles mentioned multiple effects of internet addiction, the totals in Table 5 may be greater than the actual number of newspaper articles (N).

Table 6. The profiles of those who suffer from internet addiction identified in the news coverage of South Korea, Japan, and the U.S. between 1993 and 2013.

	South Korea (N=568)	Japan (N=145)	The U.S. (N=68)
Children/Kids/Adolescence	380 (67 %)	78 (54%)	24 (35%)
Young people	0	20 (14%)	6 (9%)
Adults	90 (16 %)	33 (23%)	14 (21%)
Others (e.g., male, housewives)	1 (0%)	14 (10%)	2 (3%)

Table 7. The authorities on internet addiction identified in the news coverage of South Korea, Japan, and the U.S. between 1993 and 2013.

	South Korea (N*=464)	Japan (N*=112)	The U.S. (N*=59)
Medical professionals	151 (33%)	33 (29%)	11 (19%)
Government officials	105 (23%)	1 (1%)	5 (8%)
Academics	65 (14%)	28 (25%)	16 (27%)
Psychologists/Counselors	31 (7%)	11 (10%)	22 (37%)
Industry people	29 (6%)	2 (2%)	0
Politicians	19 (4%)	0	0
NPO activists	18 (4%)	20 (18%)	0
Educators	6 (1%)	2 (2%)	3 (5%)
Others**	40 (9%)	15 (13%)	2 (3%)

* N is the total number comments cited in news stories

** "Others" include individual activists, journalists who wrote books on internet addiction, lawyers, police officers, and so on.

Table 7-1. Medical professionals by specialization.

	South Korea (N=151)	Japan (N=33)	US (N=11)
Psychiatry	131 (87%)	19 (58%)	9 (82%)
Nuclear medicine	6 (4%)	0	0
Neurosurgery	3 (2%)	0	0
Nursing	2 (1%)	0	0
Others*	5 (3%)	2 (6%)	0
Not specified	4 (3%)	12 (36%)	2 (18%)

*"Others" include rehabilitation medicine, family medicine, neuroscience, pediatrics, and so on.

Table 7-2. Academics by specialization.

Specialization/Department	South Korea (N=65)	Japan (N=28)	The U.S. (N=16)
Psychology	29 (45%)	10 (36%)	6 (38%)
Sociology	6 (9%)	0	2 (13%)
Education	5 (8%)	5 (18%)	0
Media/Communication studies	4 (6%)	4 (14%)	1 (6%)
Police Studies	4 (6%)	0	0
Welfare	3 (5%)	0	0
Law	3 (5%)	0	1 (6%)
Economy	3 (5%)	0	0
Medicine	3 (5%)	2 (7%)	1 (6%)
Others*	3 (5%)	4 (14%)	3 (19%)
Not specified	2 (3%)	3 (11%)	2 (13%)

* “Others” include computer education, consumer and child studies, business, and so on.

Table 8. Actors identified in the news coverage on internet addiction in South Korea, Japan, and the U.S. between 1993 and 2013.

	South Korea (N=297)	Japan (N=63)	The U.S. (N=28)
The Government/The legislative body	196 (66%)	18 (29%)	0
Educational institutions	14 (5%)	8 (13%)	3 (10%)
Academia	14 (5%)	3 (5%)	13 (46%)
Medical world	31 (10%)	7 (11%)	4 (14%)
Industry	23 (8%)	3 (5%)	1 (4%)
Support groups	0	0	2 (7%)
NPOs	4 (1%)	17 (27%)	0
Others*	15 (5%)	7 (11%)	5 (18%)

* “Others” include religious group, individual activist, and so on.

Table 9. Attribution of responsibility for internet addiction in the news coverage of internet addiction in South Korea, Japan, and the U.S. between 1993 and 2013.

	South Korea (N=331)	Japan (N=48)	The U.S. (N=4)
Parents/Family	163 (49%)	30 (63%)	4 (100%)
The government	51 (15%)	3 (6%)	0
The game industry	50 (15%)	0	0
School	32 (10%)	9 (19%)	0
Community/Society	29 (9%)	4 (8%)	0
Others*	6 (2%)	2 (4%)	0

* "Others" include adults, medical world, and so on.

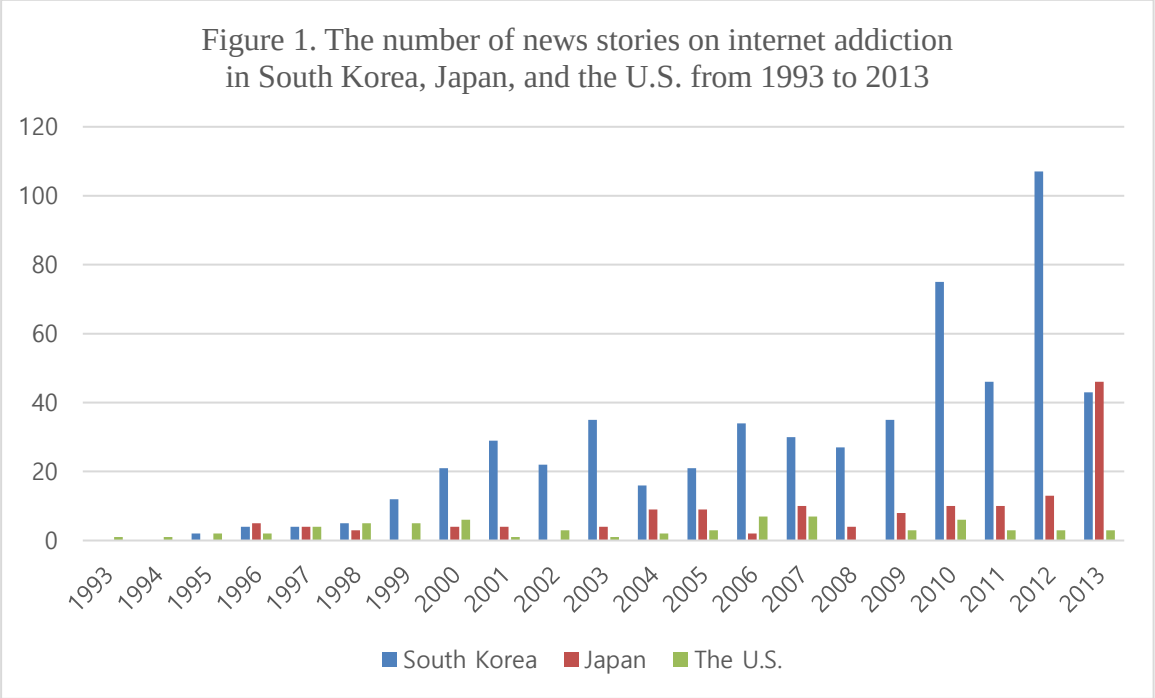


Figure 1. The number of news stories on internet addiction in South Korea, Japan, and the U.S. from 1993 to 2013.

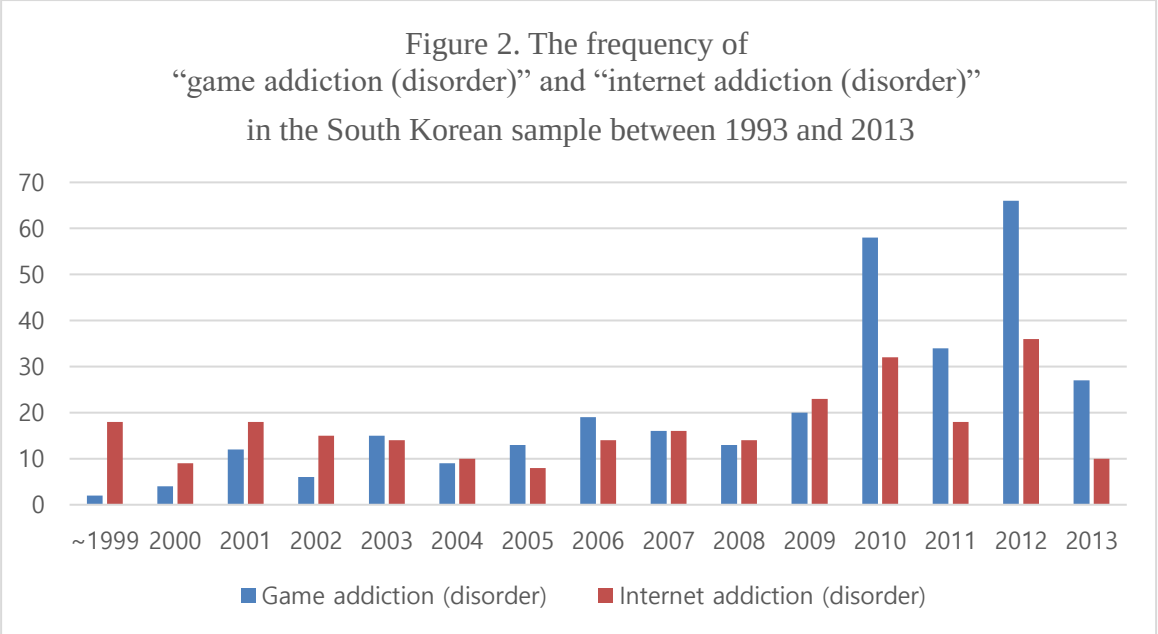


Figure 2. The frequency of "game addiction (disorder)" and "internet addiction (disorder)" in the South Korean sample between 1993 and 2013.

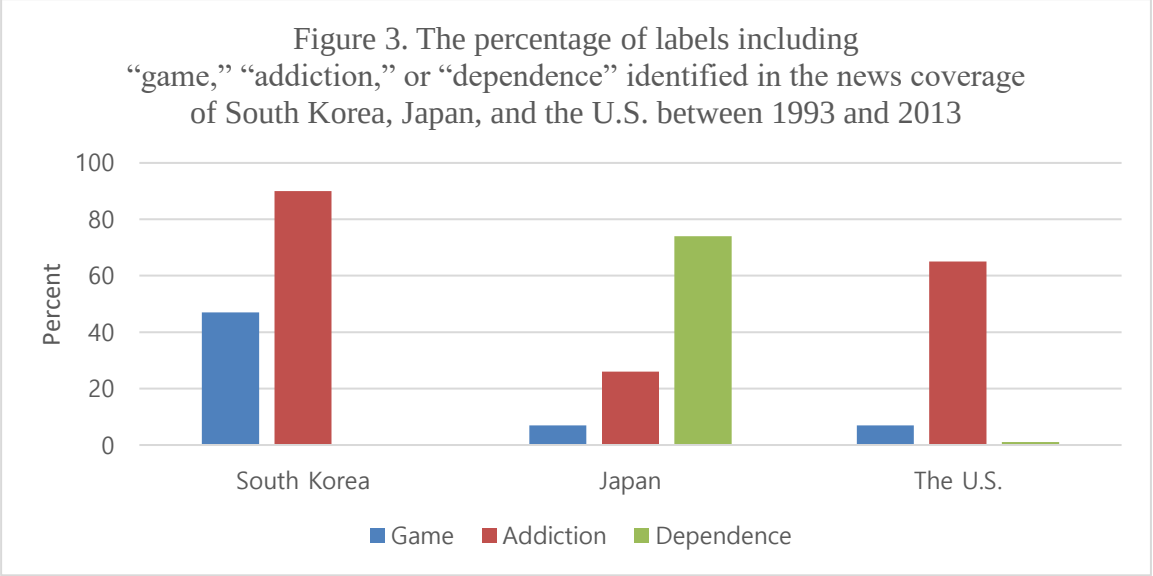


Figure 3. The percentage of labels including "game," "addiction," or "dependence" identified in the news coverage of South Korea, Japan, and the U.S. between 1993 and 2013.

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Chapter 3. The Construction of Internet Addiction in Academia

Introduction

Academic publications construct and evaluate knowledge about a certain condition or phenomenon by exchanging ideas and findings with other scholars around the world, through which their knowledge is further developed, extended, and disseminated. By persuading readers to accept a particular explanation as a credible fact, scholars participate in the construction of social issues. Scientific explanations of the social world are, actually, neither accurate nor objective representations of a certain condition or phenomenon, rather it depends largely on how researchers interpret them. The particular time, geographical location, community, local context, the discipline to which academics belong, and research funding affect the selection of research priorities and the way research is carried out. The availability of material resources or governmental investments in each society can also have an impact on research. Academic explanations of a certain social condition/phenomena can thus vary according to society (Hyland 2016).

In academia a condition or phenomenon is studied repeatedly by researchers, and the accumulated findings and publications accrue to construct a research area. Internet addiction started to gain academic attention in the mid-late 1990s, with the rapid penetration of internet, and so is a relatively new and immature research area with a short history. While there has been an overall increase in academic attention to internet addiction, disagreement about its nature, definition, terminology, and diagnostic criteria

has caused controversy among researchers ever since the term “internet addiction” was first coined. Despite its ambiguousness, however, publications on internet addiction have gradually increased, and it would be no exaggeration to say that internet addiction has now grown to be an established research area.

As the volume of academic publications on internet addiction increases, several scholars have attempted to provide a comprehensive account of how the research area has evolved at the domestic and international level. Firstly, in South Korea, Byun et al. (2009) and Kwon (2008) conducted comprehensive research regarding the overall trend in internet addiction studies by analyzing pre-existing methodology, diagnostic criteria, research topics, and so on, while other researchers focused on the trend of particular research subjects under internet addiction such as risk and protective factors (Koo and Kwon 2014), effects of group-counseling programs (Park 2009), the association between mental health and internet addiction (Kim et al. 2013), and internet game addiction among South Korean youths (Ryu 2008).

In Japan, Niiro (2007) reviewed academic articles on internet addiction published in Japan and abroad between 1996 and 2006 about the terms, definitions, diagnostic criteria, and psychological characteristics of internet addiction. Aoyama and Igarashi (2011) reviewed 40 studies on problematic internet use (PIU), focusing on the social and psychological influence of PIU, the association between PIU and online gaming, and so on. A meta-analysis performed by Takahashi and Narita (2012) provided comparative findings between English-language and non-English articles through an analysis of article titles. Kotera (2013) also conducted a meta-analysis of empirical research published in Japan, focusing on definitions and measurement in particular.

In the U.S., Douglas et al. (2008) employed qualitative approaches to analyze 10 academic papers published from 1996 to 2006, arguing that the relative infancy of internet addiction studies means that a qualitative review is more beneficial so as to create a holistic perspective of the research area. While the existing studies provide meaningful guidelines with which to trace the ways that scientific knowledge about internet addiction have evolved in academia, the findings are mostly limited to certain national societies. In other words, they may explain how internet addiction is constructed within a particular domestic context, but do not talk about the validity and generalizability of the knowledge across societies from a comparative perspective.

In this chapter, I conduct an in-depth and comprehensive review of existing academic publications on internet addiction in South Korea, Japan, and the U.S. to explore and compare how academia has contributed to the social construction of internet addiction, focusing specifically on the following research questions: 1) are there any differences in the approaches and content of internet addiction research by country?, 2) if so, what are the social and cultural contexts that create the differences in knowledge about the same phenomenon? and 3) in comparison to the findings of Chapter 2, how is the way that academics produce knowledge about internet addiction different from the mass media's framing of the same social problem? Through an analysis of academic publications, I intend to examine how academia, as one of the primary claims-makers that is able to bring a social condition to the public attention by producing scientific knowledge to explain and conceptualize it, has been involved in the social construction of internet addiction.

Data and Methods

To systemically compare the way that the academia of each country has produced knowledge about internet addiction, this research employs a literature review of academic and peer-reviewed articles on internet addiction. According to Cooper (1989), every meta-analytic research design should follow at least five stages: problem definition, sample definition, discussion of data, variables and coding, data analysis, and the presentation of results.

Samples were identified and collected from online academic research databases. Since the initial goal of this chapter is a comparison of how academia has constructed internet addiction in three countries, I selected nation-specific academic databases as follows: the Koreanstudies Information Service System (KISS) and DBpia for South Korea; PubMed, ScienceDirect, and JSTOR for the U.S.; and CiNii (Scholarly and Academic Information Navigator), Google Scholar search engines, and the forward and backward tracking of citations to crosscheck Japanese articles. Since the databases listed above have different subscriptions of academic journals, I used multiple databases to collect academic articles as exhaustively as possible, and to crosscheck the inclusion and exclusion of journals.

Keywords

As the previous chapter on media coverage of internet addiction demonstrates, each country has dozens of different labels to refer to internet addiction. Since no agreement has been reached concerning a formal label for the phenomenon/condition so far, I elected a variety of country-specific keywords, in addition to “internet addiction,” for the

electronic database search based on the findings of Chapter 2: South Korea – internet addiction, game addiction, (game/internet) overindulgence; Japan – internet addiction, internet dependence, game addiction, game dependence, mobile phone addiction, mobile phone dependence, smartphone dependence, smartphone addiction, computer addiction, social media dependence; and the U.S. – internet addiction, pathological internet use (PIU), computer addiction, internet dependence/dependency, game/gaming addiction, heavy internet use, compulsive internet use, problematic internet use, online addiction, web addiction, excessive internet use, pathological computer use, excessive computer use, internet abuse, obsessive computer use, cybersex addiction, internet overuse.

Unlike Japan and the U.S., South Korea has reached a general consensus about the label mainly due to the vigorous government involvement in internet addiction issues. Since the government called the condition "internet addiction" as early as in the early 2000s in its official announcements, public releases, government documents, and government-commissioned studies, there has been no particular sign of disagreement about the label among scholars. The search for academic publications in South Korea thus required relatively fewer keywords. All relevant articles identified to include any of the keywords in its title, abstract, or keywords were coded and analyzed using the standard procedures.

Screening criteria: inclusion and exclusion

When collecting samples for meta-analysis, it is almost impossible to ensure the exhaustiveness of a publications list. Setting carefully organized criteria to determine the inclusion and exclusion of academic publications is therefore an essential process for the

representativeness of the sample. According to Weed (2006), one of the most important steps in conducting a systematic review or a meta-analysis is the development of screening criteria. General guidelines for inclusion in, and exclusion from the sample were applied as follows: firstly, publication formats other than full-length journal articles were excluded, such as commentaries, editorials, book reviews, interviews, and posters. Conference proceeding abstracts were excluded, and full-length conference proceedings were kept for review. Even if texts were full-length, only peer-reviewed publications written in accordance with typical academic format were included, meaning that government reports published in South Korea were excluded, and articles published in specialized magazines covering education or adolescent issues in Japan were excluded as well. The criteria also omitted papers presented at meetings, masters' theses, doctoral dissertations, and unpublished reports to research foundations. If the same author or research team had multiple publications with almost the same content, only the most recent one was included.

The aim of this chapter is to compare the ways that academia, which is one of the primary producers of knowledge about social problems, has constructed the concept of internet addiction in South Korea, Japan, and the U.S. It is thus pivotal during data collection to have clear criteria with which to determine the "nationality" of publications. U.S. publications create a particularly complicated issue with regard to the nationality. South Korean and Japanese publications are, in most cases, easily distinguishable by their language and the author's name(s). Cases where the nationality of the author(s) does not agree with that of the publication are very rare in South Korea and Japan. When it comes to the U.S., however, given that English is a universal language for the global exchange

of knowledge and that numerous international students are studying in the U.S., neither language nor author names can be used to determine nationality. In the U.S., the nationality of a publication was thus decided according to the geographic affiliation of its first author. For example, an academic article whose first author is affiliated with a university or academic institute in the U.S. was classified as a U.S. example.

Lastly and most importantly, since internet addiction studies have not reach general agreement about terms or labels, extra consideration should be given to the identification and screening of terms. There are such cases where a term has more than one meaning. For example, “internet abuse” and “PIU (problematic internet use)” are sometimes in different usage: in the U.S. sample “internet abuse” is mostly a synonym for internet addiction, or refers to an employee’s inappropriate use of the internet at work, such as accessing online pornography, gaming, or chat websites in the workplace. “Problematic internet use (PIU)” is either an alternative term for internet addiction, or for an illegal or socially unacceptable form of internet use, including the use of child pornography, sexual exploitation, or gambling. In both examples, the latter meaning is irrelevant to the purpose of this research. In addition, some labels, such as “mobile phone addiction” or “gaming addiction/disorder,” may sound like alternatives to “internet addiction,” but are not necessarily so in some samples. For example, “mobile phone addiction” may refer to excessive (mobile) internet use via mobile platforms, which corresponds with the subject of this research. The same term, however, can be totally irrelevant to internet use or internet access, and include problems of texting too much or spending too much time talking on the phone. This is also true of “gaming addiction/disorder.” Publications on gaming addiction/disorder include a wide range of platforms (e.g., console, mobile,

arcade, and PC), and not all require online access. Only publications that manifestly define gaming addiction/disorder as a subcategory of internet addiction were included. In other words, if the content is not mainly focused on internet use or internet access, I omitted it during screening.

Coding of study variables

After the screening process, the sample was coded by following study variables for systemic analysis and comparison: 1) year of publication, 2) label, 3) specialization of first author, 4) discipline of journal, 5) research participants (if applicable), 6) diagnostic criteria (if applicable), and 7) aim of research. The discipline of each journal was determined according to journal information provided by online databases. In addition, I cross-checked the disciplines of Korean journals using the National S&T Standard Classification System provided by the National Research Foundation of Korea. To facilitate coding the "aim of research" frame, I produced the following eleven subcategories through a pilot study of randomly selected samples: survey of the prevalence of internet addiction, analysis of the association between internet addiction and certain variable(s), overview, comparative analysis, meta-analysis, qualitative/case study, evaluation of existing treatment programs (e.g., counseling or medication), neurophysiological study, development of prevention programs, development of diagnostic criteria, and development of prediction models.

Results

Description of the sample

After screening, I coded 655 academic articles published from 1996 to 2014: 532 from South Korea, 55 from Japan, and 68 from the U.S. There is a significant disparity in the size of the sample in the three countries. South Korea greatly outnumbers Japan and the U.S. in the volume of publications on internet addiction studies, which is very similar to the results from the analysis of media coverage in Chapter 2. Of the three countries, Japan has the fewest publications, and Japanese researchers acknowledge this and explain it as due to the undefined status of internet addiction (Aoki et al. 2000; Niiro, 2007; Aoyama and Igarashi 2011). According to Osada (2013), while Japan is one of the leading ICT countries in the world, and it is ranked highly in the number of internet users, the country is behind in internet addiction research. He finds that the non-recognition of internet addiction as a mental disorder results in the slow academic progress. That is, since researchers are not convinced of the nature of internet addiction – whether it is a real disorder –, it discourages them from initiating new studies in the research area.

On the other hand, Block (2007, 2008) attributes relatively low academic attention given to internet addiction in the U.S. to differences in the internet access environment and comorbidity. While people in Asian countries visit internet cafés to play online games, usually with a group of friends, online games are accessed from home in the U.S. And 86 percent of internet addiction cases have other mental disorder diagnosis as well. To be specific, according to Ahn (2007) on average an internet addiction patient has 1.5 other mental disorder diagnoses. In the U.S., patients generally present only for the comorbid condition(s), and not for internet addiction. Unless mental health professionals specifically look for internet addiction, internet addiction is thus unlikely to be detected. In Asia, on the other hand, therapists are well trained to screen for it. Compared to Asian

countries, the U.S. therefore lacks accurate estimates of the prevalence of internet addiction in general (Aboujaoude et al. 2006; Block 2007b).

The earliest academic article on internet addiction was published in the U.S. in 1996, which precedes South Korea and Japan by four years. After a four-year's time lag internet addiction started to gain academic interest in South Korea and Japan. Figure 1 shows that the number of publications on internet addiction is gradually increasing in all three countries. It is noticeable regarding the yearly trend that very little academic attention was given to internet addiction before 2000. From the following year, however, South Korea started to significantly outnumber Japan and the U.S. in the number of studies on internet addiction. Between 2002 and 2003, the number of Korean publications almost tripled, from 8 to 25.

Regarding language, while all U.S. articles were written in English, South Korea and Japan have publications written in both English and their own languages. The use of English is a requirement in order to participate in the global exchange of scholarly knowledge beyond national borders. Among the 532 articles in the South Korean sample, 63 (12 percent) are written in English-language, and 55 out of the 63 (87 percent) English-written articles were published in international journals. In Japan, while 5 out of 55 articles (9 percent) are in English, only one was published in an international journal – *Computers in Human Behavior*.

Label

Table 1 shows that scholars name the same condition using varied labels, and that the variation in labels differs by country. One of the most significant findings is that the most

widely used label differs by country: “internet addiction (disorder)” (77 percent) in South Korea, “internet dependence (disorder)”(45 percent) in Japan, and “problematic internet use” (37 percent) in the U.S. Although the overall variety and preference are very different across countries, “internet addiction” is highly-ranked in all countries. To be specific, “internet addiction” is ranked second in Japan[19] and also in the U.S.

As Table 1 demonstrates, there are a couple of dozen different labels used in academic articles to refer to internet addiction, and most are compound nouns that consist of a specific internet-based activity or an internet-enabled device (e.g., gaming, social media, or smartphone), and pathological or medical status (e.g., addiction, dependence, or pathological use). Figure 2 shows the percentages of labels that include particular wordings. In general, the results show that, when it comes to activities/devices, terms tend to converge towards “internet” in all countries. On the other hand, the percentage of labels containing online activities other than gaming (e.g., online shopping, online gambling, social media, or sexting) is not so salient. Compared

[19] In Japanese, “*Shiheki*” and “*Chūdoku*” are synonyms, and both are translated as “addiction.” While those two terms are separately categorized in Table 1, as the wording is different in its original language, both are the equivalent of “internet addiction” in English. Four Japanese-written articles used the term “internet addiction” either as in English (e.g., internet addiction, IAD) or as a loanword (e.g. インターネットアデゥクション), which seems to reflect confusion in Japanese academia in determining the right term. Those three terms are thus actually synonyms. Then the rank of “internet addiction” thus rises further to be the second most commonly used (13 articles, 25 percent).

to Japan and the U.S., the proportional use of "game" is particularly high in South Korea.

The three countries have quite different preferences regarding pathological/medical wordings (Figure 2). First of all, South Korea shows great convergence towards "addiction" (95 percent), and unlike Japan and the U.S. there is no publication using "dependence" or "problematic use." This implies that South Korean researchers reached a general consensus about the academic term referring to internet addiction. In Japanese academia, "dependence" (60 percent) greatly outnumbers other labels, followed by "addiction" (27 percent). Conversely, the U.S. does not have a dominant preference, and is largely dichotomized as "problematic use" (39 percent) and "addiction" (37 percent). It is noteworthy that U.S. publications have a variety of pathological terms not limited to "addiction" or "dependence," but including "abuse," "problematic use," "pathological use," "compulsive use," and "excessive use." Given that substance addiction and behavioral disorders are very well-established research areas in the U.S., where incipient research into internet addiction sought its academic basis, this is quite understandable.

Figure 3 shows the changes in labels over time. One thing the three countries have in common is that researchers started to use the label "internet addiction" from a very early phase of internet addiction studies. In South Korea (Figure 3-1), "internet addiction" was always the most widely used academic term throughout 1996-2014. Then, from around 2005, "game addiction" started to increase. "Game addiction" was addressed as a subcategory of internet addiction until 2005, however, as "game addiction" is considered the most problematic and prevailing symptom of internet addiction, especially among children, researchers separated "game addiction" from "internet addiction" and started to

treat it as an independent research subject (Kim et al. 2008; Ryu 2008; Abe 2012). Given that the term "internet gaming addiction" first appeared in U.S. academic publications in 2008, and as "game dependence" in Japan in 2006, it seems that gaming began to draw researchers' attention in the mid-late 2000s across countries. "Game overindulgence," which started to appear in academic articles in 2007, is a distinct term, as it is used only in South Korea.

"Internet dependence" comprises the largest portion in Japanese academia (Figure 3-2); it first appeared as late as 2008, and then grew to be the most used term in 2010 and after. Given that before "internet dependence," especially in the incipient stage of internet addiction studies, "internet addiction" was widely used in Japan, this shows a transition from "internet addiction" to "internet dependence." Unlike in South Korea, "game" dependence/addiction is not one of the top choices among researchers, about which Abe (2012) notes that while game addiction is usually considered a subset of internet addiction in the U.S., the unique context of Japanese society, where game consoles are widely used and social media games via mobile phone platforms are highly popular, requires more elaboration before the term can be used in Japan.

Unlike South Korea and Japan, the U.S. showed (Figure 3-3) quite substantial disagreement about labels during the early years between 1995 and 2000, including "internet addiction," "problematic internet use," "compulsive internet use," "internet abuse," "computer addiction," and "pathological internet use," which implies the confusion in academia regarding the newly emerged phenomenon back then. While "problematic internet use" has shown a marked increase in recent years in the U.S., labels

in general are still largely divided into “internet addiction” and “problematic internet use.”

When labels are translated into English in South Korea and Japan, it sometimes generates inconsistency or mismatches between the original language and its English translation (Table 2). In South Korea, less than 2 percent of all articles have this kind of issue, most of which are attributable to mere mistakes or confusion in direct translation (e.g., overindulgence-immersion, or addiction-intoxication). In Japan, on the other hand, 24 out of 55 articles (44 percent) show a somewhat systemic mismatch when translated into English, and most of the inconsistency occurs in the translation of “dependence” (*ison,* in Japanese) into “addiction.” In English-language abstracts a considerable number of “dependence” (*ison,* in Japanese) uses are translated as “addiction,” although there is an exact English equivalent – “dependence.” This consistent error in translation may reflect the perception that “internet addiction” is a more universally accepted term in the global academic environment than “internet dependence.” Japanese researchers such as Kotera (2013) are aware of the inconsistency and argue that it reflects the current confusion in academia that internet addiction does not have an official label, which is not just an issue limited to Japanese academia but a more universal issue in internet addiction studies, including the U.S. and Europe.

Specialization of first author and discipline of journal

One primary consideration in the construction of knowledge involves the producer of that knowledge. To be specific, I explore the kinds of academic disciplines that have contributed to the construction of knowledge about internet addiction, focusing on which

disciplines have authority on the research subject. Since a considerable number of the samples do not contain any information on author affiliation (South Korea 14 percent, Japan 15 percent, and the U.S. 9 percent), I analyzed it in conjunction with the discipline of journal.

Firstly, Table 3 shows the research area is not dominated by one particular specialization. Rather a variety of disciplines, ranging from social science to medical studies, have participated in internet addiction studies. In general, the three countries do not show any similarities, except that psychology is placed quite high: fourth (except "not available") in South Korea (5 percent), third in Japan (13 percent), and first in the U.S. (21 percent). The top-ranked specialization varies by country; social welfare (12 percent) in South Korea, education (15 percent) in the Japan, and psychology (21 percent) in the U.S. Compared to the U.S. and Japan, more specializations are engaged in internet addiction studies in South Korea, including seemingly irrelevant disciplines such as mathematics education and international trade.

Among the specializations, in contrast academics or graduate students who belong to university, "off-campus affiliations" refer to people such as (middle or high school) teachers or counselors, who make up 10-15 percent of each country. That is, in addition to academics/graduate students, the category includes several other expert groups engaged in the construction of academic knowledge about internet addiction. The composition of "off-campus affiliations" varies significantly by country, however: in South Korea it is mostly middle/high school teachers or researchers working for specialized government agencies (e.g., The Korea Youth Counseling and Welfare Institute, The Korea Center for Disease Control and Prevention, or The National

Information Society Agency). Conversely, in Japan it includes employees at community mental health and welfare centers or university health care centers, and in the U.S. the category consists mainly of medical professionals working at privately-run rehabilitation centers (e.g., counselors or psychiatrist), such as the reSTART Internet Addiction Recovery Program or the Center for Online Addiction.

Table 4 presents the subject areas of journals. One of the notable differences among countries is that while in South Korea and Japan about a half of publications are social science journals, the proportion is as low as 35 percent in the U.S. Unlike the U.S., which is literally trisected by medicine (32 percent), social science (35 percent) and interdisciplinary science (32 percent), South Korea and Japan are similar in that the dominance of social science (approximately 50 percent) is followed by medicine (approximately 20-25 percent). The analysis of the specialization of the (first) author and the subject area of journals demonstrates that social science and medical studies have produced the majority of academic knowledge about internet addiction.

In South Korea, psychiatric publications are quite distinct, in that most were published in international journals and so they are written in English-language. They also tend to recruit a small participant sample, who in most cases are patients receiving treatment directly from the author(s) of the publication, and the articles mainly explore neurophysiological aspects of internet addicts.

The U.S. has a much shorter list of subject areas compared to the other countries, which is largely because U.S. articles were published in a very limited number of journals. For example, 34 out of 68 U.S. publications (50 percent) were published in two journals, either *Computers in Human Behavior and CyberPsychology,* or *Behavior &*

Social Networking. The former is a scholarly journal dedicated to exploring the use of computers from a psychological perspective, and the latter is an interdisciplinary journal embracing computer science, medicine, social sciences, and psychology. Unlike South Korea and Japan, where internet addiction is accepted by a broader spectrum of academic disciplines, even including natural science and engineering, this difference implies that the range of internet addiction research is relatively limited in U.S. academia. Moreover, it is noteworthy that the subject areas concerning the U.S. journals, are primarily concentrated in the therapeutic fields, such as psychology, psychiatry, medicine, nursing, and pediatrics.

When divided into medical and non-medical disciplines, the proportion of medical studies (e.g., psychiatry, medicine, and pharmacy) shows quite significant differences across countries. While it takes up the largest portion in the U.S. (33 percent), in South Korea and Japan it occupies no more than 22 percent and 9 percent, respectively. Given that almost one third of articles (32 percent) were published in medical journals in the U.S., U.S. academia in general takes more a medical/pathological approach to exploring internet addiction than other countries, which implies that medical professionals are the leading authority on internet addiction studies.

Table 5 shows the Herfindahl-Hirschman index (HHI) of the specializations of first author and disciplines of journals, which indicates changes in the degree of concentration over time. Decreases in HHI generally indicate an increase in the number of specializations/subject areas participating in internet addiction studies and thus a decrease in dominant disciplines. Overall, South Korea has quite low HHIs compared to Japan and the U.S., and the numbers do not show any major changes throughout the period. In

Japan, however, the HHIs of both the specializations of the first author and subject areas of journals show a marked decrease, from 0.28 to 0.0891 and from 0.36 to 0.1161, respectively. To be specific, until around 2005 scholars mostly in welfare, sociology, education, or psychology explored internet addiction, and their articles were published in computer, education, or interdisciplinary journals. In more recent years, however, both specializations of researchers and the disciplines of journals greatly diversified. Between 2011 and 2014 in particular, researchers in 14 different specializations studied internet addiction, and journal subject areas increased to 11 as well. This indicates that scholars in more diverse disciplines had started to recognize internet addiction as a condition worth exploring, and the research area is thus also likely to expand further in the future.

At the same time, in the U.S. the HHIs of author specializations are also decreasing. The number of specializations in the U.S. actually almost doubled between 2001-2005 and 2006-2010. In addition, while psychologists had produced more than one third of the publications on internet addiction until 2005, the disparity between psychology and other specializations decreased recently as more specializations started to investigate internet addiction. When it comes to the subject areas of journals, however, the U.S. does not show such major changes in the number of subject areas throughout the same period of time, except in 2001-2005 when 63 percent of articles were published in interdisciplinary journals.

Research participants

Since internet addiction research mostly employs methodology such as surveys, questionnaires, focus group studies, or interviews to explore the subject, the majority of

studies recruit human participants: 94 percent in South Korea, 71 percent in Japan, and 74 percent in the U.S. Analysis of research participants reveals the demographic profile of those who researchers assume to be most vulnerable to internet addiction. Table 6 shows research participants by age range, generally divided into "children" and "adults" (18 years old or older). The category of "Age range not specified" chiefly consists of online survey participants, such as MMORPG (Massively Multiplayer Online Role Playing Game) users or social media users. While 78 percent of South Korean participants are "children," the proportion is substantially smaller in Japan (36 percent) and the U.S. (18 percent). Conversely, "adult," including college students in particular, make up as much as 46 percent and 56 percent of research participants in Japan and the U.S., respectively, which is a significant difference from 16 percent in South Korea. To be specific, in Japan and the U.S., researchers usually recruit college students from introductory psychology classes. The overall findings demonstrate that, compared to Japan and the U.S., the South Korean academy is obviously much more children-oriented in internet addiction research.

The location of recruitment also varies by country. In South Korea, all research involving human participants recruited participants from within South Korea, except two studies which examined internet addiction among Chinese international students studying in South Korea. Most Japanese research, 36 out of 39 publications, recruited Japanese nationals as well, although two recruited Japanese and Chinese participants, and one study was about Chinese participants. U.S. research participants, however, are more diverse in nationality. Eleven of 50 articles were quite international in the composition of their participants; eight studies recruited research participants from foreign countries – four from China, three from South Korea, and one from Italy. Two were comparative

studies between the U.S. and China, so the participants consisted of Americans and Chinese. Lastly, one survey study recruited participants from English-speaking countries including the U.S. and Canada. Given that a considerable number of international students are studying in the U.S., the diversity may be attributed largely to the international students who investigate the internet addiction issues of their original countries.

Gender is not specified in most studies. When recruiting participants, gender seems to be left out of consideration. To be specific, no U.S. research recruited participants based on their gender, and only 3 out of 39 Japanese articles reported gender-based recruitment, such as “female middle school students” to examine the association between internet addiction and mental health problems, “female college students” to explore the relationship of internet dependence and self-esteem, and “male middle school students” for a cross-sectional study. Thirty-five South Korean studies involve gender-specific sampling, of which 80 percent (28 articles) recruited males. It is quite interesting that the research topic varies significantly between male and female participants; while female participants are mostly recruited for studies on online shopping addiction or internet addiction among preschoolers, male middle/high school students are recruited to explore gaming addiction, which reflects stereotypical profile of avid game users.

It is noteworthy that South Korean publications include several studies involving more specified selection criteria than simply gender and age, including regions (e.g., middle and high school students in island areas, male workers in urban areas, or vocational high school students in a rural area), socioeconomic status (e.g., white-collar employees or elementary school students from low-income families), disabilities (e.g.,

students with visual impairment or elementary/middle/high school students with hearing impairment), occupation (e.g., soldiers or school nurses), and juvenile crime (e.g., youth in probation). While no more than four percent of publications cover the specified target groups, it implies that South Korea is one step ahead in internet addiction research, as much as it reaches out to screen demographic groups relatively more vulnerable to internet addiction, and pays further attention to those selected target groups.

Diagnostic criteria

Since internet addiction has now grown to be a global issue not limited to specific regions, it is essential for researchers to establish universally-acceptable diagnostic criteria, such as the Beck scale for depression studies (Beck et al. 1961), for the comparison and generalization of findings. Internet addiction, which emerged in the mid-1990s, has a relatively short history in academia. While the volume of internet addiction research is on a gradual increase, researchers have not reached agreement about its measurement, which together with the undefined nature of internet addiction, contributes to the unstable academic basis of the research area.

Table 7 shows a variety of current diagnostic criteria employed by scholars to measure the presence and severity of internet addiction. Before proceeding further, some categories in the table need clarification. I coded samples as “adopted/modified diagnostic criteria” when a researcher either borrowed diagnostic criteria from relevant research areas, or temporarily modified (multiple) existing diagnostic criteria to apply it to their own research. Due to the absence of authorized diagnostic criteria, especially during the early stage of internet addiction studies, researchers used to borrow diagnostic

criteria from similar research areas, such as compulsive disorders, impulse control disorders, or substance abuse. Others chose to adopt diagnostic criteria from relevant study areas, and then merged and edited selective items in accordance with the intention of their study. In the latter, such diagnostic criteria are more like a "compilation" of previously available measures rather than an entirely creative product. Samples that did not provide any sufficient information about measurement, such as originality or source, were coded as "not specified."

The results indicate that there are too many diagnostic criteria to assess internet addiction, which makes it extremely complicated to generalize or compare findings about it. While the U.S. and Japan have far fewer diagnostic criteria than South Korea, in general the results demonstrate the absence of a universally acceptable scale. Except for the *Internet Addiction Test* (*IAT*; Young 1998), each country uses a variety of different measures. In other words, there is at least one scale that works across countries to some extent. The *IAT* is also the most widely used diagnostic criteria in Japan (49 percent) and the U.S. (34 percent). In South Korea, the *K-Scale* (37 percent) is most commonly employed, but the *IAT* (35 percent) is also widely used.

The *IAT* was developed by Dr. Kimberly Young in 1998 and claims to be the first validated measure of internet addiction. The self-report questionnaire is composed of 20 items to assess obsessive behavior associated with internet use or online chatting, withdrawal, tolerance, impact on daily life (e.g., slump in school performance, negligence of family and school life, and personal relationship problems), behavioral problems, health troubles, and emotional problems. The questions are rated based on a five-point Likert scale from "rarely" (1 point) to "always" (5 points), and thus the total ranges

between 20 and 100. A higher overall score indicates a greater level of internet addiction and the creation of problems as the result of such internet use. According to Young's original guidelines, internet addiction is categorized into three groups according to severity; "mild," "moderate," and "severe."[20] The *IAT* has been used in various countries to measure the severity of internet addiction, including the U.S. (Widyanto, Griffiths and Brunsden 2011), France (Khazaal et al. 2008), Norway (Johansson and Götestam 2004), China (Lam et al. 2009), Italy (Ferraro et al. 2007), Iran (Ghassemzadeh, Shahraray, and Moradi 2008), and so on.

The *K-Scale* was developed in South Korea (K stands for Korea) in 2002 by a research team of academics, the Ministry of Information and Communication, and the National Information society Agency (NIA).[21] Since then almost all government-commissioned projects on internet addiction, including annual nationwide internet addiction surveys, have employed the *K-Scale* to assess the prevalence of internet addiction in South Korea. From its birth, the *K-Scale* was a product of South Korea's

[20] 30-49 points indicate "mild," meaning that "You are an average online user. You may surf the web a bit too long at times, but you have control over your usage." "Moderate" includes those whose total is between 50 and 79 and means "You are experiencing occasional or frequent problems because of the internet. You should consider their full impact on your life." Last, if the final score is within the range 80-100, then the addiction is diagnosed as "severe," which means that internet use is causing significant problems in life.

[21] The NIA is a South Korean statutory agency founded to improve the ICT infrastructure of South Korea, to support the establishment of e-government, and to promote application of new ICT.

government-led internet addiction policy, and the scale itself represents the state-level efforts to resolve the social problem. According to the NIA (2009, 2011), it was the limitations of the *IAT* that prompted the development of a scale that fits the South Korean context, one of which is that the *IAT* was intended to measure a specific facet of internet addiction generated in computer-mediated communication in the U.S. It was thus basically not an appropriate measure with which to assess the internet addiction of South Korea, where the environment and infrastructure for internet access are different from those of the U.S. (Lee et al. 2005).

The *K-Scale* is a self-report scale composed of 40 items, which are divided into seven factors: 1) disturbance of adaptive functions (nine items), 2) disturbance of reality (three items), 3) addictive automatic thoughts (six items), 4) withdrawal (six items), 5) virtual interpersonal relationships (five items), 6) deviant behavior (six items), and 7) tolerance (five items). The items are scored on a four-point Likert scale from "strongly disagree" (1 point) to "strongly agree" (4 points), so the total score ranges from 40 to 160. Like the *IAT*, the higher their score, the more someone is likely to be addicted to the internet, and based on the score people are categorized into three groups according to severity; "high-risk group," "potential-risk group," and "general user group."[22] According to the *K*-

[22] A person is classified as a "high-risk group" when either the total score is 94 and above, or the scores in Factor 1, Factor 4, and Factor 7 are greater than 21, 16, and 15, respectively. If the score meets any of the following four criteria they fall in the "potential-risk group"; 1) total score between 82 and 93, 2) score of 18 and above in Factors 1 and 3) score of 14 and above in Factor 3, or 4) score of 13 or above in Factor 7.

Scale, both the "high-risk group" and "potential-risk group" have internet addiction issues, and the others are the "general user group." Since the introduction of the *K-Scale* in 2002, the NIA has conducted continuous follow-up studies to enhance its validity and, as a result, the *K-Scale* has now evolved to include additional versions by period of life (e.g., for children/preschooler, adolescents, military personnel, and adults), report type (e.g. self-report and observer-report), and online activity (e.g. online gaming or smartphone).

As Table 7 demonstrates, the *K-Scale* is mostly used within South Korea, so its validity remains one of its limitations. Even within South Korean academia, some researchers prefer alternative scales, usually the *IAT*, over the *K-Scale*. Unlike Korean-language publications, English-language articles intended for submission to international journals tend to employ the *IAT*. Of 49 English-language publications, 33 (67 percent) chose the *IAT* over the *K-Scale* (20 percent), which implies that Korean researchers do acknowledge that compared to the *IAT*, the *K-Scale* is less likely to work for a global exchange of ideas and knowledge.

Figure 4 shows the changes in the use of diagnostic criteria over time between 1996 and 2014. First of all, in South Korea (Figure 4-1), the transition from the *IAT* to the *K-Scale* is quite salient. The *IAT* was the dominant diagnostic criteria during the early years; especially between 2000, the year which marked the birth of South Korea's first internet addiction research, and 2002, when 11 out of 13 publications employed a Korean-translated version of the *IAT* with partial modifications. Although the *K-Scale* made its publication debut in 2003, it was not until 2009 that its use completely outnumbered the *IAT*, which implies that despite the continuous efforts of the government to develop a

Korean version of diagnostic criteria, academia did not accept the scale immediately. In more recent years, however, the *K-scale* and its variations, including the *KS-Scale* (a shortened version of the *K-Scale*, comprised of 20 items), the *A-Scale* (the *K-Scale* for adults), and the *G-Scale* (a modified version of the *K-Scale* to assess internet gaming addiction) are approximately three times more widely used by researchers than the *IAT*, and there will finally be a convergence of diagnostic criteria in South Korea.

In contrast to South Korea, the variety of diagnostic criteria in Japan is in transition from convergence to divergence (Figure 4-2). Until around 2010, the *IAT* was the dominant diagnostic criteria in Japan. It was translated into Japanese, and the translated version was called the *Japanese version of the Internet Addiction Test (JIAT).* Japanese researchers occasionally modified the *JIAT* in accordance with their research topics. For example, in a study about Japan's email addiction, the wording "internet" in the original version of the *IAT* was replaced with "email." In recent years, however, diagnostic criteria tend to be diversified, which is quite a substantial change given the Japanese academia's long-time dependence on the *IAT*. Moreover, while the *IAT* remains the most widely utilized scale in Japan, academics have started to develop alternatives such as Uozumi (2005), Zheng (2007), and so on. Although it requires further research to determine whether the diversification of diagnostic criteria can be attributed merely to the quantitative increase of internet addiction publications, the transition from convergence to divergence is a distinct feature of Japan.

On the other hand, what is interesting about the *IAT* in the U.S. is that it was not a popular scale until quite recently (Figure 4-3). Although the *IAT* was developed as early as 1998, the first article to use it was published in 2007. What is more, the author was

Kimberly Young, the very researcher who developed the scale. The second article appeared in 2009. There was thus a substantial time lag between the development of the *IAT* and its adoption by academia. Unlike South Korea, where the adoption of diagnosis criteria moved towards convergence, each U.S. publication employed a number of different scale until 2008, including the *Virtual Addiction Survey (VAS),*[23] the *Yale-Brown Obsessive Compulsive Scale (Y-BOCS),*[24] the *Generalized Problematic Internet Use Scale (GPIUS),*[25] and items adapted from *The Diagnostic and Statistical Manual of Mental Disorders, 4th Edition (DSM-4)* substance abuse, which demonstrates the confusion attributable to the absence of valid diagnostic criteria.[26] As the *IAT* started to

[23] An internet addiction score is computed by totaling a participant's coded (1 or 0) responses across 10 items.

[24] The *Y-BOCS* was modified for internet use to assess the obsessive/compulsive nature of the use.

[25] *The GPIUS* (Caplan 2002) was designed to measure the degree to which an individual experiences the types of cognitions, behaviors, and outcomes that constitute generalized PIU. The scale consists of 29 items such as "I am worthless offline, but online I am someone," "I am more comfortable with computers than with people," and "I am treated better by others online than I am offline."

[26] In the U.S., except for the *IAT*, there are only three diagnostic criteria that were adopted in any research more than once; the *K-Scale*, *Generalized Problematic Internet Use Scale* (*GPIUS*; Caplan 2002), and *Problematic Internet Use Questionnaire* (*PIUQ*; Demetrovics, Szeredi and Rózsa 2008). The *K-Scale* was employed in two publications, all of which were written by Korean researchers, and the research participants were all Korean as well.

rise as a universal scale as late as around 2011, U.S. academia were narrowly able to achieve the convergence of diagnostic criteria to a certain degree.

Aims of research

Table 8 presents the aims of internet addiction studies by country. The results provide a comprehensive understanding of the various facets of internet addiction that have been explored by researchers, and the ways that internet addiction studies have evolved. Since some articles pursue more than one aim, the totals in Table 8 are greater than the actual number of publications. According to the results, a significant proportion of research explores the association between internet addiction and certain variable(s). This proportion is as large as 64 percent in South Korea, followed by 38 percent in Japan, and 43 percent in the U.S. In most cases, the variables fall into two categories, the cause/effect of internet addiction and comorbidity, which include but are not limited to the following items; 1) personal characteristics (e.g., self-esteem, anxiety, shyness, impulsivity, optimism, emotional intelligence, aggressiveness, self-control, problem solving ability, or innovativeness), 2) physical health issues (e.g., sleep problems, obesity, or dietary behavior), 3) mental health issues (e.g., loneliness, depression, stress, ADHD, or suicidal ideation), 4) substance use and risky behaviors (e.g., smoking, drug use, juvenile delinquency, cybersex addiction, gambling, or cyber bullying), 5) family environment (e.g., parenting style, family relationship, parental support, communication style, domestic violence, sibling relations, or amount of time spent with family), 6) interpersonal relationships (e.g. alienation, friendship, or peer relationship), 7) school performance (e.g. academic achievement, school adjustment, or academic stress), 8)

internet use patterns, 9) socio-economic factors, and 10) others (sports participation, information ethics, and so on).

It is the causality that matters about those variables. In most publications exploring the association between the internet and one or more variable(s), causality is not clearly identified. For example, a study can demonstrate that depression is related to internet addiction, but it does not demonstrate whether depression is the cause of internet addiction, or internet addiction results in depression. This causality issue applies to almost all of the variables listed above. While there are hundreds of such studies on internet addiction, few clarify the causes or effects of internet addiction.

South Korea includes a wider range of variables than Japan and the U.S., such as narcissism, innovativeness, and sexual assault, which have never been investigated in other countries. This may be attributed to the saturation of research variables. In South Korea 343 studies of this kind were published between 1996 and 2014, which means researchers have to identify variables that have never previously been examined by other scholars, including seemingly not relevant variables.

As shown in Table 8, South Korean studies have more diverse research aims than those in Japan and the U.S. The “development of prevention programs” is identified exclusively in South Korea, which implies that while other countries are largely focusing on more basic research questions (e.g., prevalence of internet addiction, diagnostic criteria, or causes and effects), South Korea is one step ahead of theoretical studies and has already accumulated clinical studies and experience, on which basis researchers can conduct further studies such as the pilot development of a smartphone use monitoring app by computer engineering majors. The diversity in research aims also suggests that a

broader range of academic disciplines is engaged in internet addiction research in South Korea.

It is noteworthy that the proportion of "development of diagnostic criteria" is significantly low in South Korea (3 percent) compared to Japan (9 percent) and the U.S. (9 percent), which seems largely attributable to the existence of the *K-Scale*. Since South Korea already has a widely accepted, at least within the country, diagnostic criteria, and the government gradually elaborated the *K-Scale* through follow-up studies, there has been no urgent need for additional diagnostic criteria in academia. On the other hand, the "development of diagnostic criteria" makes up 9 percent of research aims in Japan, but the first publication of this kind appeared in 2005, which is quite late given that the same research was conducted as early as 2001 in South Korea and the U.S. Moreover, three out of six Japanese studies intended to develop alternative diagnostic criteria are concentrated in 2013 and 2014, which coincides with the diversification of diagnostic criteria in recent years (See Figure 4-2).

Like the "development of diagnostic criteria," the proportion of "overview" (3 percent) is substantially lower in South Korea than Japan (14 percent) and the U.S. (19 percent). Given that in South Korea 64 percent of internet addiction studies are concentrated in the "analysis of association between internet addiction and certain variable(s)," the relatively small proportion may imply that South Korea bypassed the introduction of the new research area, and went straight to its application.

Discussion

The limitations of current internet addiction studies

As internet addiction has grown into a research area in academia, researchers stress the need to establish a standardized and universal definition of internet addiction so that it can provide common guidance for research. Researchers basically share the notion that excessive internet use results in various mental, psychological, and physical problems in everyday life. While they have reached a general agreement about the existence and prevalence of the condition, there are several different perspectives regarding its labels and definitions. Due to the absence of standardized labels and definitions, each researcher developed their own approach to the same condition, which inevitably results in confusion, controversy, and inconsistency among scholars in internet addiction research. Since researchers are well aware of the lack of consensus, it has become routine for them to start the introductory paragraphs of an academic article with an acknowledgment of a variety of "labels" followed by their careful consideration to select a right term that fits the intention of the research. The below quote from De Leo and Wulfert (2013:133) shows a typical example:

> *"…there continues to be a lack of consensus as to its precise definition, with labels varying from Internet Addiction Disorder (Goldberg 1996) to Internet addiction (e.g., Young 1998; Chou and Hsiao 2000), pathological Internet use (e.g., Morahan-Martin and Schumacher 2000; Block 2007b) and Internet dependency (e.g., Scherer 1997). For the purpose of this study, the term problematic Internet use (PIU) will be used to refer collectively to the phenomenon under investigation."*

In internet addiction studies, all the varying terms are considered, or at least implicitly assumed, to refer to the same condition/phenomenon (Mizuhara, Satoko, and Oba 2000; Niiro, 2007), and they are, in most cases, used interchangeably in academic publications. Actually, scholars like Shapira et al. (2000: 267) even conclude that "problematic internet use…has been described in the psychological literature as 'internet addiction' and 'pathological internet use,'" which implies that the terms are no more than synonyms rather than having their own distinct definitions.

Some researchers, however, do distinguish one particular term from the others. For example, Beard and Wolf (2001: 378) argue that, while "internet addiction" is admittedly the most widely used term, the term does not necessarily reflect the phenomenon of excessive internet use, as "excessive internet use does not result in all of the symptoms and behaviors associated with a chemical addiction, such as physical withdrawal." Liu and Potenze (2007) note that, among a variety of terms used to describe problematic internet use "compulsive computer use" and "pathological computer use" are more inclusive and clinically meaningful terms. Scholars such as Shapira et al. (2003) eschew the use of "internet addiction" as it lacks scientific proof qualifying it as a true addiction, so they prefer less controversial terms such as "problematic internet use (PIU)." In general, the absence of consensus about terms and definitions generates academic uncertainty, and hinders the generalization of research findings, as scholars are not fully convinced that they are talking about the same phenomenon.

In addition to the lack of consensus about the terminology and definition, the absence of standard criteria for diagnoses, especially between countries, makes it even more difficult for scholars to produce generalizable and comparable knowledge about internet

addiction at the global level. It is impossible to objectively assess the actual proportion of people who are suffering from internet addiction, since every researcher is measuring it in different ways. Researchers such as Moreno, Jelenchick, and Christakis (2013) express concerns about the issue, emphasizing that there are at least 13 scales to measure "problematic internet use" and most lack validity.

The lack of consensus about measurement is, to some extent, attributable to the lack of consensus about the nature of internet addiction. From the very beginning of internet addiction studies, the nature of internet addiction has been a subject of heated controversy, and to develop diagnostic criteria to assess such an uncertain condition, early scholars therefore relied largely on existing research areas that explored similar conditions/phenomena to internet addiction and had a better-established academic basis, such as substance abuse or behavioral impulse-control disorder. Those conditions were already included in the *DSM-4*, from which scholars could borrow authorized diagnostic criteria. Young (1996), Scherer (1997), and Brenner (1997) developed internet addiction questionnaires by adopting the symptoms and criteria for substance abuse and dependence in the *DSM*, and researchers such as Young and Rodgers (1998) used the *DSM-4* criteria for pathological gambling to develop diagnostic criteria for internet addiction. In addition, to revise the *IAT* from 8 items to 20 items Young (1999) referred to the *DSM-4* criteria for pathological gambling, since she determined that internet addiction was analogous to behavioral impulse-control disorders. Young's *IAT* (1996, 1999) reflects the criteria for substance dependence and then behavioral impulse-control disorder, which implies that even Young, who developed the *IAT*, did not fully assure the nature of internet addiction.

Diagnostic criteria greatly vary in the number of items, component factors, source of information (e.g., self-rating, parents-rating, or observer-rating such as teachers or counselors), and evaluation. Different diagnostic criteria thus result in different findings. For example, Kim et al. (2013) found that the correlation value between internet addiction and depression varies significantly by diagnostic criteria.[27] Even when researchers use the same diagnostic criteria, the cut-off value may differ by country, or certain scales may not be applicable to certain countries due to different social contexts (Kotera 2013). Given the variety of diagnostic criteria available for internet addiction studies, accumulated findings in this research area are barely comparable or generalizable. The establishment of a widely used indicator, such as the Beck Depression Inventory (Beck et al. 1961) for depression studies, is one of the most urgent tasks in order for internet addiction studies to achieve recognition as a solid research subject.

The development of valid and reliable diagnostic criteria is the first step in the medicalization of internet addiction. Technically speaking, however, neither the *IAT* nor the *K-Scale* is for diagnosis; rather they are scales for screening. Diagnostic tests are different from screening tests.[28] While screening tests are used to indicate the likely presence or absence of a disease or condition in individuals not currently presenting symptoms, diagnostic tests are conducted when individuals have symptoms of a disease

[27] In the research, depression was measured by the Beck's Depression Inventory, and when internet addiction was assessed by the *IAT*, the correlation value was 0.68, while it was 0.33 using the *K-Scale* (Kim et al. 2013).

[28] For a detailed definition of medical screening, refer to Wald (2008).

or condition, in order to make quantitative physiological measurements so that the progress of a suspected disease or condition can be confirmed and determined (Gilbert at al. 2001).

Despite continuous follow-up studies, however, the *K-Scale* remains a screening test. The *K-Scale* is currently limited to "grouping" individuals into one of the three categories: "high-risk group," "potential-risk group," and "general user group." This is why the news media and academia in South Korea refer to individuals with high *K-Scale* scores a "high-risk 'group,'" not internet "addicts." To be a diagnostic scale, the *K-Scale* requires further research into the "high-risk group" and "potential-risk group" who are considered to have symptoms of internet addiction, including panel studies to investigate the unique characteristics of internet addiction and its longitudinal changes. A panel study was once planned and launched in South Korea, but due to budgetary issues the research was suspended. Although the *K-Scale* has cut-off scores for screening, studies of scales have demonstrated that the optimal cut-off scores may be different depending on research purposes (screening or diagnosis) and population (Furlanetto, Mendlowicz and Bueno 2005). This implies that further studies on the trade-off between sensitivity and specificity are required to enhance the validity of the scale. The *IAT* has exactly the same limitations, as it is a screening scale as well.

The lack of reliable and accurate criteria creates profound theoretical and empirical weaknesses in internet addiction studies. Given that the debate about whether or not internet addiction should be recognized as a pathological condition (e.g., disorder or addiction) lies in the fact that every researcher is measuring it with different criteria, the

inconsistency in employing criteria is greatly hindering the further expansion of the research area.

On the other hand, regarding recruiting participants, a considerable proportion of studies on internet addiction recruit participants for either surveys or case studies; 94 percent in South Korea, 71 percent in Japan, and 74 percent in the U.S. Recruiting representative samples is thus a pivotal issue in internet addiction research, since different sample selection criteria result in inconsistent reports of internet addiction prevalence (Byun et al. 2009). Internet addiction studies have mostly focused on specific age groups: adolescents (approximately 10 to 19 years old) and college students. That is to say, other age ranges, especially adults and seniors, have long been neglected by researchers. The participants of internet addiction studies are largely recruited from four sources: schools, the community, treatment centers/hospitals, and online. It is noteworthy that most of participants (95 percent in South Korea, 80 percent in Japan, and 62 percent in the U.S.) were recruited from school settings, ranging from elementary schools to colleges. Kotera (2013), who conducted a meta-analysis of internet addiction studies in Japan, points out that most of the participants in this research area in Japan are "young," including college students who constitute the largest proportion (41 percent), so studies recruiting older participants are exceptional cases.

Internet usage, however, is not limited to adolescents and college students. The internet has become an essential part of everyday life regardless of a user's age. According to a South Korean survey on internet usage (Ministry of Science, ICT, and Future Planning and Korea Internet and Security Agency 2016) in 2016, almost 100 percent of people in their 20s-40s use the internet, and the usage rates of those in their

50s and 60s is as high as 94.9 percent and 74.5 percent, respectively. While internet usage rates drop significantly among the over 70s (25.9 percent), overall, the statistics show that the internet is widely used by all age groups. In Japan, according to a 2013 survey, the internet usage rate is approximately 90 percent among adults in their 30s-50s, and 72.8 percent and 48.9 percent for those in their 60s or 70s, respectively (Ministry of Internal Affairs and Communications 2015). In the U.S., while the internet usage rate is relatively low among older adults, 81 percent of adults between 50 and 64 used the internet in 2015. The internet usage rate of seniors over 65, especially, has greatly increased between 2000 (14 percent) and 2015 (60 percent) (Pew Research Center 2015).

While adolescents are considered to be more vulnerable to internet addiction than adults in general, it does not necessarily mean that all suffering from excessive internet use are adolescents. In 2014, the internet addiction rate among South Korean adults (20-59 years old) was 5.8 percent, and the smartphone addiction rate was almost twice as high (11.3 percent). When the government expanded the range of the annual survey on internet addiction to include people in their 60s in 2016, the smartphone (internet) addiction rate in 60s turned out to be as high as 11.7 percent (Ministry of Science, ICT, and Future Planning and National Information Society Agency 2015). And the internet addiction rates among adults in their 20s (11.6 percent) and the unemployed (11.4 percent) were as high as that of high school students (11.7 percent) (Ministry of Science, ICT, and Future Planning and National Information Society Agency 2015). On the other hand, a Japanese study revealed that, when measured by the *IAT*, adults had the third highest internet addiction rate, following high school students and college students (Ministry of Internal Affairs and Communications 2013). That is, although internet

addiction is in general a serious health issue among children, this is also true among adults.

Even the few studies focusing on adults, however, do not seem to employ appropriate sampling methods, so their validity and reliability is questionable. For example, one of the six U.S. studies involving adult participants examined those who had problematic internet use for at least six months but did not specify its sampling methods. Another U.S. study recruited anonymous volunteers through online advertisements which asked them to complete questionnaires regarding health behaviors, but those self-selected internet users are far from the principle of randomization.

As the prevalence of internet addiction draws public attention, parents and schools are well aware of the seriousness of the new social problem and its negative consequences on their children. The internet use of adolescents is, to some extent, under the supervision of family and community. The internet use of those adults, however, even though they are as vulnerable to internet addiction as children (e.g., the unemployed), is left entirely up to their own willpower. Neither the government nor families pay sufficient attention to internet addiction in adults. In other words, even though adults have problems in their everyday life due to excessive internet use, they are less likely to recognize their problem and may have a harder time accepting it, which hinders them from timely access to resources for treatment such as counseling services. Given that internet addiction in adults can be the immediate cause of serious family conflicts including divorces (Lee et al. 2005), current internet addiction studies need to expand their research area to include a wider range of age groups.

In terms of the construction of academic knowledge about a social problem, the literature review of research into internet addiction examines where the research originated, where it is located now, and where it is supposed to be heading in the future. In the next section, I examine whether the social construction of internet addiction retains consistency between two primary claims-makers – the news media and academia –, focusing on any differences in the ways that the news media and academia shape internet addiction in each national society.

Comparisons of media coverage of, and academic publications on, internet addiction

Both the mass media and academia can play pivotal roles as claims-makers in the social construction of a social problem by drawing public attention to a certain condition and providing supportive and convincing evidence to identify the condition as a serious social problem. A comparison of media coverage of and academic publication on the same topic provides a comprehensive picture of the way a social problem is shaped in a society. In this section, I compare and contrast the findings between the newspaper coverage of and academic publications on internet addiction, focusing in particular on yearly trends, labels, and the profiles of addicts.

The comparison of yearly trends (See Figure 1 of Chapter 2 for the analysis of media coverage of internet addiction) suggests that when it comes to the recognition of internet addiction, media coverage took place before academic publications in all three countries. In South Korea, the earliest newspaper article on internet addiction was released in 1995, but it was not until 2000 that academia produced the first publication. Japan also shows a time lag between1996 and 2000, as does the U.S. between 1993 and 1996. There is, in

general, a 3-5-year time lag exists between media coverage and academic research. Given that academic articles require much longer preparation and more resources than newspaper articles, this result is not a surprise. Academia, however, compared to the mass media, does not seem to have reacted quickly to the new phenomenon. As shown in early newspaper stories, internet addiction, at that time, was considered not to have any convincing medical or scientific evidence, and so the overall tone of news coverage was somewhat critical, suspicious, or even sarcastic. Since the mass media is a primary claims-maker that can frame a certain condition/phenomenon in a particular way, the public, not to mention scholars, who came to know the unfamiliar phenomenon through mass media coverage might not have taken it seriously enough to initiate academic research.

In South Korea, there are a few distinct differences in the yearly trend between media coverage and academic publications. While the volume of media coverage shows a noticeable fluctuation between 20010 and 2013, the number of academic articles shows a rather gradual increase throughout the entire period of time. The difference is largely attributable to the mass media's incident-based coverage of internet addiction. That is to say, the volume of newspaper coverage increases rapidly when any particularly newsworthy incidents worth the attention of the public take place. For example, when a young couple starved their three month old daughter to death while they indulged in online gaming at an internet café in 2010, the mass media reacted vigorously to the incident and started to pay extra attention to internet addiction in order to frame it as a serious social problem, followed by a series of special features on the risks of internet addiction. In addition, what triggered the 2010-2013 fluctuation was a heated political

controversy over new regulations banning excessive online gaming (e.g., the "shutdown law"). Unlike academic publications, the mass media can report social and political issues almost in real time. An unusually rapid increase in media coverage is thus like a marker or milestone in the timeline of internet addiction. Academic research, however, is not as directly influenced by such incidents, as is media coverage, which results in the differences in yearly trends.

A similar rapid increase can also be seen in Japan. The sudden increase in newspaper coverage in 2013 is attributed to the release of a national survey. To be specific, 35 out of 46 news articles published in 2013 were concentrated between August and December, and the national survey was released in early August. The survey demonstrated that the internet addiction rate among Japanese adolescents was as high as 8.1 percent, about which the mass media raised serious concerns by releasing additional coverage on internet addiction. In addition to the fluctuations in media coverage, the overall increase in the volume of both newspaper articles and academic publications signals the growing social and academic attention to internet addiction in South Korea and Japan. Due to the small sample size it is hard to be sure about the trend in the U.S., but at least there were no significant milestones in the media coverage of internet addiction.

Another distinct difference between the mass media and academia comes from the labels referring to internet addiction (See Table 1 of Chapter 2 for the analysis of media coverage of internet addiction). The labels tend to show higher convergence in academic articles, especially in South Korea and the U.S. This convergence can be seen in both the total number of terms and the proportion of the most widely used term. In South Korea, academia manifests a salient convergence of terms, compared to the mass media. While

36 different labels were used in media coverage, there were no more than twelve labels in academic publications.[29] In academia, the proportion of "internet addiction" is as high as 77 percent, and, with the second-ranked label, "internet game addiction" (14 percent) the two make up 91 percent.[30] In newspaper articles, on the contrary, "game addiction" (40 percent) and "internet addiction" (32 percent) total 72 percent. That is, academia has achieved a more universal consensus than the mass media about the use of labels, and this is the same in the U.S.; 14 different labels in academia, compared to 28 in the newspaper articles. While the proportion of the most used label is almost the same – "internet addiction (disorder)" (38 percent) in the news media and "problematic internet use" (37 percent) in academic articles –, the proportional sum of the two most used labels is larger in academia (69 percent) than in the mass media (45 percent). On the other hand, Japan shows a somewhat different result. While the mass media uses 1.5 times more variety in labels (15 and 10), the difference in the convergence of labels is not as obvious as that of South Korea and the U.S.; the total of the two most frequently used label in newspapers is 79 percent – "internet dependence (disorder)" 57 percent, and "internet addiction

[29] It is further reduced to seven if "computer game overindulgence," "internet game overindulgence," and "online game overindulgence" are integrated into "game overindulgence" and "game addiction" and "online game addiction" are also integrated into "internet game addiction."

[30] The proportion becomes even larger to 95 percent if "game addiction" (3 percent) and "online game addiction" (1 percent) are integrated into "internet game addiction" (14 percent).

(disorder)" 22 percent –, while in academic articles "internet dependence (disorder)" (45 percent) and "internet addiction" (25 percent)[31] make up 70 percent.

Another major difference between the mass media and academia comes from the label most widely used to name internet addition. In Japan, both the mass media and academics use "internet dependence" most widely (57 percent in the mass media and 45 percent in academia), followed by "internet addiction" (22 percent in the mass media and 25 percent in academia).[32] The correspondence between the mass media and academia, however, is observed exclusively in Japan.

In contrast, while South Korean academia prefers "internet addiction" most (77 percent), the mass media uses "game addiction" (40 percent) more than "internet addiction" (32 percent). Rather than having one dominant term, the labels used in news articles are mainly dichotomized by "game addiction" and "internet addiction." Both the mass media and academia regard game addiction as a subcategory of internet addiction along with social media/pornography/gambling/screen addiction, however, given that the mass media, in general, pursues dramatic and impressive incidents in reporting internet addiction in order that the stories will attract the attention of readers, such "incidents" mainly refer to the sensational consequences associated with excessive online gaming, such as accidental death, suicide, or juvenile delinquency. In South Korean newspaper

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[31] This is the sum of "internet addiction (*Chūdoku,* in Japanese)" (13 percent), "internet addiction (English-language)" (8 percent), and "internet addiction (*Shiheki,* in Japanese)" (4 percent).

[32] See Footnote 31.

articles, it was not until 2010 that “game addiction” started to outnumber “internet addiction,” which is largely attributable to the much heated political controversies surrounding newly-introduced regulations on online gaming, including the so-called “shutdown law.” The labels identified in the news media are significantly and immediately influenced by major incidents of the time.

Like South Korea, U.S. mass media and academia do not share the most widely used label. While newspapers mostly use “internet addiction” (38 percent), academics mostly use “problematic internet use” (37 percent), followed by “internet addiction” (32 percent). “Problematic internet use” is preferred by most academics, but it barely appears in news stories (1 percent). Given that the composition of top-ranked labels is very similar between the mass media and academia in South Korea and Japan, the stark contrast in the U.S. is quite distinct. Since the concept was first introduced, the debate surrounding whether internet addiction should be classified as “real” addiction has been an ongoing issue in academia. As a result of insufficient academic, medical, and scientific grounds, researchers may hesitate to explicitly label it an “addiction.” Compared to “addiction,” “problematic use” sounds more neutral and inclusive, as in the problematic use of substance, alcohol, or opioids. It is more like referring to a general condition or phenomenon than a pathologically-defined condition requiring precise diagnostic standards. The use of “problematic use” is thus less likely to be controversial in academia. Given that the U.S. has a relatively long history of addiction studies compared to South Korea and Japan, U.S. scholars may be more careful when applying a well-established academic term to a new condition without convincing evidence.

Comparisons of the mass media and academia also reveal that the profile of addicts (or those who are most prone to internet addiction) is differently depicted in news stories and academic publications. When reporting internet addiction, newspapers mainly focus on children, kids, adolescents, or students (which sometimes includes college students). In all countries, given the prevalence of gaming among the peer groups of children, the typical profile of those who are at a high (or potential) risk of internet addiction is more likely to be that of children than adults. Much newspaper coverage thus intends to inform or warn parents of the seriousness of internet addiction so that parents can pay extra attention to children's internet use. In South Korea, the mass media and academia share a common perspective on internet addiction, in that it is mainly a problem in children. In the South Korean academic publications, 78 percent of research participants are either high school students or younger. To be specific, more than 50 percent of participants are either middle school or high school students. Given that middle/high schools are the sites where researchers can easily recruit a large number of participants within a short period of time, the concentration makes sense. The disparity has academic grounds as well since internet addiction is indeed more prevalent among children. Since South Korea's first nationwide survey on internet addiction in 2004, the prevalence has always been significantly higher in children (5-19 years) than in adults (20-59 years).

As discussed in the previous section, however, this does not necessarily mean that adults are immune to internet addiction. Rather both the mass media and academia neglect adults when addressing internet addiction, as if adults suffering from internet addiction have never existed. The transition from PCs to smartphones further increased the risk of internet addiction among adults. The adult (20-59 years) proportion of the

smartphone addiction “risk group” has increased from 9.1 percent to 18.1 percent between 2012 and 2018 (Ministry of Science and ICT & National Information Society Agency 2018). Although as many as 10-20 percent of adults experience physical/mental/psychological problems in life derived from excessive use of the internet, neither the mass media nor academia takes the demographic group seriously when framing internet addiction. That is, the social construction of internet addiction in South Korea has evolved centering on a particular age group.

Conversely, in Japan and the U.S., while media coverage is more focused on children, the majority of research participants are adults, especially college students. In the U.S. especially, the proportion of studies that recruit children (18 percent) is significantly smaller than other countries. It is thus particularly interesting that six out of the nine studies on children recruited participants outside the U.S., in South Korea (three studies) and China (three studies). No national-level survey on internet addiction (especially which includes a wide range of ages) is available in the U.S., but it can be assumed that children are more vulnerable to internet addiction than adults, as in other countries. It thus makes more sense for scholars to recruit children rather than adults (college students, to be specific) to examine internet addiction. When the internet was first introduced in the mid-1990s, college students were privileged early-adopters, in that they were able to access the internet earlier than others through free access offered on campus. It was thus the right decision for researchers to recruit college students during the incipient phase of internet diffusion. Between 1996 and 2000, 38 percent of research involving human participants recruited college students, a proportion which is, actually, smaller than the

average for 1996-2014. That is to say, the recruitment of college students is not limited to a specific period.

U.S. scholars do not seem to be interested in internet addiction in college students, in particular, across many age groups. Rather it is more plausible that researchers had difficulties recruiting participants other than college students, especially younger participants. This may imply that the U.S. has stricter requirements when recruiting minors for studies than South Korea. U.S. studies involving under-aged participants describe the process of obtaining study approval as follows: in addition to the IRB (Institutional Review Board) review from university, researchers should obtain approval from the board of education of that county for its students to participate. In many cases, this process requires the presentation of a specific proposal to the school board at a regularly scheduled meeting of the board. Once researchers obtain permission from the necessary parties in each school, a consent form should be sent home in advance to the parents or legal guardians of all the students with information about the research. In some cases, following the instruction in the letters, parents are asked to call the school if they would like to deny permission for the participation of their children, and if there is no response from parents, parental permission is assumed (Liu 2011; Navarro et al. 2014; Yau 2014).

In contrast to U.S. studies that contain a detailed description of the process required to obtain research approval in methods section, this is either omitted or only briefly addressed in South Korean publications. Neither the approval of the school board nor consent form letters from parents are expected. The articles are usually as simple as saying “with the cooperation/permission of teachers of the classes/principal of the

school." That is to say, the more complicated and demanding procedure to obtain the permission to recruit minors as research participants may have resulted in the differences in the profile of participants between South Korea and other countries.

Conclusion

One of the most distinct differences in the construction of scientific knowledge about internet addiction across countries is the disparity in academic attention to internet addiction. One explanation for this disparity may be that the extent of material resources and investments in internet addiction research at the national level differs greatly among the three countries. For example, in the U.S. the first national-funded research on internet addiction was initiated as late as August 2017. Although internet addiction grew to draw attention from the U.S. mental health professionals and "internet gaming disorder" was included in the appendix of the *DSM-5* in 2013 as a "conditions for further research," internet addiction has largely remained a neglected issue at the state-level. The National Institutes of Health (NIH) decided to fund a two-year study on internet addiction for the first time in 2017, which was conducted at the University of Connecticut School of Medicine, focusing on cognitive behavioral treatments for internet gaming disorder (Booth 2017).

Conversely, in South Korea, the government has continuously collaborated with academia since the early 2000s to resolve internet addiction issues, such as the collaborative development of the *K-Scale* or a myriad of government-commissioned research projects. For example, in 2008 the Korea Communications Commission, a South Korean media regulation agency modeled after the Federal Communications Commission

of the U.S., commissioned research on media addiction, including the internet and smartphones. In 2014, five South Korean ministries – the Ministry of Science and ICT, the Ministry of Culture, Sports and Tourism, the Ministry of Trade, Industry and Energy, the Ministry of Health and Welfare, and the Ministry of Gender Equality and Family – together launched a R&D project on "internet/game detox," and for five years 21 million USD was invested in the research, which included a neuroscience study to explore the biometric evidence of internet addiction.

In Japan, the government has commissioned several studies on internet addiction since around 2003, and in 2011 Japan's first internet addiction treatment and research center was established at a national hospital. While the Japanese government is not as vigorously involved in internet addiction studies as the South Korean government, at least it recognized internet addiction as a social problem much earlier than the U.S. government, and has paid it occasional attention.

The findings in this chapter demonstrate that the construction of academic knowledge about a certain social problem is not necessarily the same across national societies. Academics produce and provide scientific ideas to define, conceptualize, and resolve a certain social problem, and in doing so they gain authority on the issue. However, basically, scientific knowledge about the social world is not necessarily an exact representation of it, because the represented knowledge is always filtered through acts of selection, foregrounding, and symbolization (Hyland 2016). In addition to this, due to the unsettled agreement on theory and methodology, the existing knowledge of internet addiction is barely generalizable and comparable. In a domestic academic setting, not to mention a global exchange of knowledge, the existence of multiple labels and diagnostic

criteria make it difficult to assess the actual status of internet addiction. In South Korea the terminology and measurement have reached a general consensus among scholars, but in Japan and the U.S., it is not an exaggeration to say that scholars are assessing the same condition using different criteria from each other. In recent years academics in more diverse range of academic disciplines have participated in internet addiction research, which enables a multifaceted approach to explore the social problem, without a solid academic basis, however, including universal diagnostic criteria and definition, the findings are always subject to debate.

The labels used in academia are also differently constructed from those identified in the news media. In the social construction of internet addiction, the mass media interacts with academia by reporting on major scientific findings or achievements and quoting academics as an authority on the social problem. The way the media industry portrays internet addiction determines what audiences read, watch, hear, and think about the social issue. Academia examines the same issue but labels it differently from the mass media. The public and academics are talking about the same social problem using different terms, but it seems that the subtle differences in labels are not a crucial issue in the news industry and academia. Rather, the different labels are implicitly assumed to refer to the same condition/phenomenon, and so they are in most cases used interchangeably. While both the media industry and academia contribute to the social construction of internet addiction, in which process they interact, their approach and perspective do not always correspond with each other.

Tables and Figures

Table 1. Labels referring to internet addiction identified in academic articles in South Korea, Japan, and the U.S., 1996-2014.

South Korea (N=471*)		Japan (N=53*)		The U.S. (N=68)	
Internet addiction (disorder)	362(77%)	Internet dependence (disorder)	24(45%)	Problematic internet use	25(37%)
Internet game addiction	67(14%)	Two or more terms used	7(13%)	Internet addiction	22(32%)
Game addiction	14(3%)	Internet addiction (*Chūdoku*)	7(13%)	Two or more terms used	4(6%)
Two or more terms used	7(1%)	Internet addiction (English-language)	4(8%)	Internet dependence/dependency	3(4%)
Game overindulgence	7(1%)	Game dependence	3(6%)	Compulsive internet use	2(3%)
Online game addiction	3(1%)	Social media dependence	2(4%)	Internet abuse	2(3%)
Internet shopping addiction	2(0%)	Internet addiction (*Shiheki*)	2(4%)	Computer addiction	2(3%)
Computer game overindulgence	2(0%)	Online game addiction	1(2%)	Pathological internet use	1(1%)
Internet pornography addiction	2(0%)	Mobile phone dependence	1(2%)	Internet gaming addiction	1(1%)
Internet game overindulgence	2(0%)	Internet media dependence	1(2%)	Online gaming dependency	1(1%)
Internet sex addiction	1(0%)	Problematic internet use (in English)	1(2%)	Game addiction	1(1%)
Internet gambling addiction	1(0%)			Excessive internet use	1(1%)
Online game overindulgence	1(0%)			Problematic internet gaming	1(1%)
				Problematic and risky internet use	1(1%)
				Addictive use of the internet	1(1%)

*In South Korea and Japan, articles written in English were excluded. To be specific, 61 and 2 samples were excluded from South Korea and Japan, respectively.

Table 2. Labels in original language and English translation.

Original Language: Korean	English translation	Original Language: Japanese	English translation
Internet game addiction	Internet game addictive inclination	Internet dependence	Internet addiction
Game addiction	Excessive absorption on games	Social media dependence	Social media addiction
Game overindulgence	Game immersion	Online game addiction	Online game poisoning
Internet addiction	Internet dependency	Mobile phone dependence	Mobile phone addiction
Internet addiction	Internet intoxication	Game dependence	Game addiction
Internet and game dependence	Internet addiction	Internet game dependence	Online game addiction
Internet game overindulgence	Internet game addiction	Internet-media dependence	Internet-media addiction
Online game addiction	Problematic online game uses	Internet/mobile phone dependence	Problematic use of internet/cell phone

Table 3. Specialization of first author in academic articles on internet addiction in South Korea, Japan, and the U.S., 1996-2014.

South Korea (N=532)		Japan (N=55)		The U.S. (N=68)	
Not available	74 (14%)	Education	8 (15%)	Psychology	14 (21%)
Off-campus affiliations	63 (12%)	Not available	8 (15%)	Psychiatry	10 (15%)
Social Welfare	62 (12%)	Off-campus affiliations	8 (15%)	Off-campus affiliations	7 (10%)
Nursing	54 (10%)	Psychology	7 (13%)	Telecommunication, Media, Computer Studies	6 (9%)
Psychiatry	50 (9%)	Information studies	5 (9%)	Not available	6 (9%)
Education	35 (7%)	Medicine	4 (7%)	Medicine	6 (9%)
Psychology	29 (5%)	Sociology	3 (5%)	Communication	4 (6%)
Others	24 (5%)	Human-environment studies	3 (5%)	Nursing	3 (4%)
Media/Communication Studies	20 (4%)	Human science (interdisciplinary discipline)	2 (4%)	Pediatrics	3 (4%)
Child & Family Studies/Home economics	17 (3%)	Welfare	1 (2%)	Social Science	2 (3%)
Counseling	17 (3%)	Nursing	1 (2%)	Anthropology	2 (3%)
Computer Education	13 (2%)	Electro-communications	1 (2%)	Business	1 (1%)
Information and Computer Engineering	13 (2%)	Law	1 (2%)	Hospitality and Tourism Management	1 (1%)
Public Health	9 (2%)	Political economy	1 (2%)	Applied and natural science	1 (1%)
Early Child Education	9 (2%)	Engineering	1 (2%)	Radiology	1 (1%)
Public Administration/Governance	8 (2%)	Humanities	1 (2%)	Social work	1 (1%)
Medicine	7 (1%)				
Business	6 (1%)				
Sports	6 (1%)				
Liberal Art Studies	5 (1%)				
Youth Studies	5 (1%)				
Consumer Studies	3 (1%)				
Clothing & Textiles	3 (1%)				

Table 4. Subject areas of journals that published internet addiction studies in South Korea, Japan, and the U.S., 1996-2014.

South Korea (N=532)			Japan (N=55)			The U.S. (N=68)		
Social Science	Youth Studies	67 (13%)	Social Science	Education	12 (22%)	Social Science	Psychology	23 (34%)
	Education	62 (12%)		Psychology/Behavioral sciences	11 (20%)		Social Science	1 (1%)
	Psychology	43 (8%)		Welfare	2 (4%)	Medicine	Psychiatry	9 (13%)
	Welfare	37 (7%)		Information/Communication	1 (2%)		Medicine	9 (13%)
	Counseling	32 (6%)		Human Science	1 (2%)		Nursing	4 (6%)
.	Social Science	15 (3%)	Medicine	Psychiatry/Mental Health	6 (11%)	Interdisciplinary		22 (32%)
	Media/Communication	14 (3%)		Medicine	2 (4%)			
	Law	6 (1%)		Nursing	1 (2%)			
	Business	5 (1%)		Health	3 (5%)			
	Policy Studies	3 (1%)	Interdisciplinary	Social Informatics	6 (11%)			
.	Public Administration	3 (1%)		Addictive Behaviors Studies	1 (2%)			
	Economics/Management	2 (0%)	Engineering	Computer	4 (7%)			
	Regional Studies	1 (0%)	Not Applicable		3 (5%)			
	Sociology	1 (0%)	Humanities	Humanities	2 (4%)			
	Tourism	1 (0%)						
Medicine	Nursing	45 (8%)						
	Psychiatry	44 (8%)						
	Medicine	16 (3%)						
	Health Science	16 (3%)						
Engineering	Computer Science	19 (4%)						
	General Engineering	18 (3%)						
	Information/Communication	10 (2%)						
	Electricity/Electronics	4 (1%)						
	Industrial Engineering	1 (0%)						

Human Ecology		31 (6%)		
Interdisciplinary		16 (3%)		
Humanities	Humanities	6 (1%)		
	Christian Theology	4 (1%)		
Sport		8 (2%)		
Natural Science	Statistics	2 (0%)		

Table 5. Changes over time in the Herfindahl-Hirschman index of specialization of first authors and subject area of journals, 1996-2014.

	Specialization of first author			Subject area of journals		
Year	South Korea	Japan	The U.S.	South Korea	Japan	The U.S.
-2000			0.2187			0.2835
2001-2005	0.0872	0.28	0.2576	0.1044	0.36	0.4476
2006-2010	0.0911	0.1404	0.1127	0.0715	0.25	0.2606
2011-2014	0.0779	0.0891	0.1071	0.0743	0.1161	0.2676

Table 6. Research participants by age range identified in the South Korean, Japanese, and U.S. samples, 1996-2014.

	South Korea (N=500)		Japan (N=39)		The U.S. (N=50)	
Children	Middle & high school students	108 (22%)	Middle school students	5 (13%)	High School Students	4 (8%)
	Middle school students	86 (17%)	Element, middle, & high school students	3 (8%)	Middle school students	2 (4%)
	Elementary school students	64 (13%)	High school students	2 (5%)	Adolescents	1 (2%)
	High school students	54 (11%)	Middle & high school students	2 (5%)	Elementary school students	1 (2%)
	Adolescents/Children/Teenagers	35 (7%)	Elementary & middle school students	2 (5%)	Middle & high school students	2 (2%)
	Elementary, middle, & high school students	18 (4%)				
	Preschoolers	12 (2%)				
	Elementary and middle school students	11 (2%)				
	Subtotal	388 (78%)	**Subtotal**	14 (36%)	**Subtotal**	9 (18%)
Adults	College students	60 (12%)	College Students	16 (41%)	College students	22 (44%)
	Adults (including college students)	20 (4%)	Adults (including college students)	2 (5%)	Adults & young adults (18 or older)	6 (12%)
	Over 60 years old	1 (0%)				
	Subtotal	81 (16%)	**Subtotal**	18 (46%)	**Subtotal**	28 (56%)
Children and Adults	Youth (15-24 years old)	4 (1%)	High school & college students	1 (3%)	Adolescents & young adults	1 (2%)
	High school & college students	3 (1%)				
	Elementary, middle, high school, &college students	1 (0%)				
	Middle, high school & college students	1 (0%)				
	Adolescents & college students	1 (0%)				
	10s and 20s	1 (0%)				
	16-59 years old	1 (0%)				
	Subtotal	12 (2%)	**Subtotal**	1 (3%)	**Subtotal**	1 (2%)
Others	Age range not specified	19 (4%)		6 (15%)		12 (24%)

Table 7. Diagnostic criteria for internet addiction identified in the South Korean, Japanese, and U.S. samples, 1996-2014.

South Korea (N=457)	
K-Scale	169 (37%)
Internet Addiction Test (IAT; Young 1998)	160 (35%)
Adopted/modified existing diagnostic criteria	32 (7%)
G-scale (2006)	26 (6%)
Others	19 (4%)
Korean Internet Addiction Scale (KIAS; Kang & Oh 2001)	12 (3%)
Not specified	7 (2%)
Internet game addiction diagnostic scale (Lee 2001)	6 (1%)
Adolescent Internet game addiction scale (Kim 2002)	5 (1%)
Korean Adolescent Internet Addiction Scale (K-AIAS; Kim et al. 2003)	4 (1%)
internet game addiction diagnostic scale (Lee & Ahn 2002)	4 (1%)
Kim et al. (2002)	3 (1%)
Kang & Oh (2002)	2 (0%)
Internet Game Addiction Scale for Children and Adolescents (Lee 2006)	2 (0%)
Computer Games Overindulgence Scale for Young Children (Jung 2006)	2 (0%)
Comprehensive Scale for assessing Game behavior (CSG; Korea Creative Content Agency 2010)	2 (0%)
Smartphone Addiction Rating Scale (Shin et al. 2011)	2 (0%)
Japan (N=37)	
Internet Addiction Test (IAT; Young 1998)	18 (49%)
Adopted/modified existing diagnostic criteria	8 (22%)
Zheng (2007)	3 (8%)
Others	3 (8%)
Insufficient information	3 (8%)
Mobile phone dependence checklist (Uozumi 2005)	2 (5%)
The U.S. (N=47)	
Internet Addiction Test (IAT; Young 1998)	16 (34%)
Adopted/modified existing diagnostic criteria	13 (28%)
Others	9 (19%)
Insufficient information	3 (6%)
K-Scale (2002) and KS-Scale (2008)	2 (4%)
Generalized Problematic Internet Use Scale (GPIUS; Caplan 2002)	2 (4%)
The Problematic Internet Use Questionnaire (PIUQ; Demetrovics et al. 2008)	2 (4%)

Table 8. Research aims of studies on internet addiction identified in the South Korean, Japanese, and U.S. sample, 1996-2014.

South Korea (N=532)		Japan (N=55)		The U.S. (N=68)	
Analysis of association*	343 (64%)	Analysis of association*	26 (38%)	Analysis of association*	29 (43%)
Survey on the prevalence of IA	50 (9%)	Survey on the prevalence of IA	11 (16%)	Overview	13 (19%)
Others	46 (8%)	Overview	10 (14%)	Development of diagnostic criteria	6 (9%)
Evaluation of existing treatment programs	22 (4%)	Others	8 (12%)	Survey on the prevalence of IA	6 (9%)
Development of prevention programs	20 (4%)	Development of diagnostic criteria	6 (9%)	Others	5 (7%)
Development of diagnostic criteria	18 (3%)	Meta-analysis	4 (6%)	Comparative analysis	2 (3%)
Overview	15 (3%)	Comparative analysis	3 (4%)	Meta-analysis	2 (3%)
Qualitative/Case study	15 (%3)	Qualitative/Case study	1 (1%)	Development of prediction models	2 (3%)
Development of prediction models	13 (2%)			Evaluation of existing treatment program	2 (3%)
Neurophysiological study	12 (2%)			Qualitative/Case study	1 (1%)
Comparative analysis	6 (1%)			Neurophysiological study	1 (1%)
Meta-analysis	6 (1%)				
Total**	566		69		68

* Analysis of association between internet addiction and certain variable(s).

** Since some articles pursue more than one aim, the totals in Table 8 are greater than the actual number of publications (N).

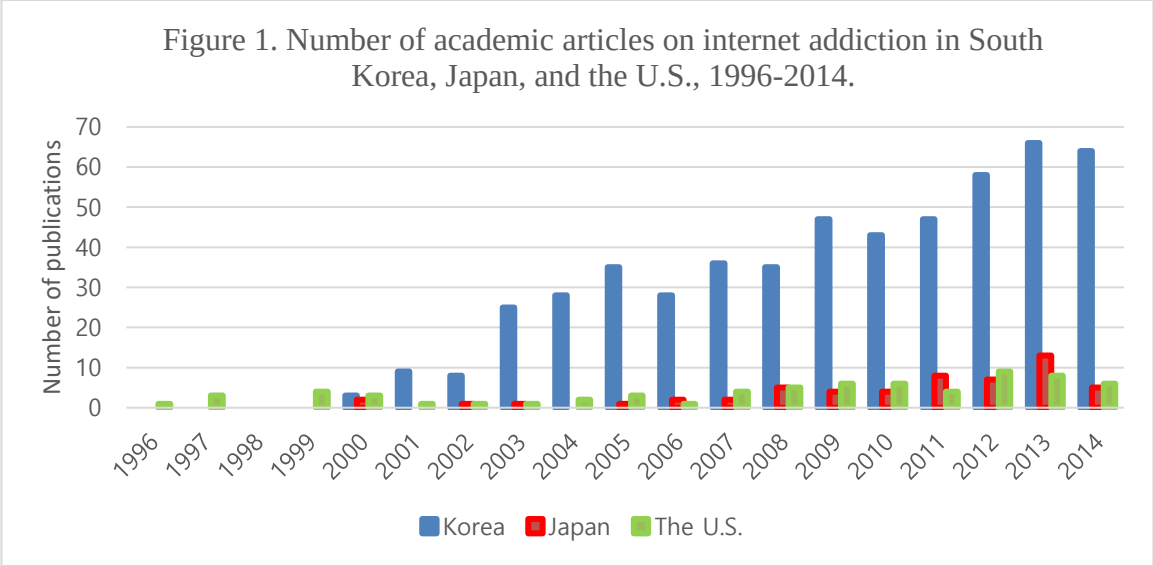


Figure 1. Number of academic articles on internet addiction in South Korea, Japan, and the U.S., 1996-2014.

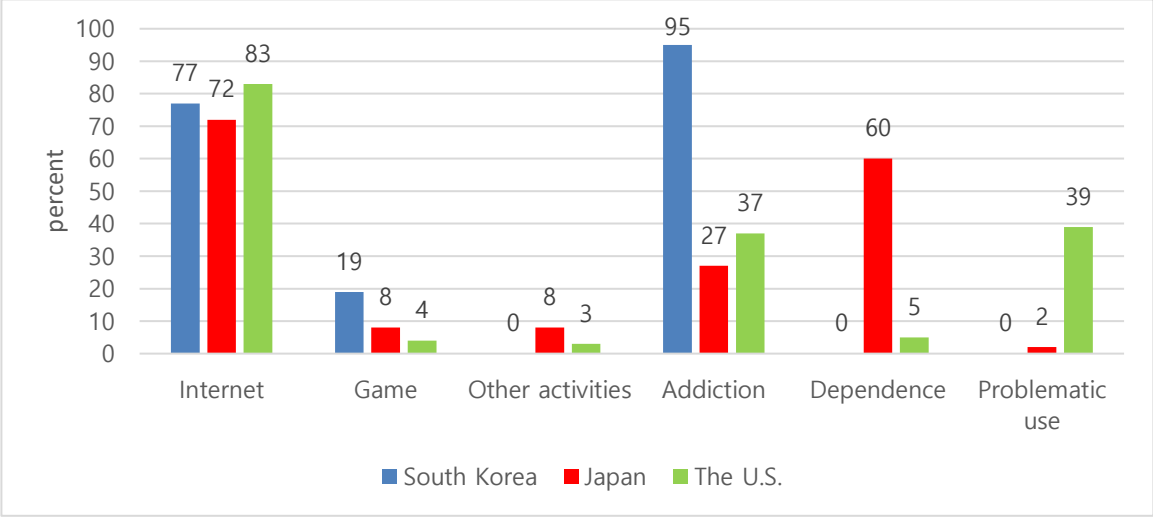


Figure 2. Percentage of labels that include a particular online activity or pathological status, identified in academic articles in South Korea, Japan, and the U.S., 1996-2014.

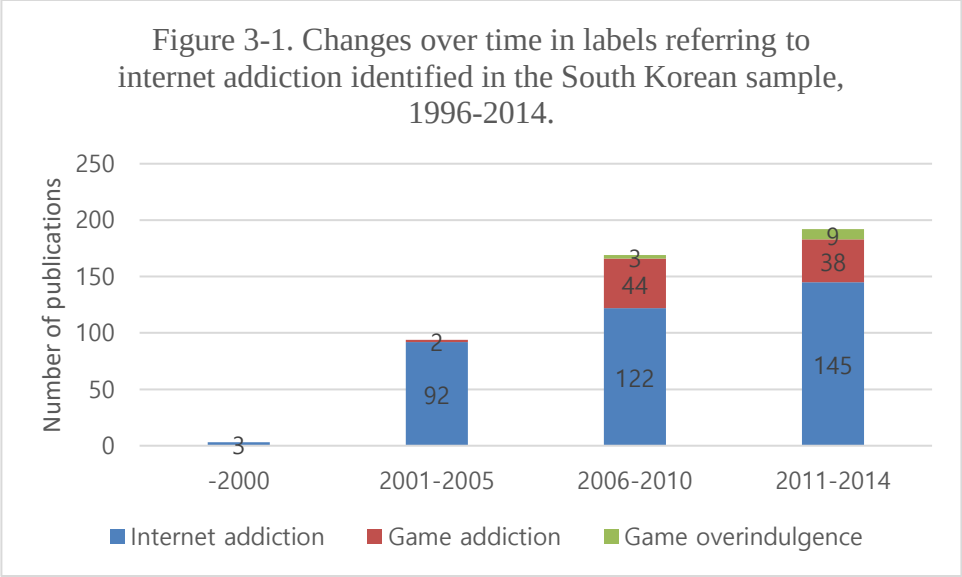


Figure 3-1. Changes over time in labels referring to internet addiction identified in the South Korean sample, 1996-2014.

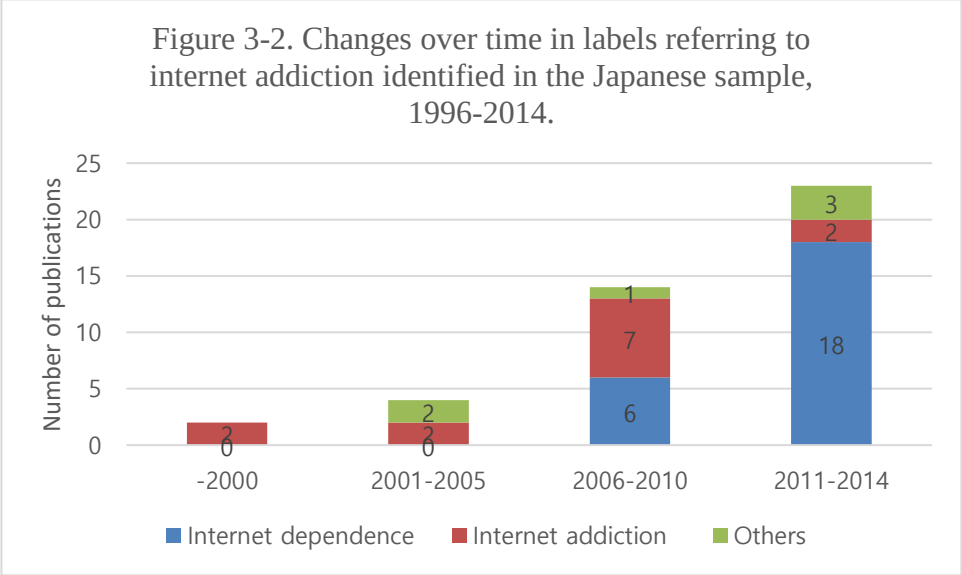


Figure 3-2. Changes over time in labels referring to internet addiction identified in the Japanese sample, 1996-2014.

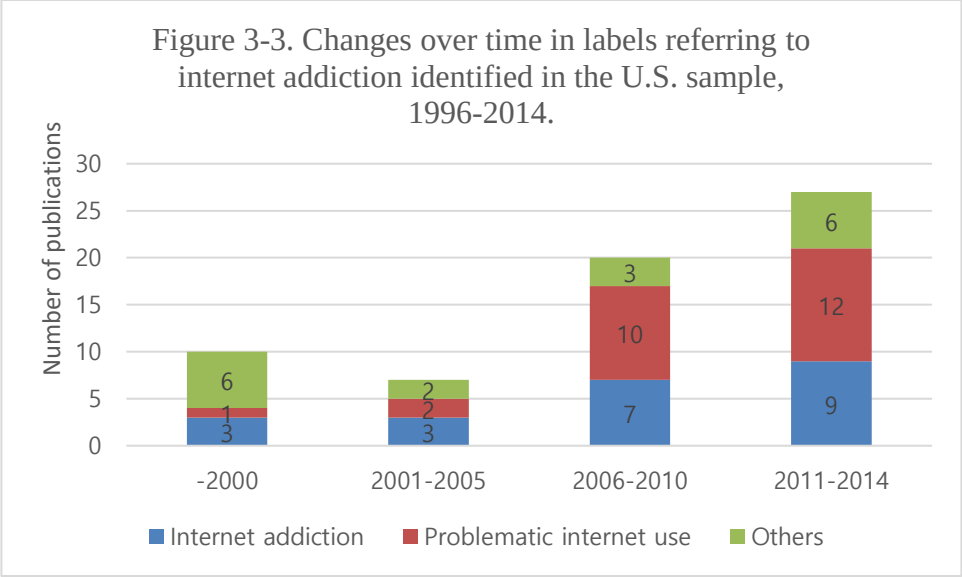


Figure 3-3. Changes over time in labels referring to internet addiction identified in the U.S. sample, 1996-2014.

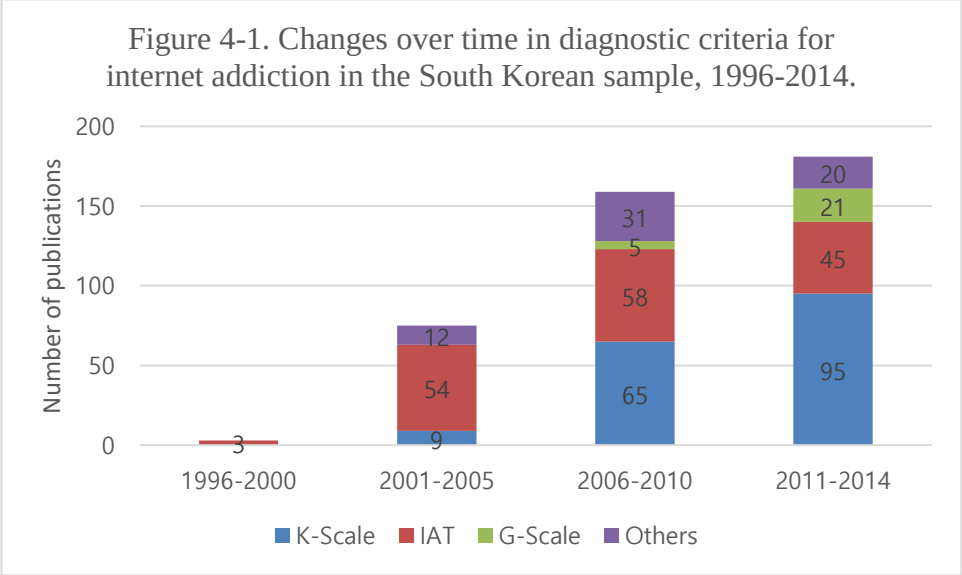


Figure 4-1. Changes over time in diagnostic criteria for internet addiction in the South Korean sample, 1996-2014.

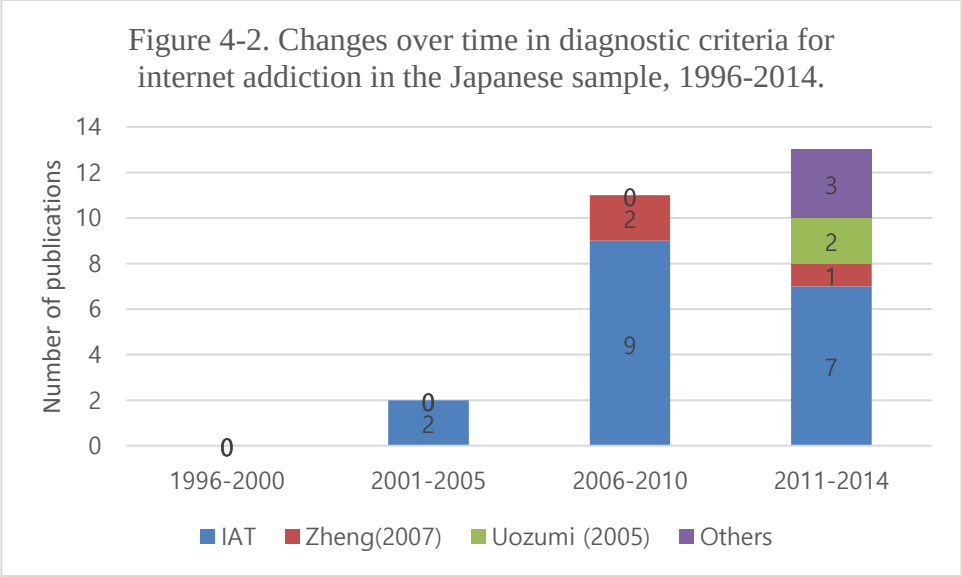


Figure 4-2. Changes over time in diagnostic criteria for internet addiction in the Japanese sample, 1996-2014.

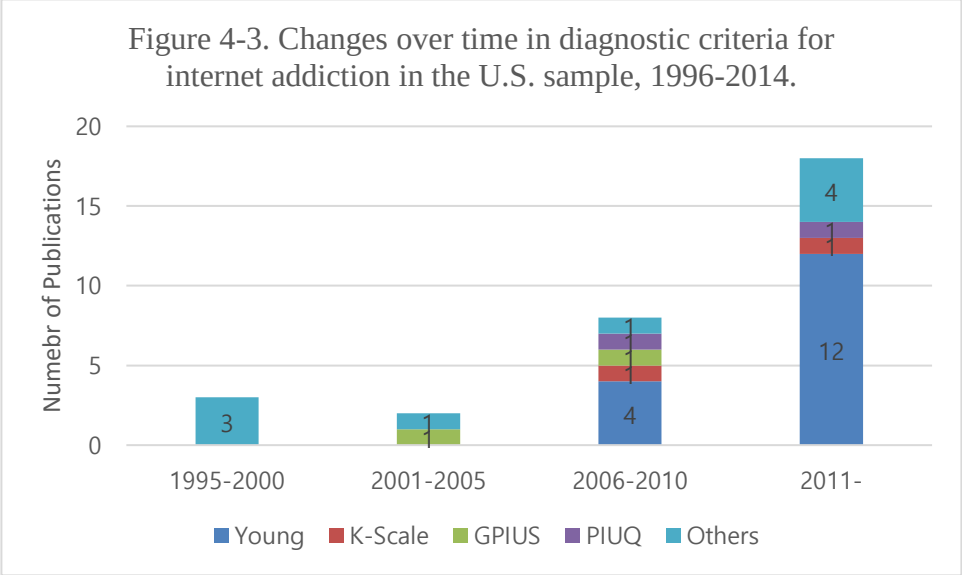


Figure 4-3. Changes over time in diagnostic criteria for internet addiction in the U.S. sample, 1996-2014.

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Chapter 4. The Role of the Government in the Construction of Internet Addiction

Introduction

The social construction of a social problem involves the government in a number of ways. The government can be one of the claims-makers who brings a certain issue to public attention and shapes its meaning and images. It also implements public policy and social services in order to provide a solution to a social problem. In this chapter, by reviewing and comparing government documents and publications from three countries – South Korea, Japan, and the U.S. – I explore how the government of each country has engaged in the construction of internet addiction, focusing especially on: 1) whether the government is aware of the existence/significance of internet addiction, if so, 2) what stance the government takes, and 3) how the government has contributed to constructing the meaning of and solution to internet addiction.

The results show that there are distinct differences between the three countries. Firstly, the South Korean government became aware of the existence of internet addiction and its potential risks as early as around 2000 and has acted as a primary claims-maker from the very beginning, constructing its definition and solution to the social problem. Its range of efforts includes the establishment of government-run Internet Addiction Prevention Centers, the annually conducted nation-wide survey on internet addiction, the development of a diagnostic instrument (*the K-Scale*), the launch of programs and campaigns to prevent internet addiction, and so on. Such efforts encouraged the public to evaluate internet addiction as a serious social problem. It is also the government that persuaded the public to

see internet addiction in a specific way, by deliberately using terms such as "internet overdependence," or "game overindulgence." A substantial percentage of people think that both the public sector (e.g., the government or schools) as well as individuals/the family is responsible for solving the pervasive problem, and the government's intense involvement in this social problem also appears to have been widely recognized by the public (National Information Society Agency 2012). The South Korean government has formulated state-level comprehensive plans since 2010 for the prevention and treatment of internet addiction by agilely responding to fast-changing social environments. As a result, South Korea now has a very forward-looking and elaborate policy on internet addiction. As more government agencies become involved in the issue, however, their conflicting objects and views on the internet – especially, online gaming – have inevitably generated disagreements in implementing policies, which brought about public confusion regarding a coherent perception of the social problem.

On the other hand, the Japanese government appears to have a somewhat lukewarm attitude toward internet addiction. It is aware of the existence of internet addiction and its risks. Internet addiction is regarded as a social problem in Japan as well, but neither urgent nor salient enough for the government to give it undivided attention. Rather, internet addiction exists as a sub-category of a more comprehensive agenda, which is to create a healthier and safer online environment for children.

A review of U.S. government websites shows that, to date, almost no state-level attention has been given to internet addiction. One interesting finding from the data reviewed in this chapter is that there is a considerable disparity between the three countries regarding the availability and quality of government documents on internet addiction. Unlike South Korea

and Japan, not a single government document was identified on the U.S. government websites. The quantity and quality of government documents on a certain subject can be used as a barometer to assess a government's level of attention to the topic. While some of the media, researchers, and professionals in the medical field have attempted to bring internet addiction to the public attention, the U.S. government has remained silent. Given the scope of areas in which a government is active, this absence itself is significant.

The World Health Organization (WHO)'s decision to include internet addiction ("gaming disorder," technically speaking) in *the International Classification of Diseases 11th Revision* (*ICD-11)* may be a turning point for the U.S. government in treating internet addiction issues. Since the U.S. is one of the WHO member states, it is expected to accept the decision and recognize internet addiction as a disorder. The recognition of a new disorder requires public health agencies and officials to evaluate and decide what measures should be taken to prevent and reduce the impact of the new illness. Whatever the government decides about internet addiction will affect the medical sector, including the health insurance industry. Since not every illness develops to become a social problem, the U.S. government may continue avoiding the admission that internet addiction is a "social problem." At least now, however, it is the time for the U.S. government needs to recognize internet addiction as a new "illness."

Data and Methods

The data used in this chapter is mostly sourced from official government websites. Every major government agency runs a website which provides extensive information about that agency, including policies, press releases, published materials, news, whitepapers, statistics,

and so on. The content is open for public use and so anyone can access it without restrictions. The types of government documents reviewed in this chapter include white papers, statistics, news, research reports,[33] press releases, media conferences, publications, and proceedings of public hearings/meetings.

Government websites provide a search function, and so it was possible to identify documents, including any content relevant to internet addiction. The absence of an officially designated label to refer to internet addiction was challenging, however. As shown in the previous chapters, internet addiction is given dozens of different labels (e.g., "problematic internet use," "internet overuse," "excessive internet use," "internet dependence," to name a few), none of which is official. The preference for a specific label varies greatly by country. Thus country-specific search keywords are required to improve the exhaustiveness and representativeness of the sample. Based on the findings in Chapters 2 and 3, I selected the following keywords for each country:[34] South Korea – internet addiction (disorder), (internet/online) game addiction (disorder), (computer/internet/online) game overindulgence, cyber addiction (disorder), smartphone addiction, (internet/smartphone) overdependence; Japan – internet dependence (disorder/syndrome), internet addiction (disorder/syndrome), (internet/online) game dependence (disorder), social media dependence, smartphone

[33] Research reports also include government-commissioned research. Regardless of the affiliation of the author(s), I reviewed all research reports once they were published by a government agency and uploaded onto government websites.

[34] Refer to Table 1 of Chapter 2 and Table 1 of Chapter 3 to see the ranked list of terms that are used to refer to internet addiction in newspaper articles and academic papers, respectively.

dependence disorder, media dependence; and the U.S. – internet addiction, game/gaming addiction, video game addiction, computer addiction, compulsive internet use, on-line/online addiction, web addiction, excessive internet use, pathological internet use, excessive computer use, internet abuse, obsessive computer use, cybersex addiction, internet overuse, pathological internet use, online abuse, computer abuse, heavy computer use, internetomania, net addiction, email addiction, online overuse, web obsession, problematic internet use, smartphone addiction, cyber addiction, internet overindulgence, and i-Phone addiction.

Results

South Korea

In South Korea, the government is a primary decision-maker with regard to internet addiction. A review of government documents reveals that the South Korean government started to recognize the risks of internet addiction as early as around 2000. The Information Culture Center (ICC) of Korea, which is a former government agency established by *the Act on the Expansion of Dissemination and Promotion of Utilization of Information Systems* to enhance South Korean people's information literacy, commissioned research into internet addiction in 2001. The study includes a survey on internet addiction and two case studies of online game users, in which 39.8 percent of respondents turned out to be addicted to the internet (Hwang et al. 2001). Given that the respondents were recruited online, and the internet penetration rate was much lower in 2001 than it is now, those who answered the online survey were likely to be heavy internet users or early adopters. While the validity of the results is in question, the existence of this research indicates that the South Korean

government recognized the rise of internet addiction no later than 2001, which is relatively early given that internet addiction at that time was still a nascent concept.

In 2002 the government established an Internet Addiction Prevention Center at the National Information Society Agency (NIA), which was the first government-run internet addiction program worldwide. According to *The Framework Act on National Informatization*, which was first legislated in 1995 and then gradually amended, the Minister of Science, ICT and Future Planning, and the Minister of the Interior were to establish the NIA[35] to "support the development of policies for promoting national informatization of national agencies, the creation of sound information culture, and the narrowing of the digital divide." One of the projects carried out by the NIA is the "support for the advancement of information culture and status survey, prevention, and treatment of internet addiction" (*The Framework Act on National Informatization*, Article 14). Based on this act, the NIA has conducted an annual nation-wide survey on internet addiction since 2004. The survey aims to determine the objective condition of internet addiction in South Korea and produce a reliable statistical source for relevant government agencies and academics, so that it can contribute to research and policymaking. Given that this is the first nationally representative survey on internet addiction in the world, the South Korean government was very well aware of the potential risks of excessive internet use much sooner than any other countries.

[35] Formerly, Korea Agency for Digital Opportunity and Promotion (KADO) was the primary governmental agency handling internet addiction in South Korea, then in 2009 it was merged with (former) National Information Society Agency and together launched as the current National Information Society Agency (NIA).

The survey on internet addiction

Tracing the changes in the annual survey on internet addiction over time reveals how the South Korean government's perspective on internet addiction has evolved. With the advance of new information and communications technologies (ICTs), the government has gradually elaborated and updated the questionnaire and sampling methods of the survey, so that it can reflect the rapid penetration of ICTs and the accompanying social changes. Firstly, the age range of respondents has expanded from 9-39 years old (2004-2010), to 5-49 years old (2011-2012), 5-54 years old (2013), 3-59 years old (2014-2015), and then eventually to 3-69 years old (2016-2017) in order to include increasing internet use by young children and seniors, as the diffusion of smart devices (e.g., smartphones) made internet access much more convenient and easier than ever before. Accordingly, the sample size has significantly increased from 2,000 people in 2004 to 10,000 households (29,712 people) in 2017.

Secondly, the emerging platform for internet access, the smartphone, resulted in major changes to the survey. It was not until the 2010 edition that the term "smartphone" appeared in the survey for the first time. In the 2010 survey, only 17.7 percent reported that they had used a smartphone for internet access within the past month, and the average duration of daily internet usage via a smartphone was 48 minutes. In 2015, however, the number of smartphone users had reached 43,058,008, which is about 84 percent of the population of South Korea, and on average people used a smartphone for 4.6 hours per day (Korea Internet & Security Agency 2016). With the rapid penetration of smartphones in mind, the government began to re-construct the terms, measurements, content, and even the title of the survey to fully reflect the fast-changing social and technological contexts. The 2011 survey was a new starting point, manifesting a transition to the smartphone age. Until 2010 the

survey did not particularly provide a detailed definition of "internet usage" regarding the type of internet access in the "Concepts and Definitions" section, because at that time, unless otherwise indicated, internet access mostly referred to wired access via PCs. From the 2011 edition, however, the survey began to provide a definition of "internet usage" as "wired or/and wireless internet access regardless of the type of devices, such as PC or smartphone" to reflect the fast-increasing penetration of smartphones. Accordingly, the definition of "internet users" has also slightly changed from "those who used the internet at least once in the past one month" (2004-2010), to "those who used the wired/wireless internet at least once in the past one month via any devices such as smart devices, PC, and so on" (2011-2016), and then to "those who used the internet via smartphone at least once in the past one month" [36] (2017) to put more weight on smartphone use.

The 2004-2010 surveys employed the *K-Scale* (K refers to Korea) as a measurement of internet addiction, which is a questionnaire developed in 2002 by the government in collaboration with academics to measure the presence and severity of internet addiction. From the 2011 survey, the *S-Scale* (S refers to smartphone) was introduced for the first time, in addition to the *K-Scale,* which was a scale newly developed by the NIA in 2011 specifically to measure smartphone addiction. Since the 2011 survey, respondents have been asked to respond to both the *K-Scale* and the *S-Scale* so that the survey can calculate the internet addiction rate and smartphone addiction rate, respectively.[37] From 2016, the *K-Scale*

[36] In the survey the term "smartphone" also includes smart tablets (e.g., iPad).

[37] The result of the first nationally representative smartphone addiction survey in 2011 showed that the smartphone addiction rate was as high as 8.4 percent, which is even higher than the internet addiction rate (7.7 percent) (source: *The Survey on Internet Addiction* 2011).

was integrated into the *S-Scale*, so that the annual survey currently employs the *S-Scale* only. The 2016 edition, thus, while the survey title was still *The Survey on Internet Overdependence*, it actually measured and examined smartphone addiction, not internet addiction. As the content of the survey had evolved around smartphones, the survey title changed in 2017 from *The Survey on Internet Overdependence*[38] to *The Survey on Smartphone Overdependence*, demonstrating that the focus of the survey had been shifted from the PC-based internet to smartphones. The *K-Scale* has thus no longer been in use since the 2016 survey and has been completely replaced by the *S-Scale*.

The transition from "internet" addiction to "smartphone" addiction begs the question of whether smartphone addiction is an exact equivalent of internet addiction. While the internet is a medium/virtual space through/in which users can be engaged in various activities (e.g., games, chats, gambling, video-streaming, shopping, and so on), a smartphone is one of many platforms/smart devices that enables internet access. Given this, it is questionable whether it is plausible to say that people are addicted to a physical device, which is neither a substance nor a behavior.

A comparison of the definitions of "internet addiction" and "smartphone overdependence" reveals that the two are quite different. Firstly, in the survey "internet addiction" is defined as "the state in which internet users have withdrawal symptoms and develop tolerance to internet use due to the excessive use of the internet, and suffer problems in their everyday lives" (National Information Society Agency 2011: 5). On the other hand,

[38] The title had changed once in 2015 from *The Survey on Internet Addiction* to *The Survey on Internet Overdependence.*

"smartphone overdependence" is defined as follows: "the state of experiencing serious consequences, as excessive use of a smartphone increases the dependence on smartphones and decreases self-control" (National Information Society Agency 2017: 8). Compared to internet addiction, the newer term gives the impression that it is the particular device/platform itself rather than the excessive or problematic use of it that results in addiction.

Other than the transition from the (PC-based) internet to smartphone, the survey started to include even newer technologies in its questionnaire from the 2016 edition, such as asking respondents whether they have tried VR (virtual reality), AR (augmented reality), and/or MR (mixed reality), or own devices to use them. According to the results, while just 8.7 percent of smartphone users had ever experienced VR, AR, or MR,[39] the percentage is as high as 15 percent among the high-risk group (National Information Society Agency 2016). Given that the following year the survey included questions on VR/AR/MR again, the government may consider the new technologies as a "new smartphone" in internet addiction policymaking.

Another noteworthy point in the annual survey is the government's attention to "vulnerable groups," whose demographic characteristics are considered to be, or turn out, more prone to internet addiction. As repeated surveys provide the government with accumulated data on internet addiction, the government realized that there may be demographic features associate with higher internet addiction rate than average. In the 2008

[39] 62.1 percent of respondents who answered yes to this question said they used VR/AR/MR to play video (e.g., movies, TV shows, and adult content), followed by games (61.7 percent), study/work (27.1 percent), practical information such as AR maps (18.1 percent), and communication (11.1 percent) (National Information Society Agency 2016).

edition, the survey included a featured section on "the present condition of internet addiction risk group" for the first time since its first survey in 2004, in which a respondent's family type, life satisfaction, and external factors (e.g., school/work performance, stress, and relationship satisfaction) were analyzed. It then determined that the children of single-parent families, those whose marital status is divorced/widowed/separated, and the unemployed show higher internet addiction rates. This attempt to identify vulnerable groups is meaningful in that it enables the government to establish more effective strategies for internet addiction prevention. In 2009, in addition to the three categories,[40] the children of dual-income families were newly included in the vulnerable groups, implying that their relative vulnerability results from the lack of parental supervision. The range of vulnerable groups was then further expanded in 2010 to include "multi-cultural families" (or *damoonhwa-gajok*, in Korean),[41] the physically-challenged, and low-income families. Although the inclusion and exclusion of specific groups varied by year,[42] the survey had provided an analysis of vulnerable groups until 2015.

[40] Unlike the 2008 results, in 2009 the internet addiction rate of never-married adults (10.3 percent) turned out to be much higher than the married (4.5 percent) and the divorced/separated/widowed (2.7 percent).

[41] "Multi-cultural families" is a term formally used in South Korea to refer to a family comprised of immigrants by marriage and persons/a person who have/has thus acquired the nationality of the Republic of Korea. That is, in the survey when one of the parent's current/original nationality is not Korean, the family falls into to the category.

[42] In 2015, North Korean refugees were a newly included vulnerable group.

Even though the categorization may further stigmatize specific demographic groups, the results motivated the government to initiate more detailed policies on internet addiction to meet the special needs of those vulnerable groups, such as home-visit counseling services for the physically-challenged or education programs for foreign spouses. Given that most studies on internet addiction focus on young children or/and adolescents as a vulnerable group, it is plausible to say that the South Korean government is one step ahead from the dichotomous idea of "children versus adults," and that it associates internet addiction with socially disadvantaged groups.

Lastly, a review of the survey data indicates that there is social consensus among Korean people that the government is playing a primary role in the prevention and treatment of internet addiction. Some of the 2008 questions ask whether or not respondents are aware of the concept/term "internet addiction," the seriousness of internet addiction problems, and government policy on internet addiction, which questions were included in the survey for the first time.[43] The survey has kept including questions on government policy since then. For example, the 2017 survey contains an additional question about priorities in policymaking, in addition to the basic questions above.

[43]The results are as follows: 84.9 percent of respondents answered that they had heard of the term "internet addiction" from media coverage (61.9 percent), school/workplace (22.2 percent), or the internet (8.4 percent), 83.9 percent evaluated it as a serious social problem, and 73.8 percent of the respondents answered that the government is responsible for resolving the problem. However, no more than 25.7 percent of the respondents said they were aware of government policy on internet addiction prevention.

A review of the survey results reveals that the government's policymaking is based on the nationwide awareness of internet addiction as a serious social problem (see Figure 1), and Korean people are well aware that the government is working to solve the problem of internet addiction.[44] To be specific, the percentage of those who responded "I have never heard of any government policy on internet addiction" was as high as 74.3 in 2008 and 85.6 in 2009, however, in 2012 only 14.9 percent agreed with the same question. Given the findings of Chapter 1 (See Figure 1), this may reflect the increased news coverage on internet addiction during the period between 2010 and 2012 focusing especially the government's initiatives such as newly implemented laws (e.g., the "shutdown law") or heated political debates centering regulations on excessive online gaming. While the survey no longer includes the same question as in the 2013 edition, the trend between 2008 and 2012 implies that most Korean people have come to notice the government's effort to prevent internet addiction. Although it is hard to say whether the public awareness of internet addiction pushed the government to intervene in the social problem or whether it is the government that enlightened the public about the seriousness of internet addiction, the survey confirms the widespread social consensus about the government's role in resolving internet addiction problems.

[44] The percentage of those who responded that internet addiction is a serious problem shows a significant decrease in the recent years, which seems partially due to the newly introduced unfamiliar term "overdependence." Until the 2014 edition, the term used in the survey was internet/smartphone "addiction," but as of 2015 the term was modified to "overdependence." Given that there was a distinct drop from the very year the new term was introduced, it is plausible to say the results resulted from respondents' unfamiliarity with the replacement term.

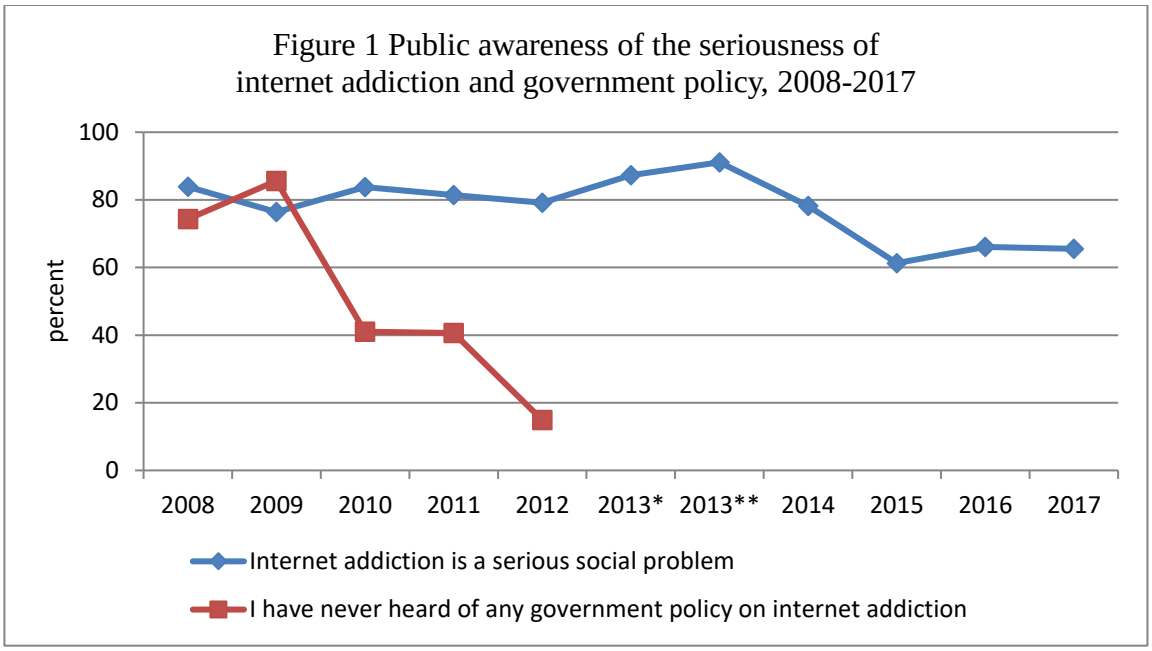


Figure 1. Public awareness of the seriousness of internet addiction and government policy, 2008-2017.

* Internet addiction

**Smartphone addiction

Source: *The Survey on Internet Addiction* 2008-2017

Comprehensive plans on internet addiction

As Table 1 shows, in 2010 the government launched the first three-year *Comprehensive Plan to Prevent and Resolve Internet Addiction* based on *The Framework Act on National Informatization*.[45] The plan was made possible by the collaboration among seven government departments, academia, industry, addiction therapists/counselors, and educators. The seven government departments – six ministries and one government agency – involved

[45] The article 30 of the Act reads "(1) The Minister of Science, ICT and Future Planning shall formulate a comprehensive plan for the prevention and elimination of internet addiction (hereinafter referred to as "comprehensive plan") every three years, after consultation with the heads of relevant central administrative agencies."

in the 2010-2012 comprehensive plan are as follows: 1) The Ministry of the Interior and Safety, 2) The Ministry of Education, Science and Technology,[46] 3) The Ministry of Culture, Sports and Tourism, 4) Ministry for Health, Welfare and Family Affairs,[47] 5) The Ministry of Justice, 6) The Ministry of National Defense, and 7) The Korea Communications Commission. In addition, from the third phase of 2016-2018, the Ministry of Trade, Industry and Energy joined the list. A media conference took place on March 15th 2010 to announce the official launch of the first phase of the comprehensive plan, during which the close cooperation of the seven government departments in resolving the social problem was particularly emphasized (Ministry of the Interior and Safety 2010), implying that in South Korea internet addiction is a prevalent and urgent social problem that requires pan-government cooperation.

While the involvement of as many as nine government departments indicates the significance of the comprehensive plan, it does not necessarily guarantee efficiency in actual policy implementation. Since each government ministry has its own area of specialty and perspective on internet addiction, it may result in additional conflicts, dilemmas, or overlapping areas in implementing policy. For example, the Ministry of Education is currently working to provide educational programs on internet addiction to students, and the goal of the Ministry of Gender Equality and Family is to protect adolescents from the harmful influence of (online) gaming/games: that is, both target adolescents/children.

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[46] It had been split into the Ministry of Science, ICT and Future Planning and the Ministry of Education in 2013.

[47] This ministry was dissolved as of March 18th, 2010, as it had been split into the Ministry of Health and Welfare and the Ministry of Gender Equality and Family

Table 1. A summary of the 3-year comprehensive plans on internet addiction, 2010-2018.

	1st (2010-2012)	2nd (2013-2015)	3rd (2016-2018)
Primary Platform for Internet Access	PC	PC	Smartphone
Policy Focus Group	Adolescents	Adolescents, young children, and adults	All age groups (including seniors)
Vision	The best country in internet safety	Healthy and safe internet use in life	Realization of a healthy smart society
Policy Goals	Reduction in internet addiction rate	Development of skills to control internet use	Growth in the opportunity of smartphone/internet use based on balance and control
Policy Direction	Risk avoidance (restriction, regulation)	Risk avoidance (control)	Risk avoidance and taking advantage of opportunity
Primary Actors	7 government departments	8 government departments*	9 government departments

* The Ministry of Education, Science and Technology in the 1st plan split into the Ministry of Science, ICT and Future Planning and the Ministry of Education in 2013, so there is no actual change in the total number of government bodies engaged with the plan between 2010-2012 and 2013-2015.

Given that the South Korean government has struggled with internet addiction at the state-level since as early as around 2000, it is no surprise that it has forward-looking and detailed policies on internet addiction. In that sense, the third comprehensive plan (2016-2018) initiated a marked change. A fundamental shift of policy direction was made in this phase from risk avoidance to taking advantage of online opportunities. In the first and second comprehensive plans the government focused on regulating internet/smartphone use in order to prevent the further prevalence of internet addiction and reduce the internet addiction rate. The government, however, is now paying more attention to the smarter and healthier use of smartphones/the internet.

The increased use of the internet/smartphones inevitably brings about increased risks as well as increased online opportunities such as internet addiction, unhealthy online content, or

personal data abuse. The internet, however, has become indispensable in our everyday life for shopping, learning, banking, entertaining, and so on. Mobile, networked, or other new platforms now enable people to stay connected anytime, anywhere. The rapid penetration of smart devices in particular has made internet access less fixed and more mobile. For example, a 2017 survey shows that 89.5 percent of the population aged 6 and over own a smartphone, and the penetration rate reaches as high as 98 percent of those aged between 6 to 59 years. Given that it was only 4.9 percent in 2011, current internet usage patterns and trends are totally different from the time when the comprehensive plan was first launched in 2010 (Korea Internet & Security Agency 2012, 2018). In the middle of this dramatic change, the government recognized that the strategies to decrease risks may also restrict valuable opportunities.

The goal of the third comprehensive plan thus features an increase in self-regulation and ICT competency. To achieve this, the government is planning to expand educational opportunities for parent groups (e.g. good digital parenting), adults, and seniors, as well as young children and adolescents, so that all age groups can gain a good understanding of current ICT trends and digital culture in order for them to self-regulate their own internet use (e.g., content and time) and achieve a healthy use of the internet. For example, the Ministry of Gender Equality and Family, the Ministry of Culture, Sports and Tourism, and the Korea Communications Commission launched educational programs from which parents can learn about children's overall internet use patterns and online gaming in order to promote mutual understanding and communication between parents and children.

Label

A review of government documents gives the impression that the South Korean government has not reached a definitive agreement on the label used to refer to internet addiction, as there are several different terms used by ministries to name the same social problem. Each ministry involved in the implementation of internet addiction policy has its own point of view on the issue, which is where the different labels come from. *The Framework Act on National Informatization* was initiated by the Ministry of Science and ICT, in which the term "internet addiction" appears 25 times. Throughout the act, the term is fixed as "internet addiction" and describes internet addiction as one of "the adverse effects of national informatization."

On the other hand, *The Game Industry Promotion Act* by the Ministry of Culture, Sports and Tourism explains that one of the ministry's ultimate goals is the promotion of the game industry, and so it is inevitably in alliance with game companies. In *The Game Industry Promotion Act*, the term "excessive indulgence in games" appears 15 times, while "addiction to games" appears only twice, which implies that it deliberately attempts to avoid using the term "addiction." While "addiction" is a medical term associated with negative images of behavioral/substance disorders, whereas the original usage of "indulgence" has relatively a more positive image. "Indulgence"[48] refers to the mental state of deep involvement accompanying enthusiasm, and the objects of indulgence are mostly artistic (e.g., music or literature), athletic (e.g., sport matches), or academic (e.g., study, test, or education) activities, all of which are, in most cases, positively described. Furthermore, the term

[48] The term, *mol-ib*, in Korean, can be translated either into "indulgence" or "immersion." The actual nuance may be closer to "immersion," but in academic writings or news stories in English-language "indulgence" is preferred to "immersion."

"overindulgence" is relatively new, and there was almost no use of the term before 2002. Around 2005-2006 "overindulgence" started to appear in the news media regarding the coverage of internet addiction or online gaming, in most cases reflecting the view of the game industry. The creation of the term "overindulgence" indicates the efforts of the Ministry of Culture, Sports and Tourism and the game industry to alleviate the negative image of (online) gaming. In other words, by positioning games together with positively-imaged activities (e.g., study, sports games, or art appreciation), it expected that the disease-like image of gaming would be softened.

The Ministry of Gender Equality and Family holds a totally opposing perspective on internet games to the Ministry of Culture, Sports and Tourism. The purpose of its *Juvenile Protection Act* is "to ensure juveniles grow up into persons of sound character by regulating the distribution of media products, drugs, etc. harmful to juveniles…by protecting and relieving juveniles from harmful environments." Chapter 3 of the act covers "internet game addiction," according to which internet gaming is one of the "harmful environments" from which children are supposed to be protected. Instead of "internet addiction," the act uses the label "internet game addiction," implying that the Ministry of Gender Equality and Family regards a specific activity, online gaming, as the primary cause of internet addiction among children.

The different labels do not necessarily mean medically/academically different conditions or disorders. According to *The Framework Act on National Informatization* (Article 3), the definition of "internet addiction" is as follows: "suffering, by users, of damage in physical, mental or social functions to the extent that it is not easily recoverable in their daily lives, due to excessive use of information communications services provided

through information communications networks." *The Juvenile Protection Act* (Article 27) defines "internet game addiction" as a state wherein "users of an internet game sustains an injury to any of their physical, mental, or social functions in daily life, from which they cannot recover easily, as a consequence of the excessive use of an internet game." The two definitions are actually the same, except the point that a specific online activity, internet gaming, is identified in the latter. Although *The Game Industry Promotion Act* does not provide a definition of "excessive indulgence in games," it is quite obvious that they all are about the same social problem, regardless of the different labels.

With the launch of the third phase of *The Comprehensive Plan to Prevent and Resolve Internet Addiction* the government introduced a new term, "overdependence," to replace "addiction," which aims to change public perception of internet addiction. The term "addiction" is based on a medical model that regards the excessive use of the internet as a mental disorder/illness. Like alcoholism, drug addiction, and gambling addiction, the term stigmatizes addicts as having lost control of themselves, and as a consequence, the negative sentiment embedded in the term may discourage adolescents and their parents from seeking professional support (National Youth Policy Institute 2013).

Given that the internet is now a necessity for everyday life, it is questionable whether it makes sense to put internet in the same category with other addictive substances or behaviors (e.g., drug, alcohol, and gambling). The connotations of the term "addiction" may have worked when the government was striving to reduce the internet addiction rate, however, it does not fit well with the third comprehensive plan, which focuses on encouraging online opportunities and promoting the healthy use of internet.

In early 2016, the government started to officially re-label the pre-existing term, "(internet) addiction," with a new term, "(internet) overdependence." According to a pilot study intended to develop an alternative term to replace "internet addiction" (Shin et al. 2017), experts gave "overdependence" the highest score, because, compared to "addiction," "overdependence" is a term that is less likely to stigmatize addicts, and at the same time can draw people's attention to the seriousness of internet addiction. The new term "overdependence" made its first appearance in April 2016, in a press release published by the National Information Agency and the Ministry of Science, ICT and Future Planning. Since then the government has deliberately publicized the new term "overdependence" by updating government websites, revising relevant acts, and modifying contents in government documents, although for most people "overdependence" is neither a frequently-used nor familiar term compared to "addiction."[49]

Accordingly, as of the 2015 edition (published in May 2016), the title of the annual survey on internet addiction has changed from *The Survey on Internet Addiction* to *The Survey on Internet Overdependence,* however, a comparison of the surveys published before and after 2016 reveals that what actually changed is the wording, not the content. Other parts of the survey remain exactly the same, except that the term "addiction" was simply replaced

[49] As shown in Figure 1, the sudden decrease in the percentage of people who reported that they had heard of the term "internet/smartphone addiction/overdependence," observed in the 2015 edition, seems to be associated with an unfamiliarity with the term "overdependence." The 2015 edition (published in May 2016) is the first time that the transition from "addiction" to "overdependence" was made in the survey questionnaire.

by “overdependence,” as if “overdependence” is an exact synonym of “addiction.” To be specific, in the 2014 survey the definition of “internet (smartphone) addiction” reads “the state in which users have withdrawal and tolerance to the internet (or smartphones) use due to excessive use of the internet (or smartphones), and suffer problems in their everyday.” In the 2015 survey (published in 2016), the definition of “internet (smartphone) overdependence” is literally the exact copy-and-paste of the definition of “internet (smartphone) addiction” in the 2014 edition. There is also no change in the diagnostic criteria. Both “internet/smartphone ‘addiction’” and “internet/smartphone ‘overdependence’” were measured using the same criteria, *the K-Scale*.

Despite the significant change in the key term, the 2015 edition did not mention anything about it. In academic settings, since no agreement has been reached among researchers, several terms are being used to refer to internet addiction, and they are used, in most cases, interchangeably. This does not necessarily mean, however, that all the seemingly similar terms share the exactly identical clinical, medical, and academic connotations. Studies on “overdependence” are currently very scarce and the level of public awareness of the new term is relatively low. This raises the question of what the re-labeling was meant to achieve, and whether the new terminology has any scientifically and academically valid basis.

The transition from “addiction” to “overdependence” seems to be relatively slow and incomplete. Unlike the government, media and academia have not responded immediately to the new term.[50] In the mass media, internet “overdependence” started to replace internet

[50] Despite the introduction of “overdependence,” related industry (e.g., online game companies) and

"addiction" from around April 15th, 2016. In some news articles the two terms are used interchangeably, or "addiction" is put in parentheses so that readers can see that the apparently unfamiliar term "overdependence" is a replacement for "addiction." In academia, few studies chose the term "overdependence" over "addiction" in the title or keywords, and even those few studies do not provide any explanation of the differences between "addiction" and "overdependence." Given the timeline of research paper publication, it may take longer to see the new term fully reflected in academic works. Researchers in the field, however, do not appear to have any motivation to adopt the new term for now, because "internet addiction" has already been positioned as the most widely used term in academia and the medical sector.

Given that until the end of 2017 even some government websites were not updated with the new term, the delay found in the mass media and academia is quite understandable. For now, however, it is rather doubtful whether the new term will be successfully recognized by the public and whether it can fully replace "internet addiction" in the end. It is also hard to tell whether the mass media/academia's avoidance of the new term derives from a lack of public relations, but regardless of the intention of the government, both institutions have no good reason to give up on their already-familiar and widely recognized term. While the re-labeling reflects the will of the South Korean government to approach internet addiction from a new perspective, at the same time, the inconsistency in terminology may result in further confusion in academic research and international collaboration.

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the Ministry of Culture, Sports and Tourism maintain a going-my-way attitude. Sticking to "overindulgence," the industry has no reason to move on to the new term as no other terms can offer a more favorable perspective on online game/gaming than "overindulgence."

The Stance of the Ministry of Culture, Sports and Tourism

The Stance of the Ministry of Culture, Sports and Tourism (MCST) on internet addiction is quite different from that of other government departments. According to *The Game Industry Promotion Acts* established in 2006 by the MCST, it is one of the MCST's major tasks to "contribute to the development of the national economy and the improvement of the quality of the cultural life of people through the promotion of the game industry and the establishment of a healthy game culture of the people" (Article 1). However, the act imposes on the MCST the duty to protect game users from the adverse effects of games as well, and "excessive indulgence in games" is one of the adverse effects specified in the act. On the other hand, Article 12-3, entitled *Preventative Measures against Excessive Indulgence in Game/Addiction to Games*, focuses on the responsibility of the game industry[51] to prevent users from being addicted to gaming, which includes measures such as implementing a real name/ages verification system, securing consent from the legal representatives of underage game users, providing a notice to warn about excessive gaming, displaying the total time spent on a game on the screen, and so on.

In pursuing the two seemingly contradictory tasks – promoting the game industry and protecting users from the risks of (excessive) gaming – the MCST is expected to maintain a good balance between the two goals. In reality, however, its stance on games is apparently inclined to the economic value of the game industry. The inclination is very well represented

[51] Article 2-3 of *The Game Industry Promotion Acts* defines the game industry as "the industry related to the production, distribution, provision of game products or game software (referring to tangible or intangible goods, services, and compounds thereof creating economically added value by making use of game products; hereinafter the same shall apply), and services with respect thereto."

by the role of the Korea Creative Content Agency (KOCCA),[52] which is a government agency founded in 2009 and affiliated with the MCST to support creative industry such as games, animation, character licensing, music, fashion, broadcasting, and so on. The KOCCA aims to support the global expansion of made-in-Korea cultural products and services, as well as to promote the domestic market. According to *The Framework Act on the Promotion of Cultural Industries* (Article 31), some of the KOCCA's major tasks include "addressing adverse effects produced by gaming and the creation of a sound game culture," and "boosting e-sports and advancement of international exchanges." In other words, not only the MCST but also the KOCCA, are pursuing the two conflicting goals at once. Just like the MCST, the KOCCA is biased towards the game industry. The reports, statistics, and public releases published by the KOCCA reveal that it is explicitly taking the side of the game industry.

Actually, the game industry comprises a significant portion of the creative industry in South Korea and it has proved to be one of the most competitive markets in the world. For example, in 2016 the game industry's exports recorded 3.22 billion USD (Table 2), which accounts for half the total exports of the nation's creative industry. On the other hand, the imports for the same period were no more than 1.47 billion USD, a 17 percent decrease compared to the previous year. While Korean games ranked fifth (5.7 percent) in the global market in 2016 following the U.S., China, Japan, and England, the market share of its

[52] The Korea Creative Content Agency (KOCCA) was established by the merger of the Korea Game Industry Agency, the Korea Broadcasting Institute, the Korea Culture and Content Agency, the Cultural Contents Center, and the Digital Contents Business Group of Korea IT. Before the foundation of the KOCCA in 2009, the Korea Game Industry Agency took the role of promoting the game industry from 1999 to 2009.

"online" games was as high as 15.2 percent, ranked second in the world (Korea Creative Content Agency 2018). That is, the growth potential and current economic value of online games are a valuable resource with which the MCST can enhance the overall competitiveness of South Korea's creative industry.

Table 2 The exports of the South Korean game industry between 2011 and 2016

	2011	2012	2013	2014	2015	2016
Exports (billion USD)	2.38	2.64	2.72	2.97	3.21	3.22
Growth rate (%)	48.1	11	2.9	9.5	8.1	2

Source: *2017 White Paper on Korean Games* (modified)

Given the significance of the game industry, it makes sense for the KOCCA to have its own view on internet addiction (or "game overindulgence" as the MCST and the KOCCA refer to it), which is not in accordance with most of the government bodies. First, the KOCCA is critical of the current public understanding of internet addiction. To be specific, it raises a fundamental question of whether the existence of internet addiction is real, and it can be proved academically or medically. It argues that the negative image embedded in games/gaming is attributable to biased media coverage. For example, *The Comprehensive Manual for the Prevention and Treatment of Excessive Indulgence in Games,* which was published in collaboration by the MCST, the KOCCA, the Game Culture Foundation[53] and

[53] It was established in 2008 under the Ministry of Culture, Sports, and Tourism and is primarily engaged in game-related research projects as well as the operation of its Game Indulgence Healing Center. Major online game companies such as NEXON, NCSOFT, NHN, Netmarble Games, and so on are currently sponsoring it.

Chung-ang University Hospital, claims that most TV news and newspaper coverage of internet addiction/overindulgence involves only negative stories such as homicide or juvenile delinquency (Ministry of Culture, Sports and Tourism 2018). Second, studies conducted by the KOCCA maintain a favorable view toward the game industry and even give the impression that it explicitly supports the game industry by academically defending or justifying games/gaming. It is thus not a surprise to find KOCCA-published reports that openly emphasize the positive effects or benefits of gaming such as the enhancement of strategic thinking and space perception. Lastly, in regard to terminology, both the MCST and the KOCCA firmly adhere to "overindulgence" over "addiction" and have deliberately avoided using the term "(internet) addiction." A review of 37 research papers published between 2010 and 2018 by the KOCCA demonstrates that only seven of them, all of which were published in 2010, used the term "addiction." Even after the government announced a formal change in the term from "addiction" to "overdependence" in early 2016, the new term was never accepted by any of the nine research papers published between 2016 and 2018. Given that, while "addiction" reminds most people of negatively-imaged substances and behaviors (e.g., alcohol, gambling, or drug), "(over)indulgence" is associated with positively-imaged activities (e.g., work, art appreciation, hobby, or education), the adherence to "overindulgence" reveals the KOCCA's effort to project a more positive image of games/gaming.

The Survey on Excessive Indulgence in Games is a good example that shows the viewpoint of the KOCCA on internet addiction. The KOCCA conducted the first survey in 2011 to explore the comprehensive gaming patterns of adolescents and adults and identify problems derived from games/gaming. It is noteworthy that the game survey is an entirely

separate survey from *The Survey on Internet Addiction* conducted by National Information Society Agency (NIA), an affiliated agency of the Ministry of Science and ICT. Compared to the NIA annual survey, which was first launched in 2004 and now covers almost all age groups including seniors and young children (3-69 years old), the KOCCA survey has a shorter history and focuses mainly on a specific age group. Its demographic focus is on adolescents, as gaming is a part of their peer culture and daily routine. The respondents to this game survey are thus adolescents aged 9 to 18.[54] Its sample size is as large as 180,000, however, which is much bigger than that of the NIA survey (10,000 households).[55]

In the KOCCA survey, "excessive indulgence in games" is measured by the *Comprehensive Scale for assessing Game behavior (CSG)*, which was developed by the KOCCA in collaboration with a university research team. In order to measure both the positive and negative consequences of gaming, the *CSG* is composed of two sub-scales, the 1) Adaptive Game Use Scale (AGUS), and 2) Maladaptive Game Use Scale (MGUS). Respondents are categorized into four diagnostic groups according to the total score for the 42 questions, as follows: 1) excessive indulgence group, 2) excessive indulgence risk group, 3) normal user group, and 4) adaptive-game user group. While the *K-Scale* employed by the NIA survey intends to measure the effects of excessive internet use (e.g., withdrawal, tolerance, deviant behaviors, or disturbance of adaptive functions), the *CSG* is designed to

[54] The first survey in 2012 also included adults (19-35 years old), but the sample size (3,300) was significantly smaller than that of adolescents (120,385). In recent surveys, the respondents have consisted of 180,000 elementary, middle, and high school students.

[55] The difference in sample size may be attributable to survey methods, the KOCCA employs mail survey, while the NIA conducts face-to-face interviews.

highlight positive aspects of gaming as well as its negative aspects, such as fun, interest, spirit of challenge, familiarity with technology, and promoting social relationships.

The KOCCA produces and releases its own statistics on the "game overindulgence" rate based on the survey results. One of the most salient differences between the NIA statistics on "internet addiction" (currently "smartphone overdependence") and the KOCCA statistics is that, Statistics Korea, which is a government agency responsible for the statistics produced in South Korea under the Ministry of Strategy and Finance, has never approved the KOCCA survey. To secure the reliability of statistics produced by central/local government agencies and private institutions, Statistics Korea implements an approval procedure. The NIA survey was approved by Statistics Korea in 2006, and in 2011 they became the most cited statistics of the ten approved statistics on ICT topics. Since most of the public do not have sufficient knowledge about such an approval procedure, the arbitrary release of statistics by a government department can easily mislead people into a poor or inaccurate understanding of a certain social issue, especially when there are multiple statistics available on a similar topic. People are generally unable to tell which statistics are more reflective of the true situation.

A comparison of the "internet addiction rate" and "game overindulgence rate" shows that the existence of the two seemingly-similar statistics may bring about confusion and unreliability in the perception of the social problem (see Table 3). While the two surveys use different terms, it is quite certain that both are talking about the same social problem, internet addiction. Given that the most substantial gap between the internet addiction risk group and normal users comes from the gaming (Korea Creative Content Agency 2017; National Information Society Agency 2017) and "internet addiction" and "internet game addiction"

are usually used interchangeably in media coverage, without a closer look at the details of the two statistics, people are unable to determine whether they are different from each other.

The result, since the "game overindulgence rate" is much lower than the "internet addiction rate," is that those who are exposed to the KOCCA statistics are likely to underestimate the seriousness of internet (game) addiction. That is, the MCST and the KOCCA may intend to build a counterclaim against the majority of the government. In this light, while the KOCCA survey may be a meaningful approach in terms of addressing the benefits of gaming, its existence, whether intended or not, is likely to distract the public from the reality of internet addiction.

Table 3. A comparison of the percentages of risk groups among adolescents in *The Survey on Internet Addiction* and *The Survey on Excessive Indulgence in Games*

		2012	2017
Survey on Internet Addiction	High-risk group	2.8%	3.6%
	Latent risk group	7.9%	26.7%
	Total	10.7%	30.3%
Survey on Excessive Indulgence in Games	Excessive indulgence group	0.8%	0.7%
	Excessive indulgence risk group	1.2%	1.9%
	Total	2%	2.6%

Source: *The Survey on Internet Addiction* (2013, 2018) and *White Paper on Korean Games* (2013, 2018).
Note: *The Survey on Internet Addiction* changed its title to *The Survey on Smartphone Overdependence* in as of 2017 and it measures smartphone addiction rates.

The so-called "shutdown law" is another example demonstrating the stance of the KOCCA, which eventually echoed that of the MCST. The Ministry of Gender Equality and Family enacted the shutdown law as of November 20th, 2011 to restrict the late-night game

hours of minors and to secure their health and sleep. Article 26 of *The Juvenile Protection Act* reads "no provider of an internet game shall provide the internet game to juveniles under the age of 16 between midnight and 6 AM." Game service providers affected by the shutdown law (e.g., online game companies) should take measures in order to block the access of adolescents during the certain period. The introduction of the shutdown law ignited a heated controversy centering on several issues, such as double regulation,[56] infringement of *The Personal Information Protection Act*, and unconstitutional elements in the policy.

Given the stance of the KOCCA, it is no surprise at all that it holds an unfavorable opinion of the shutdown law. What is interesting about the KOCCA-commissioned research on the law is that it pays extra attention to the potential "economic loss" attributable to the implementation of the law. The game industry experienced fast growth since 2000 and reached its peak in 2012, but in 2013 it experienced negative growth of 0.3 percent. To be specific, the sales of online games, which took about 70 percent of the domestic market in 2012, recorded a significant negative growth of 19.6 percent. Based on a comparison of sales

[56] As of 2011, two laws had been revised to include the "shutdown law": *The Juvenile Protection Act* of the Ministry of Gender Equality & Family in May 2011 and *The Game Industry Promotion Act* of the Ministry of Culture, Sports & Tourism in July 2011. However, aside from the compulsory shutdown law, *The Game Industry Promotion Act* has its own preventive measures on internet addiction, one of which is to restrict game products or time upon the request of game users themselves or their legal representatives (e.g., parents) and it is applicable to juveniles under 18. The implementation of the two shutdown laws then prohibit the gaming of adolescents not just during late nighttime between midnight to 6 AM but also in the daytime. Game users and the game industry thus assert that it is double regulation.

records and interviews with industry insiders, the KOCCA research argues that the sales decline is attributed largely to the stigmatization of online games in the aftermath of the shutdown law, which ultimately represents the opinion of the game industry (Cho et al. 2017).

Japan

In Japan, three government ministries – the Ministry of Internal Affairs and Communications (MIC), the Ministry of Education, Culture, Sports, Science and Technology (MEXT), and the Ministry of Health, Labor and Welfare (MHLW) – and the Cabinet Office are currently involved in issues associated with internet addiction. Among those government bodies, the Ministry of Education, Culture, Sports, Science and Technology commissioned a study on the impact of informatization on children as early as in 2002, which partially includes "internet dependence"[57] (Center for Educational Computing 2003). This is the earliest document involving internet addiction available from the Japanese government websites. Even compared to the actions taken by the South Korean government, 2002 is quite early.

It was, however, not until recently that topics related to internet addiction or internet dependence started to receive further attention from the Japanese government (Figure 2). A total of 73 documents regarding internet addiction were identified on the Japanese government websites between 2002 and 2016, and approximately 70 percent are concentrated in the last three years between 2014 and 2016.

[57] In Japan, internet addiction is mostly labeled "internet dependence (*netto-izon*, in Japanese)."

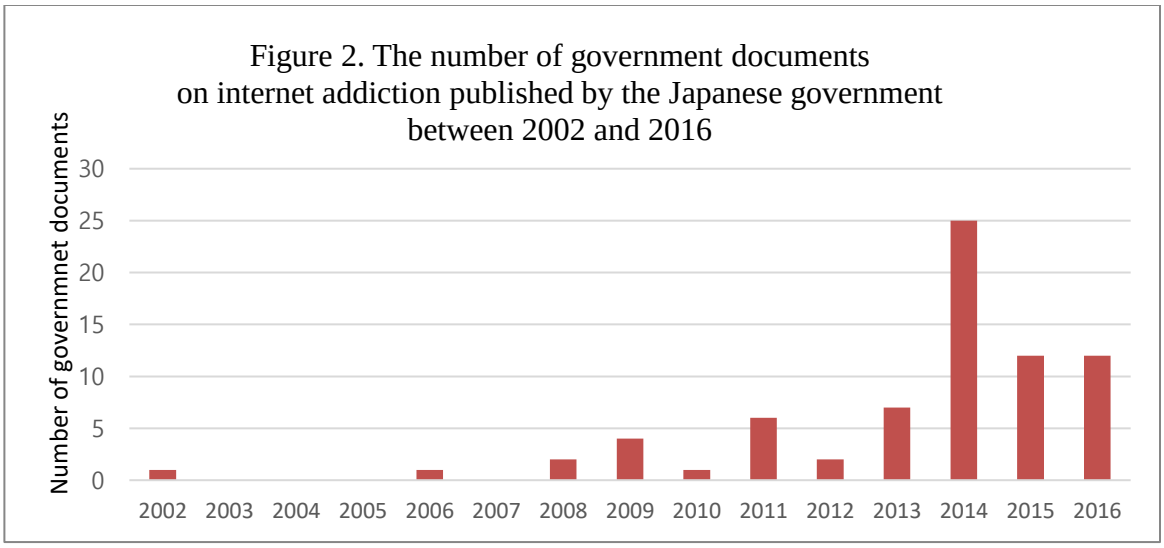


Figure 2. The number of government documents on internet addiction published by the Japanese government between 2002 and 2016.

The stance of the Japanese government on internet addiction and policy in focus

While each of the three government ministries and the Cabinet Office has its own focus, specialty, and perspective in dealing with internet addiction, they have a shared perception of internet addiction as "one of" the "shadows" of internet (use) or "troubles" of the internet era. The Japanese government in general treats internet addiction as a sub-category under "safe and secure" internet use. "Safe and secure" (*anzen anshin*, in Japanese) is the key concept that represents the government's overall direction regarding internet addiction policies. Along with other pre-existing problems of the internet era, such as cyber bullying, personal data breaches, online fraud, chain letters, copyright infringement, and so on, internet addiction is a social problem that has come to the attention of the government in order to achieve a safer and more secure environment for internet use.

The Japanese government has made considerable efforts to reform unhealthy online environments to protect particularly youth from harmful online content. The Ministry of

Internal Affairs and Communications attributes the unhealthy online environment to the rapid distribution of smartphones. As the advent of mobile phones and smartphones provides a platform through which to arrange anonymous relationships, and especially inappropriate relationships between minors and adults via online dating websites (*deai-kei* sites, in Japanese) it raised serious social concerns in Japan associated with sex industry issues or crimes. For example, according to statistics released by the National Police Agency (NPA) of Japan, the number of underage victims of crimes related to (online or mobile) community sites has rapidly increased from 792 to 1,736 between 2008 to 2016 (Ministry of Internal Affairs and Communications 2017). Since 2005 the Ministry of Internal Affairs and Communications, the Ministry of Economy, Trade and Industry, the Ministry of Education, Culture, Sports, Science and Technology, and the National Police Agency have teamed up in order to filter harmful online information, and have promoted the installation of filtering software for desktop computers and mobile devices. These efforts aim to protect youth from harmful and unhealthy information available online and to create a safer and more secure online environment for them.

The strategies and efforts, however, are not directly related to internet addiction. While the Japanese government does attempt to create a safer and more secure online space, internet addiction is not its main focus. In government documents, internet addiction is usually treated as no more than a section under "information ethics" and/or "internet literacy" rather than a main subject. The Ministry of Internal Affairs and Communications has published *The Internet Trouble Casebook* annually in order to provide teachers and educators with official guidelines for information ethics education. Its content has not changed much since the first edition in 2009, and includes cyber bullying, online fraud, online sexual

assault, and other online cases to which children are vulnerable. One chapter of the casebook series is always dedicated to "internet dependence," focusing on the negative consequences of gaming and the excessive use of PCs/smartphones, such as physical health risks, poor academic performance, and emotional instability (Ministry of Internal Affairs and Communications 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016).

Another casebook on internet literacy was released by the Ministry of Internal Affairs and Communications. The purpose of the casebook, which was published in 2014, is to collect and disseminate cases that successfully achieved an improvement in internet literacy among children (Ministry of Internal Affairs and Communications 2014). Included in this casebook is the story of a local high school, where students take a class on the risks of internet addiction, which implies that there is no distinct line between the concept of internet literacy and internet addiction, and instead internet addiction is treated as a sub-category of internet literacy.

The White Paper on Information and Communications in Japan is a good source to trace the way that the Japanese government's attention to internet addiction has evolved. The Ministry of Internal Affairs and Communications has published the white paper annually since 1973 to present the current information and communication trends and the policy of Japan. It was not until 2011 that the term "internet addiction" (or "internet dependence") made its first appearance in the white paper. To be specific, up until then little attention was paid to "safe and secure" internet use, not to mention internet addiction per se. For example, in the 2009 and 2010 whitepapers all issues concerning "safe and secure" internet use are covered in a short 55-word-length paragraph entitled "issues for safe and secure internet utilization," which is accompanied by a figure showing a list of "problems associated with

internet use in households." The list includes computer viruses, personal data breaches, phishing emails and so on, but internet addiction is not in the list. Given that economic issues such as "economic growth," "competitiveness," "market trends," and "industry" take up most of the white paper, it is plausible to conclude that "safe and secure internet use" was not the policy focus of the Japanese government until quite recently.

In the 2011 edition, under a section on "Allaying Concerns about Safety and Security," "dependence" is mentioned for the first time as a sub-category of the "impact of the internet on the social development of children and youth," together with cyber bullying. It is, however, no more than simply citing joint research conducted by the Ministry of Internal Affairs and Communications and the Council for the Promotion of a Safer Internet on "the relationship between internet use and bullying and addictive behavior traits among children and youth," and the focus is more on cyber bullying than internet addiction. In 2012 and 2013, the white paper ignored internet addiction again. In the 2014 edition, internet addiction returned as a section entitled "Construction of Safe and Secure Internet Usage Conditions" in "The Social Impact of Rapid ICT Advancement" chapter. While the section includes internet addiction, internet literacy, and cyber security, it contains a much more detailed description of internet addiction compared to the 2011 edition, including an international comparative study on internet addiction rates and an analysis of the features of internet addiction in Japan. Internet addiction then disappears again in the 2015, 2016, 2017, and 2018 white papers (Ministry of Internal Affairs and Communications, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018).

The Japanese government is actually aware of the potential risks of internet addiction, but internet addiction is not one of the major social problems for the government. That is to say,

unlike South Korea, where the government treats internet addiction as a significant social problem per se, the Japanese government regards it as a sub-category of a bigger and more comprehensive social problem. There was a time, however, when even the South Korean government considered internet addiction as merely one of the side-effects of the rapid informatization process, in addition to the digital divide and personal data breach. Although internet addiction is currently positioned as a minor part of a broader social problem, as Japanese society faces more and more problems derived from the excessive use of ICTs, internet addiction may thus evolve into a major social problem in the near future.

Causes of internet addiction

Analysis of government documents reveals that the Japanese government attributes internet addiction to the excessive use of social media and smartphones rather than to games, which is in stark contrast to the South Korean government, which considers gaming the primary cause of internet addiction. The Institute for Information and Communications Policy (IICP), an affiliated research center under the Ministry of Internal Affairs and Communications, has conducted an annual survey on the trends in media use in Japan since 2012, which includes internet, TV, newspapers, and radio. Focusing on teens, who are considered to be most vulnerable to internet addiction, the 2018 survey reveals that social media is the most commonly used online content among teens, and that they spend more time on social media than online gaming.[58] Especially at the weekend girls spend as much as

[58] To be specific, during weekdays and weekends teens spend 71.6 mins per day and 98.7 mins per day, respectively, on social media. On the other hand, they spend 45 mins per day during weekends and 69.1 mins per day during weekends on online game.

125.6 minutes per day on average on reading or posting to social media feeds such as Twitter, Instagram, Facebook, or Line. Compared to South Korean teens (61.3 minutes per day), Japanese teens spend more time on social media in general.[59] The results indicate that social media, which can help teens socialize and communicate with peers, take a significant proportion of teens' everyday life in Japan (Institute for Information and Communications Policy 2019; Korea Information Society Development Institute 2019).

The 2014 White Paper on Information and Communications in Japan, published by the Ministry of Internal Affairs and Communications, briefly addresses internet addiction in a section entitled "Construction of Safe and Secure Internet Usage Conditions." Citing the Ministry of Internal Affairs and Communications-commissioned research on an international comparison of internet addiction trends, it emphasizes that compared to the other five countries in the comparative study – South Korea, the U.S., France, Singapore, and the U.K. –, Japanese users are oriented toward social media, and smartphone users, who are particularly "communication-oriented," show a higher rate of internet addiction (Ministry of Internal Affairs and Communications 2015).

In addition to social media, the Japanese government recently began to focus on smartphones as a newly emerging cause of internet addiction. Unlike South Korea and the U.S. where internet diffusion was achieved via PC-based online access, Japan's internet diffusion was based on internet-enabled mobile phones, namely *keitai* in Japanese. *Keitai* use in Japan reached 72.5 percent as early as 2001 which is the highest diffusion rate in the world

[59] No comparable statistics are available in the U.S. about the average daily time spent on social media among teens.

at the time, and people used social media and messaging services mainly via the *keitai* mobile internet. With the advent of smartphones, *keitai* was replaced by smartphones (Ministry of Public Management, Home Affairs, Posts and Telecommunications 2002). While in South Korea concerns about internet addiction tend to center on online games, in Japan excessive online communication via social media and smartphones is more seriously taken than excessive gaming.

Label

A review of 73 government documents reveals that the Japanese government does not have an officially fixed label referring to internet addiction, and that internet addiction is given several varying labels (Table 4). The labels usually feature the primary causes of internet addiction (e.g., games, social media, and communication applications), access platforms (e.g., smartphone and *keitai*), and/or pathological conditions (e.g., dependence and addiction).

While "internet dependence" is most common, and it greatly outnumbers other labels in all three ministries and the Cabinet Office, there are a couple of less frequently used but noteworthy labels. Firstly, "(internet/ game) addiction" is used in a specific context. It is mostly found either in the English version of *The Information and Communications in Japan,* a white paper published by The Ministry of Internal Affairs and Communications, or in international comparative studies conducted by the Cabinet Office. Both cases have "international" in common and are either translated into English for international readers or include international comparative studies. For example, while the term "internet dependence" is mostly used in the Japanese version of the white paper, in the English-translated version

"internet addiction" outnumbers "internet dependence." This implies that the Japanese government is aware that "internet dependence" is a country-specific label, and so it would not work in an exchange of knowledge across countries.

Table 4. Labels referring to internet addiction identified in the Japanese government documents

	MIC* (N=45)	MEXT** (N=26)	NHLW*** (N=4)	Cabinet Office (N=43)
Internet dependence	20 (44%)	18 (70%)	4 (100%)	20 (47%)
Internet addiction	4 (9%)	1 (4%)	0	9 (21%)
(Online) game dependence	7 (16%)	2 (8%)	0	2 (5%)
Smartphone dependence	4 (9%)	1 (4%)	0	4 (10%)
Keitai dependence	3 (7%)	0	0	0
(Online/Internet) game addiction	0	1 (4%)	0	5 (12%)
Addictiveness (*Chūdoku-sei*, in Japanese)	4 (9%)	0	0	0
Media dependence	0	2 (8%)	0	0
Communication application dependence	1 (2%)	0	0	0
Digital dependence	0	1 (4%)	0	0
Smartphone addiction	0	0	0	1 (2%)
Media addiction	0	0	0	1 (2%)
Keitai addiction	0	0	0	1 (2%)
Social media dependence	1 (2%)	0	0	0
Dependence	1 (2%)	0	0	0

* The Ministry of Internal Affairs and Communications
** The Ministry of Education, Culture, Sports, Science and Technology
*** The Ministry of Health, Labor and Welfare

In general, the Japanese government appears to acknowledge that "internet addiction" is more universally acceptable than "internet dependence," except in Japan. For example, in comparative studies on the internet use of youth published by the Cabinet Office, "dependence" and "addiction" are used interchangeably (Cabinet Office 2009, 2011, 2014), however, when delineating countries other than Japan, such as Canada, South Korea, the

U.K., and France, “addiction” is used more widely than “dependence.” One interesting finding is that, while several terms are used in government documents to refer to internet addiction without particular guidelines, any references to South Korea always involve “addiction,” which seems attributable to a direct translation of the original references written in Korean-language. An article published by a research center under the Ministry of Internal Affairs and Communications in 2014 also notes that the term “internet dependence” may cause some issues due to the absence of a formal definition, especially when used in English-speaking countries (Kitamura and Kawai 2014).

The measurement of internet addiction

Seven out of the 73 government documents include surveys on internet addiction: three white papers and four government-commissioned research papers published between 2011 and 2016 by the Ministry of Internal Affairs and Communications. While the overall validity of each of the seven surveys is in question in terms of sampling methods, it is noteworthy that all employed *The Internet Addiction Test* (*IAT*; Young 1998), the most widely used diagnostic criteria worldwide, as a screening tool to measure the presence and severity of internet addiction. As shown in the previous chapter analyzing academic articles on internet addiction, Japan does not have a formal scale to assess internet addiction. Although there are several scales developed by Japanese researchers, none was employed in any of the government documents.

This does not necessarily mean, however, that the Japanese government recognized the *IAT* as an official means of measurement for social surveys. Rather the government is well aware of its limitations. For example, a study report published by the Institute for

Information and Communications Policy (IICP) points that the *IAT* lacks a good fit for the fast-changing internet environment, as the scale was developed in 1998, and so more professional diagnosis techniques need to be developed before moving on to discuss the treatment of internet addiction (Institute for Information and Communications Policy 2019). While the Japanese government does not conduct nation-wide surveys on internet addiction on a regular basis, like the South Korea's annual survey on internet addiction, at least it seems the Japanese government has an understanding of the trend of currently-available diagnosis techniques and their limitations.

Target population of government policy

As discussed in previous chapters, children (and young adults) are usually considered the most vulnerable demographic groups, as has been demonstrated by multiple studies. They thus become the target populations when implementing government policy on internet addiction. While the Japanese government has not introduced any specific policy on internet addiction, the three ministries and the Cabinet Office at least have attempted to explore the prevalence of internet addiction among children. Firstly, the Ministry of Internal Affairs and Communications has conducted and commissioned research into the association between internet/smartphone use and internet addiction among youth. It has also sponsored seminars and conferences to promote a safe and secure online environment for children, and developed guidelines for students about the risks of internet addiction.

The Ministry of Education, Culture, Sports, Science and Technology (MEXT), on the other hand, focuses on educating children about the risks of internet addiction. In particular, the MEXT attempted to promote education about information ethics in class, for which it

developed educational materials and guidebooks for teachers. The Minister of the MEXT addressed internet addiction among middle and high school students during a press conference in August 2013. He particularly pointed out that the excessive dependence on the internet is a newly-emerging social problem, and that it is very important for schools to provide students with a proper guide so that they can maintain physical and mental health.

The Ministry of Health, Labor and Welfare (MHLW) is mostly concerned about the impact of internet addiction on the physical and mental health of children. A 2013 study by the MHLW on adolescents' internet use patterns demonstrated that about 8 percent of middle and high school students in Japan were estimated to be addicted to the internet, which provoked nationwide concerns about the prevalence of internet addiction among students. According to the proceedings of public hearings, the ministry views internet addiction as associated with children's suicide, mental health problems (e.g., depression, anxiety, or irregular life patterns), and severe social withdrawal (so-called *hikikomori*, in Japanese).

Lastly, the Cabinet Office has conducted international comparative studies since 2009, aiming to create a safer and healthier online environment for youth. In these studies, Japan is compared to other countries – the U.K., South Korea, France, the U.S., and Germany – focusing on how others are treating internet addiction among adolescents. In 2008, the Minister of State for Special Missions released a statement about social problems in youth, in which he said that youth tend to delay being independent these days and internet addiction encourages such a tendency by isolating youth from society. In a press conference in 2015, the minister criticized internet addiction again, describing it as one of the most serious threats to youth.

The U.S.

Little attention to internet addiction

Unlike South Korea and Japan, where the government is apparently aware of the risks of internet addiction and preventive measures are taken at the state-level, it is unclear whether the U.S. government recognizes the existence of the social problem. Although the term "internet addiction" was first coined in the U.S. in the mid-1990s and most early studies on this subject were conducted in the U.S., the U.S. government has offered few responses to the subject.

A review of the Federal Register reveals the stance of the U.S. government on internet addiction issues. The Federal Register is the official daily journal of the U.S. federal government, and contains government agency rules, proposed rules, and public notices. To explore whether the federal government had ever addressed any topics related to internet addiction, I conducted a search on the Federal Register database of documents published up until 2017 using the previously-listed 28 keywords. The search, however, ended up with 0 results. When I further expanded the range of the search by adding keywords about addictive online activities (e.g., internet gambling and internet pornography), 20 documents containing "internet gambling" were identified. All, however, turned out to involve either *The Unlawful Internet Gambling Enforcement Act of 2006* or internet gambling on horse racing, both of which are irrelevant to this research as they focus mainly on "gambling" rather than the "internet."

The Congressional Record, the official record of the proceedings and debates in the U.S. Congress, while it does not have anything directly discussing internet addiction, has a few documents containing topics that are potentially relevant to internet addiction. For example, a

house hearing before the Subcommittee on Telecommunications, Trade, and Consumer Protection on *Obscene Material Available Via The Internet* (Committee on Commerce 2000) on May 23rd, 2000 points out that professionals in the field of sexual addiction have seen "a marked increase in internet addiction (p. 11)" and that internet pornography addiction is now "a growing problem (p.13)" requiring immediate action. Internet pornography addiction results from a combination of a pre-existing problematic/addictive behavior – watching pornography – and the advance of a new ICT – the internet. While the hearing is mostly about sex/pornography addiction rather than internet addiction, and the internet functions as a medium to facilitate access to the addictive behaviors, it implies that internet addiction is a real phenomenon and it is a type of mental illnesses that may become a social or/and health problem in the future.

The Congressional Record on game addiction, on the other hand, basically focuses on "violent content" rather than the "addictive features" of games. There are, however, two documents on violent video games that may have a possible link to internet addiction. Firstly, in the hearing on *The Impact of Interactive Violence on Children*, which was held on March 21st, 2000 before the Committee on Commerce, Science, and Transportation in the United States Senate, the research of Kraut et al. (1998) was mentioned to point out the "potential problem area such as video game "addiction" or the relationship between the extent of gaming and school performance" and to insist that "concerns about addiction to video games have lately given way to concerns about internet addiction (p.64)." Another document describes the hearing on *Violent and Explicit Video Games: Informing Parents and Protecting Children* held by the Subcommittee on Commerce, Trade and Consumer Protection on June 14th, 2006. While the range of video games referred to in the meeting is

not restricted to internet-based games, but includes broader types of game platforms, the proposals outlined in the document are somewhat similar to the South Korean government's approach to preventing internet addiction. To be specific, it says that the basis on which to "prevent young gamers from playing very violent and sexually explicit games (p.129)" is provided by psychological research and neurological science and it emphasizes the need for education for parents so that they have a certain level of media literacy in order to monitor their children's gaming patterns. Given that the concerns about traditional video games are applicable to newer game platforms (e.g. online game or mobile game), the hearing signals that the U.S. government may have some understanding of the potential risk of internet addiction.

A review of the website of the Centers for Disease Control and Prevention (CDC), which is one of the operational components of the Department of Health and Human Services (HHS), and the lead federal agency for public health in the U.S., further confirms the absence of attention to internet addiction. While the CDC provides information on a wide range of diseases and conditions, there is no information available about internet addiction. Although the WHO has formally recognized "gaming addiction" as a mental disorder and included it in the *ICD-11* in 2018, as of early 2019 the CDC website does not provide any updates about it.

On the other hand, the Office of Adolescent Health (OAH), which is a federal agency of the HHS responsible for the coordination of adolescent health promotion and disease prevention programs, posted content about social media use by teens. The content includes potential health risks derived from frequent social media use, one of which is "depression and other mental health problems" and eventually urges "the guidance from caring adults" to support teens' healthy social media use (Office of Adolescent Health 2016). While it does

not specify the term “internet addiction” to address the negative consequences of excessive social media use, depression (or other mental disorders) is one of the well-known symptoms associated with internet addiction. Even though “internet addiction” is never mentioned in the text, the context implies that it, at least partially, connotes internet addiction.

The National Institutes of Health (NIH) is the primary federal agency responsible for public health research and is also a part of the HHS. In 2017, the NIH decided to fund a study on internet addiction for the first time, when other institutes declined to fund it. According to news coverage, the research plans to explore internet gaming, focusing on cognitive behavioral treatments (Booth 2017). This grant is the only example to date that suggests internet addiction may be getting some attention from the U.S. government. While the decision lags far behind South Korea and Japan, it is very meaningful for internet addiction research in that the U.S. government finally gave a hint that it recognizes internet addiction as a public health problem, despite academic and scientific controversies over the nature of internet addiction.

One significant difference between South Korea, Japan, and the U.S., when comparing government-level attention to internet addiction across the three countries, is that the U.S. is governed by a federal system. Power and responsibilities are divided between the federal government and the state government. Even though the federal government does not pay serious attention to the internet addiction, it is possible for there to be state-level awareness of, or responses to it. For now, however, unfortunately, neither the federal government nor state governments appear to pay attention to internet addiction.

The lack of attention, however, does not necessarily mean that internet addiction does not exist in the U.S. For example, in 2011 a New Mexico woman was sentenced to 25 years in

prison for the death of her toddler girl, who died from malnutrition and dehydration while her mother was indulging in online chatting and playing World of Warcraft online (Associated Press 2011). A U.S. national study found that about 8 percent of video-game players between 8 to 18 years old demonstrated pathological patterns (Gentile 2009). The U.S. Air Force's federally funded research and development center conducted a study on the internet use of the U.S. airmen, and the results reveals that 6 percent were diagnosed to have "problematic internet use" (Breslau et al. 2015), which implies the Department of Defense may be aware of the association between internet use and mental health.

The decision of the World Health Organization (WHO) and its potential influence on the U.S. government

The primary differences between the U.S. and the other countries may stem from their viewpoint on internet/gaming addiction. According to Han et al. (2018), while in East Asian countries, especially South Korea and China, studies on gaming addiction are based on a disease model and treat the condition as a type of mental illness, the U.S. and Europe focus more on the cognitive-behavioral model or social cognitive model, which views gaming addiction as resulting from individual characteristics such as self-regulation or stress. Kuss and Lopez-Fernendes (2016) thus argue that this is why the U.S. or European governments do not fund internet addiction treatments. Individuals suffering from internet addiction thus have no alternative but to seek help either from the private sector (e.g., privately-run mental healthcare clinics) or for other primary disorders. Unlike South Korea, where internet addiction is regulated by laws, the U.S. leaves it to individuals, explaining the criticism of Lee et al. (2017) that it is reminiscent of the era when society treated alcoholism as a

personality problem and insisting that such a stance will further stigmatize gamers suffering from internet addiction and merely make them avoid confronting risks.

Since the WHO decided to officially include "gaming disorder" in the *ICD-11* released in mid-2018, it may now be the proper time for the U.S. government to take internet addiction into account in earnest. The WHO defines the *ICD* as "the foundation for the identification of health trends and statistics globally, and the international standard for reporting diseases and health conditions" (World Health Organization 2018c). Since the *ICD* was produced to promote the uniform collection of health statistics around the world, all WHO member countries are obligated by treaty to use *ICD* codes when collecting data about medical diagnoses. The existence of such an international standard enables the sharing and comparison of health information across hospitals, regions, and countries. That is, the inclusion of a disorder in the *ICD* affects the governments of member countries when they establish public health strategies. For example, to make decisions on the prevention and treatment of disorders or monitor the prevalence of diseases, they refer to the content of the *ICD* so that limited resources (e.g., funds for public campaigns and research) can be allocated accordingly.

Inclusion in the *ICD* also affects governments in terms of health insurance. Once a health condition is officially recognized by being added to the *ICD*, it provides the grounds for patients to receive insurance payments for the disease. Since 1979, all clinicians in the U.S. have had to submit valid *ICD-9-CM* diagnostic codes with billing submissions to meet governmental coding requirements. The Health Insurance Portability and Accountability Act (HIPAA) was enacted in 1996 to tackle the need to modernize the flow of healthcare information for electronic transactions. In 2000, it adopted *ICD-9-CM* as its official formal

code book, and since then the *ICD* has been used in all HIPAA standard transactions and procedures, including mental disorders. Not only health care providers but also the health insurance industry must follow the HIPAA, so health insurance companies are required to use the *ICD* codes for all data collection and billing purposes.

As the *ICD* is the official international classification of diseases and health conditions, all health care professionals from all specialty areas follow the *ICD* for coding. In the U.S., however, mental health professionals including psychologists, counselors, and social workers have primarily been trained to use *The Diagnostic and Statistical Manual of Mental Disorders (DSM)* for diagnosis and diagnostic codes (Miller 2014). Studies show that although the *ICD* has become the official coding system, mental health professionals appear to prefer the *DSM* (Andrews et al. 1999). Unlike other specialties in medicine, psychiatry and mental health professionals thus currently have two classification systems, the *ICD* and the *DSM*, for coding. Since the *ICD* codes must be conveyed in order for them to be paid for their service, mental health providers should be familiar with the *ICD* as well. The *DSM-5* contains a full listing of *ICD-9/10* codes in its appendix, so it enables mental health providers who rely on the *DSM* for diagnostic decisions to identify the appropriate *ICD* codes.

The *ICD* and the *DSM* are two separate classification systems for mental disorders, and they actually have some distinct differences. Firstly, the *ICD* is designed to provide diagnostic classification standards for diseases, disorders, injuries, and other health conditions related to all body systems, however, the *DSM*, which aims to define and classify mental disorders covers mental disorders only. The *ICD* is produced by the WHO, one of the agencies of the United Nations (UN) whose primary role is to direct international health within the UN's system, and is approved and endorsed by the World Health Assembly,

which is comprised of the health-related department ministers of 193 member states, so it is the highest decision-making body in health policy at the global level. Since the first edition was adopted by the International Statistical Institute in 1893, the *ICD* has been continually revised and upgraded in order to reflect new findings in the field over time, and *ICD-10* is currently in effect.

The *DSM*, however, is produced by the American Psychiatric Association (APA) and approved by the assembly of the APA. Compared to *ICD*'s global-level production, the *DSM* is a production of a single national professional association. The first version of the *DSM* was introduced in 1953 as the U.S. military, after experiencing World War II, realized the need to have a useful classification of mental disorders (Tyrer 2014), however, it was not widely used in the past. It was only after the third revision, the *DSM-3*, that it became a popular classification system in the field (Decker 2013). The APA (2009) admits that due to very little international participation, earlier versions of the *DSM* were quite different from its equivalent *ICD* until the third revision (the *DSM-3*), however, it also claims that the two have become very similar, as the descriptive phenomenological approach in diagnosing mental disorders became dominant, which it attributes partly to the collaborative agreements between the APA and the WHO. Since psychiatry is the only specialty with an additional classification standard, there are voices doubting whether the existence of two separate classification systems for mental disorders is helpful for the field.

As of 2018 both the *ICD* and the *DSM* include a disorder associated with internet addiction in the latest editions, the *DSM-5* and the *ICD-11*. In the *DSM-5*, published in 2013, the APA proposed "internet gaming disorder" in its appendix as a condition for further study, confirming that internet gaming disorder is widely referred to as "internet use disorder,"

"internet addiction," or "gaming addiction" (American Psychiatric Association 2013). Until now, however, privately-run treatment centers or services for internet addiction/internet gaming disorder in the U.S. could not be reimbursed based on the *DSM-5*.

In late 2016, the WHO began to release proposals for "gaming disorder" and in the beta draft of the *ICD-11* gaming disorder was located as a new addition in the "Mental, behavioral or neurodevelopmental disorders" section. It is categorized as one of the "disorders due to addictive behaviors" alongside gambling disorder, which "develop as a result of repetitive rewarding behaviors" and do not require the injection of "dependence-producing substances." The *ICD-11* defines "gaming disorder" as follows:[60]

[60] In addition to "gaming disorder," the *ICD-11* has named another game-related disorder, "hazardous gaming," in "Factors influencing health status," which refers to the occasions "when some circumstance or problem is present which influences the person's health status but is not in itself a current illness or injury." "Hazardous gaming" is classified as one of the "problems associated with health behaviors," along with lack of physical exercise, problems with inappropriate diet or eating habits, problems with sun exposure behavior, and so on. The *ICD-11* defines "hazardous gaming" as follows: "a pattern of gaming, either online or offline, that appreciably increases the risk of harmful physical or mental health consequences to the individual or to others around this individual. The increased risk may be from the frequency of gaming, from the amount of time spent on these activities, from the neglect of other activities and priorities, from risky behaviors associated with gaming or its context, from the adverse consequences of gaming, or from the combination of these. The pattern of gaming often persists in spite of awareness of increased risk of harm to the individual or to others" (World Health Organization 2018d).

> "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." (World Health Organization 2018d)

According to the definition, unlike the concerns and panic found in the game industries and avid game users, the inclusion would not stigmatize all game players as having a mental disorder. The WHO does make it clear that "only a small proportion of people" who engage in gaming activities will be affected by the inclusion of gaming disorder in the *ICD-11* (World Health Organization 2018b). It is also not necessarily framing gaming per se as a dangerous, addictive behavior, like substance use. Rather, the definition explains that what the WHO is actually concerned with is the negative health consequences associated with excessive gaming. It is context (e.g., marked distress or significant impairment in personal, family, social, educational, or occupational functioning) and duration that diagnose someone with gaming disorder.

While the definition clarifies a clinical description of gaming disorder, it does not provide any information about diagnostic criteria, treatments, or/and preventive measures. To further proceed with such topics, the new disorder must first be accepted by medical professionals. The WHO confirms that gaming addiction is admitted as a "clinically recognizable and clinically significant syndrome" based on reviews of available scientific evidence and a consensus among experts from different disciplines and geographical regions (World Health Organization 2018a). The lack of clarity regarding diagnostic criteria and symptoms, however, still raises doubts and concerns among researchers (Bean et al. 2017)

The decision made by the WHO has already elicited responses from the governments in several countries, which is no surprise given the significance of the *ICD* in both international and domestic healthcare sectors and the medical community. For example, the Digital, Culture, Media and Sports committee in the U.K.'s Parliament reacted promptly to the inclusion of gaming addiction by organizing ongoing hearings with researchers, clinicians, support groups, and industry insiders from March 2019, which focus on topics such as the concept of gaming disorder, the psychological effects of loot boxes and their links to gambling behaviors, and the development of immersive technologies (e.g., VR and AR) (Bernal 2018; UK Parliament 2019). While there was no way for the National Health Service (NHS) to provide services and treatments to those suffering from internet addiction until recently, as a result of its inclusion those diagnosed are expected to receive treatment by the NHS across the country (Hymas 2018). In India, in February 2019, the Delhi Commission for the Protection of Child Rights (DCPCR), a commission under the Government of the National Capital Territory of Delhi, announced a list of online video games that are considered to be unhealthy, and to have an adverse impact on children. Online games such as

PUBG, Fortnite, Grand Theft Auto, God of War, Hitman, Plague Inc., and even Pokemon are included on the list. According to the news media, the announcement was made in the wake of the recognition of gaming disorder as a mental illness by the WHO, which was further fueled by a multiple criminal incidents and suicide attributable to PUBG, an online multiplayer battle game immensely popular among teenagers and youngsters in India (The Times of India 2019). In South Korea, government ministries gave divided responses regarding the inclusion. While the Ministry of Health and Welfare, Ministry of Gender Equality and Family, and the Ministry of Education welcomed the decision, the Ministry of Culture, Sports and Tourism expressed serious concerns about its impact.[61]

In contrast to the countries above, the U.S. government remains silent. Despite the lack of attention from the government, the inclusion of gaming addiction in the *ICD* has generated considerable disputes involving the game industry, the news media, and academia. In the game industry, the Entertainment Software Association (ESA), which is a U.S. association representing the voice of computer and video game companies, strongly criticized the decision of the WHO in a press release on January 4th, 2018. According to which, the ESA sees passionate gamers as no different from "avid sports fans and consumers of all forms of entertainment" noting that there are more than two billion gamers in the world. It argues that the WHO's attempt to medicalize gaming "recklessly trivialized real mental health issues….which deserve treatment and the full attention of the medical community" (Entertainment Software Association 2018). The statement implies that it is merely a waste

[61] The Ministry of Culture, Sports and Tourism plans to present its own research results to oppose the decision and also host an international symposium to discuss countermeasures (Jun 2018).

of resources to label gaming a disorder when no consensus has been achieved among researchers and mental health practitioners about its existence. At the same time it deliberately ignores the fact that not all gamers are classified as addicts by the proposed definition of gaming addiction in the *ICD-11*, and that a certain population, even though that proportion of gamers may be very small, do experience problems in their everyday life so serious as to require immediate treatment due to excessive gaming.

Major U.S. news media started to report the issue in late December 2017. The media coverage, in general, made a good point in that the inclusion of gaming disorder in the *ICD* would not necessarily mean that all game users would be labeled as having a mental disorder, however, the decision was not particularly welcomed in news stories, which held a rather doubtful and skeptical stance on the issue. For example, the news media reported that the WHO is to include "an unexpected disorder" (Lardieri 2017) in the *ICD-11*, when gaming disorder has never been officially accepted in the *DSM-5* due to insufficient evidence, and some news articles opposing the decision even emphasized the positive aspects of playing games (e.g., gaming can encourage the brain function of senior gamers) (Matthews 2012; Lee 2017; Susan 2017).

In academia, the decision resulted in open debate among researchers. When the inclusion of gaming disorder was first proposed in 2016, it faced skepticism. A group of international researchers (Aarseth et al. 2017) harshly criticized the proposed inclusion, arguing that due to the low quality of its academic basis and lack of consensus, the "premature" decision will result in "moral panics" about gaming, and so stigmatize healthy game users. They insisted that the WHO should remove gaming disorder from the *ICD-11* "to avoid a waste of public health resources." However, as a response to this argument, many other scholars began to

express different opinions, mostly supporting the WHO, one after another. Based on contemporary literature and functional neuro-imaging, they claim that gaming disorder shares many features with addiction. The scholars also argue that since the definitions of mental health conditions are dynamically changing due to temporary consensus among professionals, current controversies will be solved by further studies (Griffiths et al. 2017; Király and Demetrovics 2017; Saunders et al. 2017). In their opinion, the inclusion of gaming disorder thus has more advantages than disadvantages, as it can provide common, consistent, standardized, and so comparable criteria to monitor and report the issue worldwide, and enables researchers to produce solid knowledge (Lee, Choo, and Lee 2017). The decision can also contribute to raising public awareness about the risks of gaming disorder, developing relevant measures for diagnosis and treatments, and improving policies (Shadloo et al. 2017). Billieux et al. (2017) in particular suggest that the "moral panics" suggested by Aarseth et al. (2017) will be attenuated, as clear diagnostic criteria replace the misinformation and lack of understanding about mental health issues related to excessive gaming.

Even after the WHO finalized the decision, the responses from the industry, the mass media, and academia to the inclusion of gaming addiction in the *ICD-11* remain divided and confused. Once gaming disorder is included in the *ICD-11*, it becomes officially acknowledged as a medical condition, and then medical professionals are able to diagnose someone suffering from excessive gaming with a disorder: it affects the entire medical sector, including the health insurance industry. Currently the U.S. government pays little attention to internet addiction, and while it has long been actively engaged with the WHO as the largest donor, offering technical support as well as participation in its governance structure (Kaiser

Family Foundation 2019), the U.S. lags behind in responding to the WHO's decision. As a WHO member country, however, the U.S. government may take the inclusion of a disorder in the *ICD* into account when it plans public health policy. The change in the *ICD* will apply leverage for the U.S. government to involve it in issues about internet addiction sooner or later so that it can allocate limited resources (e.g., funds or grants) to the new disorder. In the long run, the U.S. government cannot but take a stance on internet addiction or health conditions associated with immersive and addictive technologies in general.

Conclusion

Concerning the WHO's decision, some scholars insist that there was "political pressure," especially from Asian countries, during decision-making process to include internet addiction in the *ICD-11* (Bean et al. 2017). In Asian countries, including South Korea, China, and Taiwan, internet addiction is known to be prevalent, and the public health consequences of excessive internet use, especially excessive online gaming, have pushed governments to take actions against the new social problem. While the WHO denied this claim, confirming that there was no such pressure or communication between the WHO and any government, it did acknowledge that some of its member countries had brought up repeated concerns about internet addiction (World Health Organization 2018f). The alleged political coercion from Asian countries, regardless of the truth of political pressure, implies that internet addiction connotes political signification as well as medical and academic signification at the global level. The response of the WHO confirms there are some countries whose governments are particularly concerned with internet addiction. So far, discourses on internet addiction have mostly been developed by academia and the medical world. The

inclusion of gaming addiction in the *ICD-11* is expected to result in more government involvement in the social construction of internet addiction, either on their own initiative or due to the need to meet global trends.

A comparison of government documents from South Korea, Japan, and the U.S. shows that there are significant differences among the three countries as regards government recognition of internet addiction. The level of attention given to internet addiction and the extent of government engagement with the social problem vary by country. In particular, the U.S. government appears to have largely neglected internet addiction issues. On the other hand, although the South Korean and the Japanese governments are engaged with internet addiction, there are great differences in the extent of government involvement between the two countries.

No matter how each government has responded to internet addiction so far, the decision made by the WHO will be an opportunity for its member countries, including South Korea, Japan and the U.S., to expand governmental influence on internet addiction studies and treatments. For example, the National Hospital Organization Kurihama Medical and Addiction Center, which is the first specialist clinic in Japan, opened in 2011, for the treatment of internet addiction, is having difficulties, as the current medical system in Japan is unable to meet the increased demand for internet addiction treatment services. The difficulties derive mostly from healthcare reimbursement. Since Japan follows the *ICD* for the entire medical procedure including diagnostic decisions, the government would not recognize internet addiction as a disorder without the inclusion in the *ICD* (Higuchi et al. 2017). Its inclusion is thus expected to promote research into internet addiction and related research subjects by improving access to governmental funding.

Even though the WHO has recognized gaming disorder, it just is a subset of internet addiction. Compared to internet addiction, gaming disorder encompasses both online and offline variants, and the concept is engaged with one specific activity. Gaming disorder alone may not capture the overall phenomena related to internet addiction. The WHO has been working on the negative health consequences of excessive use of internet, game platforms, and other information communication devices (e.g., smartphone) since 2014. It had already held meetings on the topics in South Korea, Japan, Hong Kong, and Turkey, where the governments regard internet addiction as a real threat to public health (World Health Organization, 2018e). While the *ICD* currently covers gaming only, it is planning to further expand the concept of internet addiction by including more online activities (e.g., social media or chats) and/or platforms (e.g., smartphones). Such an approach would inevitably bring about substantial disagreements and conflicts among relevant parties, such as the game industry, medical sector, academia, and parent groups. In the long term the government is thus expected to engage more with internet addiction issues to mediate the different viewpoints of stakeholders.

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Chapter 5. Conclusion

In this dissertation, I have explored and compared the social construction of internet addiction in South Korea, Japan, and the U.S., focusing on the role of three institutions: the mass media, academia, and the government. While the three countries have similar ICT (information and communications technology) infrastructure for internet access and internet usage patterns, in regard to internet addiction they show a considerable disparity in the level of social attention and the development of discourse production. In this chapter, I will first briefly summarize the findings of the preceding empirical chapters, then discuss the implications and limitations of this study.

Findings of the dissertation

In Chapter 2, I traced how the news media has portrayed internet addiction by analyzing 781 newspaper articles published between 1993 and 2013. The result shows a great disparity in the volume of media attention (568 South Korea, 145 Japan, and 68 the U.S.). The peak media attention years in South Korea and Japan are mostly attributable to major events or imposing incidents related to internet addiction (e.g., implementation of regulations, tragic death caused by excessive internet use, or release of survey results).

While it was in the U.S. where the first news story about internet addiction was published and the term “internet addiction” was created, the U.S. news media has paid very little attention to internet addiction throughout the entire period of time studied. Compared to South Korea and Japan, the U.S. has a well-established public perception of addiction as a public health issue. However, the nature and definition of internet addiction remain largely in

question – whether it actually exists, or is a real addiction –, and so internet addiction can hardly compete with pre-existing "verified" addictions (e.g., alcoholism or substance addiction) for the media attention that is a limited resource. On the contrary, in South Korea and Japan, internet addiction was rather smoothly accepted by the news media as a newly introduced social problem rather than a pathological condition; unlike the U.S. news stories that focused on the legitimate medical diagnosis of internet addiction, the South Korean and Japanese news media focused on the prevalence or existence of internet addiction per se. That is, internet addiction had to cross a higher threshold to be accepted as a newsworthy topic by the U.S. news media, especially during the early stage of the internet addiction discourse-making process, which may have resulted in the disparity in the amount of media attention given to internet addiction among the three countries.

The comparative study of media coverage on internet addiction demonstrates that South Korea has developed the most elaborate discourses on internet addiction. In South Korea, internet addiction has grown to become a social problem that has a broad spectrum encompassing social, medical, academic, and even political issues. The politicization of internet addiction is especially salient in South Korean news stories, which was further initiated by the implementation of regulations restricting excessive online gaming (e.g., the "shutdown law"). That is, internet addiction is controlled at the state-level by the lead of the government. The South Korean government has played a primary claims-maker's role regarding internet addiction from as early as the early 2000s, and in newspaper articles the government is portrayed as the most influential authority and actor over any other institutions such as medical professionals or academics.

On the other hand, the Japanese news media did not treat internet addiction as a separate

newsworthy topic until recently. Instead, internet addiction tended to be portrayed as "one of" the internet-related social problems along with harmful online content, online bullying, and so on. In news stories thus internet addiction is neither clearly defined nor coherently presented. The perspective of the Japanese media is quite different from others in that it views internet addiction at the micro-level as if it is a matter of human relationships (either as a key risk factor or solution), which distinguishes Japanese news stories from their South Korean and the U.S. counterparts that see internet addiction at the macro-level, focusing on its academic, medical, or political aspects.

The U.S. news media, when reporting on internet addiction, particularly emphasizes the unclear diagnostic criteria and medicalization, which mainly inheres in the inclusion of internet addiction in the *Diagnostic and Statistical Manual of Mental Disorders, 4th Edition (DSM-4).* The ambiguous nature of internet addiction had discouraged the mass media from giving serious attention to internet addiction, so the tone of the U.S. news stories on internet addiction was rather skeptical, critical, or even sarcastic, especially during the early years of media coverage. Since the medicalization of internet addiction is a key element, academics and mental health professionals appeared as the primary authority and actor in the U.S. news stories. In addition, due to the focus on medicalization, the insurance industry or insurance was mentioned more often in the U.S. newspaper articles.

In Chapter 3, I offered an account of the construction of academic and scientific knowledge about internet addiction through a literature review of 651 academic articles (532 South Korea, 55 Japan, and 68 the U.S.) published between 1996 and 2014. Scientific explanations of the social world are not necessarily accurate or objective representations of certain conditions/phenomena, which depend largely on how researchers make

interpretations based on the particular context (e.g. location, discipline, national culture, or funding). One of the most distinct differences among the three countries is the disparity in academic attention to internet addiction, which is similar to the result shown in Chapter 2. The extent of material resources and investments in internet addiction research and the undefined condition that internet addiction is not officially recognized as a mental disorder may have influenced the relatively slow academic progress shown in Japan and the U.S.

While researchers in all countries have basically reached a general agreement about the existence and prevalence of internet addiction, due to the absence of a standardized label and definition each researcher would develop his/her own approach to the same condition, which hinders the comparison and generalization of research findings. Furthermore, the absence of standard criteria for diagnosis makes it even more difficult for scholars to produce generalizable and comparable knowledge about internet addiction between countries. While in South Korea, where internet addiction issues are controlled at the state-level by the government, diagnostic criteria (*the K-Scale*) and labels maintain a certain level of consistency, but this is not the case in Japan and the U.S. That is, even in a domestic academic setting, not to mention the global exchange of knowledge, the existence of multiple labels and diagnostic criteria makes it difficult for scholars to assess the actual status of internet addiction.

In Chapter 4, I compared the government involvement in internet addiction issues. The study reveals that there are significant differences among the three countries regarding whether the government is aware of the existence/significance of internet addiction, what stance the government takes, and how the government has participated in the construction of internet addiction. Firstly, the South Korean government was well aware of potential risks of

internet addiction as early as from the early 2000s and has acted as a primary decision-maker for the prevention and treatment of internet addiction. Moreover, its scope of activities is not limited to policies and regulations but includes the overall construction of the concept of "internet addiction" per se such as the label, definition, and diagnostic criteria, which is usually considered to belong to the realm of academics or medical professionals. From the very beginning, the government has made consistent efforts to control internet addiction at the state-level, which is very similar to the process of ICT incubation in South Korea. Once the government had achieved unprecedentedly rapid and successful informatization by highly government-led top-down strategies and strong policy support, it turned its attention to the side effects generated from the rapid informatization process, one of which was internet addiction. Currently, internet addiction has led to an agenda as broad as to involve up to nine central government ministries. As the importance of the game industry increases, however, two contradictory government policy goals involving online gaming – the promotion of the game industry versus the prevention of internet addiction – ignited conflicts between government agencies, and it resulted in an unusual situation in which the government played both a claims-maker and counter claims-maker at the same time.

Secondly, the Japanese government is not particularly committed to internet addiction, but it is indeed aware of the existence and prevalence of internet addiction. So far, at least three government ministries and The Cabinet Office are involved in issues associated with internet addiction, and the overall governmental attention to internet addiction seems to be increasing. Internet addiction in Japan is regarded as a social problem in general, but it is not urgent enough for the government to give its undivided attention. Internet addiction exists as

a sub-category of a more comprehensive agenda, the creation of a healthier and safer online environment for children.

Lastly, regarding the U.S. government, given the scope of areas in which a government is active, it is no exaggeration to say that the government has long been neglecting internet addiction issues. Other than the decision made by the National Institutes of Health (NIH) in 2017 to fund a study on internet addiction, there is no direct evidence for any governmental attention given to internet addiction. Since the public sector has never embraced internet addiction issues in the U.S., the prevention and treatment of internet addiction is dominated by the private sector, such as privately-run rehab centers or counseling services.

Practical implications and implications for future work

This dissertation makes empirical contributions to the study of public mental health, impact of new technology, and social construction of social problems. Most previous studies on internet addiction focused on the medical or scientific aspects of internet addiction. This study, however, approaches internet addiction as a social problem and addresses how different national societies have constructed the newly introduced social problem, focusing on the interactions of major claims-makers – the media industry, academia, and the government.

Internet addiction is not the first example that illustrates how the diffusion of a new technology initiates moral panic among the public. There is a long history of moral panics focusing on perceived harms, especially on children, due to (new) media including rock music and video games (Bowman 2015; Bean et al. 2017). At the time of the introduction of even newer tech-addiction such as to VR (virtual reality) and AR (augmented reality), and

the World Health Organization (WHO)'s plan to further expand the concept of internet addiction by including more online activities (e.g., social media or chats) and/or platforms (e.g., smartphone), this study may provide some insight for those who seek the appropriate response to immersive and addictive technologies and wish to incorporate it into public policy on the issue. As discussed in previous chapters, given that discourses on internet addiction will likely evolve to create substantial social, political, and economic conflicts, stakeholders, such as the game industry, the medical sector, the insurance industry, parents' groups, and the government, may find it useful to prepare for such forthcoming issues.

As Pinch and Bijker (1984) argue, technology exists within a social context. In the constructionist tradition, a new technology may end up having a variety of different meanings in different environments. Different societies also attributed different risks to as well as opportunities from the technology. In regard to the diffusion of the internet, this study demonstrates that different societies make different decisions concerning, among the variety of risks stemming from the rapid penetration of the internet, which risks are real and how to define them. For example, while internet addiction has hardly gained social attention in the U.S., there exists a relatively high degree of consensus regarding the risks of violent games to children and the appropriate roles of parents on children's gaming. Internet addiction, or excessive use of the internet, is basically a matter of behavior, and behavior is bound to vary by region, nation, culture, and varied social context. At the same time, however, a behavioral disorder requires the recognition of an authoritative institution like the WHO or the American Psychological Association (APA) to be diagnosed, treated, managed, and paid for (Manjikian 2016). Thus, the study of internet addiction can provide an empirical example of how various institutions including national governments, academia, the media industry, and

the medical sector interact at the global level as well as at the domestic level to construct the social meaning of a newly introduced social problem. For instance, the decision to include "gaming disorder" in the *International Classification of Diseases 11th Revision* (*ICD-11),* which was made by the WHO, an international agency, had a direct and indirect influence on its member countries ranging from the establishment of health policy and treatment options to a potential profit decrease within the game industry. The inclusion of internet addiction backed by the concerns and efforts expressed by several national governments of countries where internet addiction is said to be particularly prevalent. That is, the social meaning of internet addiction is a construction of complicated interactions among domestic and international institutions.

Furthermore, this dissertation may have some implications for the questions of who should prepare for the potential risks of brand-new technologies or whose responsibility it is to protect users from such risks. It could be parents, schools, communities, or the government. The cases of South Korea and the U.S. show opposing approaches to the questions. While in South Korea (and partially in Japan) internet addiction is treated in the public sector mainly by government-sponsored treatment programs, the treatments are only available in the private sector (e.g., privately-run facilities) in the U.S. It is hard to ensure which approach is better for now, but these questions may have resonance to those who live in the era of innovations and new technologies.

Limitations

The study suffers from several limitations, one of which is related to the manner and extent of data collection. The existence of a variety of similar labels and no formal agreement

about definition made it difficult to determine the inclusion and exclusion of sample. While "internet addiction" is a widely used label (at least for now) to refer to risks derived from excessive internet use by the media industry and academics, its definition was uncertain until now. As a result, a number of seemingly indistinguishable labels including "pathological internet use," "problematic internet use," or "internet dependence" are in use to name the same condition. As smartphones become the primary platform for online access, a new label "smartphone addiction" was added to the list – although it is questionable whether it is possible to be addicted to a device. That is, the boundary of what the term "internet addiction" can embrace is hard to clarify. In addition, in recent years authorized medical institutions such as the APA and the WHO announced new labels: "internet gaming disorder" in *the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5)* in 2013 and "gaming disorder" in *the ICD-11* in 2018. These labels are, in most cases, utilized interchangeably and have one thing in common in that all terms are eventually related to excessive internet use. Technically speaking, however, they are not referring to exactly the same academia/medical condition. For example, "gaming addiction" or "gaming disorder" may include console/arcade games as well as online games. I expended extra efforts to set carefully-organized criteria to determine the inclusion and exclusion of sample in Chapter 2 and 3, but such a situation where no clear conceptual definition of "internet addiction" exists made data collection particularly complicated especially in assuring the exhaustiveness and representativeness of sample.

This study is also limited to encompassing only major claims-makers. In this dissertation, I focused on three institutions – the mass media, academia, and the government – as the primary claims-makers that have contributed to the construction of internet addiction.

However, in addition to the three, there are more institutions engaged, to some extent, in internet addiction issues such as the game industry, insurance companies, and mental health clinics/addiction treatment centers. While the roles and moves of such additional claims-makers were identifiable in media coverage, compared to the news media, academia, and the government their appearances were not as salient. Until now, their involvement was rather limited, and thus they were only narrowly addressed in this study.

However, as the medicalization of internet addiction further progresses, they are likely to make their voices heard more in the discourse-making process. The recent decision made by the WHO, which officially recognized "game disorder" as an illness, had a direct and substantial impact on the game industry and the insurance industry. The game industry is afraid of the moral panic that the medicalization may bring about; once internet addiction is admitted as a mental disorder, game users and gaming per se are likely to be further stigmatized. Thus, the game industry is expected to be more actively engaged in the construction of internet addiction to make counterclaims about the medicalization. In fact, such moves have already been identified in South Korea when the government introduced regulations banning excessive online gaming (e.g., the "shutdown law"). Counterclaims by the game industry worldwide will be intensified in earnest with the inclusion in the *ICD-11*. On the other hand, the medicalization will give insurance companies an opportunity to take part in the discourse construction of internet addiction, as internet addiction becomes a mental illness covered by health insurance. That is, to fully understand the way internet addiction is socially constructed, especially from now on, researchers may need to encompass more institutions besides the mass media, academia, and the government.

This dissertation is a first step toward understanding the construction of a social problem

based on the conjunction of new technology (internet), public health (addiction/mental disorders), and institutions (the mass media, academia, and the government). The exchange of influence between domestic and international institutions as well as the interactions between a variety of institutions within a national society have constructed the social meaning of internet addiction. The content and direction of internet addiction discourses have evolved differently in South Korea, Japan, and the U.S. Until recently, the social construction of internet addiction was largely hindered by the uncertain nature of internet addiction. As internet addiction becomes a verified mental disorder by the WHO, however, the social construction of internet addiction is likely to be further accelerated from now on. At such a milestone of internet addiction study, this dissertation may be a reference for future research.

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