

Problematic Internet Use: Media Portrayal across Eight Countries*

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The informational age is marked by the Internet and the media as key factors, with complex mutual interactions. However, they are recognized to increasingly produce negative consequences, such as Problematic Internet Use (PIU) and its inadequate media portrayal. This study represents a comprehensive approach on the media portrayal of PIU via content analysis of national daily newspapers in eight countries from the Eurasian continent. The cross-sectional research included predefined intervals in 2014 and 2018. The search retrieved 212 articles with balanced distribution for designated periods, and predominant publishing in the largest countries. The results revealed that the articles with neutral narratives and national scopes are the most frequent, while the coverage on youth risks (like cyberbullying and excessive social media use) is predominant. This study is a pioneer attempt to give multinational and multi-layered portrayal on the stories that grab the media attention, dictate public interest and guide health policies.

Key words: Problematic Internet Use, media portrayal, content analysis, daily newspapers

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Highlights:

- The national Problematic Internet Use (PIU) related media articles are the most frequent in daily press.
- PIU attracts media attention, guiding societal concerns and policies.
- Most frequent topics include cyberbullying and social media use (i.e., youth risks).

The digital and informational age has brought to the forefront some major societal changes and challenges. They are reflected in the information computerization processes as the most important highlight, and the Internet along with the modern media as its most prominent hallmarks. The usage of the Internet at present is so pervasive and prevalent, that the emergence of certain problematic behaviours has given urgency to a growing global concern, as expressed by major health agencies (World Health Organization [WHO], 2019), research collaborative networks (Byrne, Albright, & Kardefelt-Winther, 2016; Fineberg et al., 2018; Király et al., 2017), and governmental bodies (Best, 2017). In fact, problematic Internet use (PIU) has an estimated prevalence ranging from 1% to 27% among people worldwide (Kuss, Griffiths, Karila, & Billieux, 2014) with an increased risk for children and youth (El Asam, Samara, & Terry, 2019; Gansner et al., 2019; Symons, Vanwesenbeeck, Walrave, Van Ouytsel, & Ponnet, 2019). Specific behaviours, such as the Gaming Disorder characterised as a pattern of persistent or recurrent gaming behaviour (*digital gaming* or *video-gaming*), which may be conducted online (i.e., over the Internet) or offline, has already been recognized as problematic and included in the latest revision of the International Classification of Diseases (ICD-11; WHO, 2019). However, PIU comprises a diverse group of complex behaviours, ranging from excessive gambling, online shopping, cybersex and prolonged viewing of pornographic content, to exceedingly frequent email checking, social media use, and cyberbullying (Anderson, Steen, & Stavropoulos, 2017; Fineberg et al., 2018), all of which can cause significant impairment of everyday functioning among some individuals. In fact, the group encompasses many behaviours that share common features with some psychological problems or psychiatric disorders (like social anxieties and phobias, impulse control problems and attention deficit/hyperactivity disorders), thus inevitably catching the attention of the relevant experts in finding ways to assess the problem. So far, various instruments have been developed to assess PIU, starting with the Young's Internet Addiction Test (Young, 1998) and other validated scales that are suitable for use in different ethnic groups, such as the Chen Internet Addiction Scale (Ko et al., 2005) or the Korea Internet addiction scale (Lee et al., 2013). However, the Internet Addiction Test is used most frequently (Laconi, Rodgers & Chabrol, 2014) as it has been shown to have a stable factor-structure (Chang & Law, 2008; Faraci, Craparo, Messina, & Severino, 2013), satisfactory test-

rest reliability (.73–.88) and good to excellent concurrent validity across range of studies (Laconi et al., 2014).

While psychologists and other health professionals are important actors, both in raising awareness and in assessing the problem (i.e., primary prevention) as well for providing help to the affected individuals (i.e., secondary and tertiary prevention), they are limited by the availability of human resources and healthcare funds. Thus, other prominent sources, like the media, can play an important role especially regarding the former (Reavley, Cvetkovski, & Jorm, 2011). Specifically, the PIU-related informative websites, newspaper articles, self-help books, television, and radio coverages, can greatly contribute to the existing base of worldwide knowledge and influence people's understanding of the subject.

The current media ecosystem however, comes with its own set of challenges which quite reciprocally, also stems from the universal and ubiquitous use of the Internet. The predominantly electronic media of today, relies heavily on “social media, analytics and metrics, sensationalism, novelty over newsworthiness, and clickbait” culture (Marwick & Lewis, 2017, p.1), adjusting to the needs of the attention-based economy of the modern society. Such challenges are recognized by high official authorities as a certain risk for public disinformation (European Commission, 2019), and may result in inadequate portrayal of PIU. When it comes to PIU, an additional risk for over-/under- representation of the subject, stems from the current lack of scientific consensus on many important issues such as the lack of agreement on the universally accepted definition of PIU as a ‘mental disorder’, the critical scarcity of reliable information on its prevalence, clinical parameters, brain-based biology and socio-health-economic impact. Moreover, significant geographical differences regarding the magnitude of the problem (e.g., East Asia versus Europe) still need to be better understood (Fineberg et al., 2018). Therefore, understanding the role of the media, its consciousness and cautiousness about the problem, and its overall approach towards the portrayal of PIU, bears great importance not only in raising public awareness, but also for informing governmental strategies and guiding their policies in the field (Gavin, 2018). Simply putting “the way media frames the issue may have an impact on how people think about the issue, and on their knowledge, attitudes and actions with regard to a problem” (Vandebosch, Simulioniene, Marczak, Vermeulen, & Bonetti, 2013, p. 99).

The power of media in conditioning (to a certain extent) and orienting public opinion has already been explored in different contexts (Law, Fortunati, & Yang, 2006; White, 2014). The evidence is mainly gathered from negative examples, where digital media have served as a vehicle for marketing and social transmission of risky products and behaviours (Romer & Moreno, 2017), with adolescents and young adults serving as common victims, due to their increased exposure and unique vulnerability to the effects of social media in particular, and digital communication in general (Lenhart, 2016). In addition, much of the recent works analyse the media impact on severe mental illnesses and associated outcomes like stigma (Ross, Morgan, Jorm, & Reavley, 2019), suicide (Williams & Witte, 2018), violence (Wormwood, Lin, Lynn, Barrett, & Quigley, 2019),

hostility (Adeline & Schumacher, 2018), or body image (Rounsefel, et al., 2019). This stems from the fact that the media coverage of mental health care issues, as an outstanding research area with long-standing impact on public opinion and governmental policies, has a long history of repeated scientific interest and conducted empirical research (Ross et al., 2019). Various studies have reported that a generally negative tone prevails in the broadsheet coverage of such issues worldwide (Coverdale et al., 2002; Huang & Priebe, 2003). However, some studies note a recent shift towards a more positive, or at least neutral tone (Anderson et al., 2018). Newspaper articles infrequently reflect the common realities of mental illness phenomenology, course and outcome (Whitley and Berry, 2013). As for the specific research on media portrayal of PIU and related mental health problems, the current state of affairs is marked by infrequent and sporadic findings. So far, the research has been mostly concentrated on youngsters with indications for moral panic framing (Vandebosch et al., 2013). To the best of our knowledge, none of the scientific works have yet analysed in extensive and comprehensive manner, the impact of the media on the public portrayal of PIU. The present study represents an attempt to address this pressing need, by investigating the relationship between the modern media and the problematic internet use, as two increasingly intertwined and mutually interdependent phenomena. The present work covers findings from an ongoing multi-national and large-scale pilot study, involving teams from eight countries, thus shedding important light and providing novel insight on the topic that is both international in the range, and nationally relevant in its scope. The broad motivation for the research lies in the prior hypothesis that newspaper coverage of PIU, would shift in accordance with the global trend towards less stigmatic and more neutral representation (Gronholm, Henderson, Deb, & Thornicroft, 2018; Maulik et al., 2019; Szeto, Dobson, Luong, Krupa, & Kirsh, 2019). The current study aims to examine the frequency distribution and intensity of media coverage across different PIU topics, in order to see which PIU-related behaviour attracts more media attention.

Several research questions have been targeted as specific focus for this exploratory content analysis regarding the presence of the PIU phenomenon in the printed media. They were considered as a special research interest, since they represent solid base enabling further expansion on the subject, with future explorations of the problem (through setting concrete hypotheses that will provide a more straightforward response on the causal connection of the variables), and they were chosen as follows: 1. What is the frequency of media publishing on Internet-related problematic behaviours for selected periods in the years 2014 and 2018, and are there any differences in the number of published articles across eight countries? 2. What is the main focus of the articles and the most prominent types of PIUs across time? 3. What is the context and the tone of the narrative of the news reports on PIU? 4. Do most media reports focus on national PIU-related events (supporting the news value of geographical proximity)?

Method

Countries participating in this project, namely Belgium, China, Cyprus, Greece, Lithuania, North Macedonia, Portugal, and the United Kingdom, are collaborating partners in the framework of the European Union Action for Cooperation in Science and Technology on PIU (COST CA16207)¹⁴. The specific task at hand, revolved around media monitoring of PIU, which usually involves careful, attentive, and continual follow up (i.e., reading, watching, listening) of the media contents over a period of time, with the purpose of identifying and analyzing selected content. For the purpose of this task, the monitoring process was focused on newspapers, thus our performed activity can be specified as ‘news monitoring’ (CyberAlert, 2010). The task resided on a theoretical framework that recognizes six main sub-types (or clusters) of PIU-related behaviors: internet gaming, gambling, infidelity pornography, information overload, and Internet compulsory bullying (Young, 2011).

A content analysis enables a large data analysis on varied and robust datasets, and was chosen as most suitable method for this project. Namely, it allowed us to determine the manner in which the newspaper portrays PIU, within a single article as a basic unit for analysis (including its constituents like the headline, the title, subtitle, body of text, and accompanying illustration of the article). The extent of the newspaper’s interest in—and coverage of—the topic was inferred from the number (i.e., the frequency) and the genre (i.e., the type) of articles published by year and by country. The employed coding template (i.e., a scheme or a codebook) was adopted from a combination of templates that were used successfully in previous projects (Stojkovski, 2005; Vandebosh et al., 2013). The tone of the article (positive, negative, or neutral) was also considered, and it was determined empirically based on the judgement of the reviewers. Namely, the researchers discussed their understandings/perceptions regarding the tone of the articles. Special points for consideration were given to the manner in which journalists (i.e., authors of the selected articles) approached the subject and presented the facts of PIU. Specifically, it was considered whether the reporting was performed in comprehensive and balanced manner, and whether the referenced sources were clear and precise. In addition, it was considered whether the facts were: a) only presented and described, or b) assessed, interpreted, and evaluated (i.e., used in order to make judgments, comments or prognostications, address criticism in negative/positive direction). The discussion was concluded by a sample exercise in order to avoid any potential discrepancies during the actual data collection process. The exercise was based on reading a couple of articles written in English (which were made available to the group prior to the meeting) followed by discussion on noticed difference/similarities during a joint meeting. The exercise was considered complete when the group reached an agreement on the tone of reviewed articles. In essence, the template was expanded to include all variables (and categories of variables) that are fit for a broader range of PIU behaviours (for comprehensive list of variables please refer to the original template, included in the supplementary materials). The finer adjustments included specification of key search terms which are universal for all countries, as well as national variations of the PIU-related phrases. The finalized search criteria for PIU-related terms and phrases combined the keywords for the problem (i.e., *addiction, dependence, disorder, obsession, compulsion, problem*) with keywords related to general and specific Internet behaviours (i.e., *Internet, cyber, virtual, online, cyberbullying, gaming, gambling, cybersex, cyber chat, social media*). For example, the problem related to cyberbullying was searched as: cyberbullying, online bullying, digital bullying, virtual bullying, or Internet bullying. To maintain the methodological consistency the same coding system (template) has been utilised across all countries.

14 Information on the European network for problematic usage of the internet is available at: www.cost.eu/actions/CA16207/

The template for media monitoring went through two-staged process of validation: face validity, during which the researchers assessed whether or not this template represents an adequate measure of the way in which PIU is presented in newspapers, and content validity, during which the researchers analyzed the extent to which the proposed template represented all aspects of the PIU phenomenon. The majority of the variables were categorized. The nominal variables consisted of attribute variables (name of the newspaper, date of publishing, title of article, etc.). Ordinal level of measurement enabled the employment of nonparametric statistics (such as Chi-square test). The finalized template consisted of two parts, of which the first allowed us to identify the professional standards of the published articles. It was constructed upon a template which was successfully employed in an earlier project (“Media Mirror”, 2009–2011) by one of the participating authors (Stojkovski, 2005) and it assessed the following standards: a) whether the media’s approach to the subject is comprehensive, moderate, and balanced; b) whether journalistic coverage lists/cities/acknowledges/mentions in precise, proper and clear manner all sources; c) whether all parties that are relevant for the presented subject have been consulted; d) how the information is delivered (judging by the time, source, volume, and location of the article within the newspaper); e) whether the article tackles illustrative and cultural values (through the use of proper terminology and language); f) which journalistic genres are used (for example, news, interview, comment, report); and g) what is the general attitude toward the covered subject (in terms of a positive/affirmative, negative, or neutral regard of the topic at hand). The second part of the template focused mostly on the nature of the monitored topic (i.e., different and specific types of PIU), adopted from previous research (Vandebosh et al., 2013) and adjusted for a broader range of PIU behaviours.

Sampling Method

The samples for the content analysis were selected via a two-step procedure. The first step consisted of choosing a nationally representative newspaper (by each of the national teams of contributing authors). Namely, the newspaper had to have a long publishing record (extended to cover the whole media monitoring period from 2014 to 2018), and to be distributed throughout the whole country. The second step consisted of selection of representative articles (or the units of analysis) from each of the chosen newspapers. Each article which was included in the sample, contained the searched keywords and phrases (as previously described) and was double-checked (i.e., read) by the participating collaborators. In addition, the selection involved predetermined time-frame, with sampling of articles from the second week of every other month for the years of 2014 and 2018 (i.e., January, March, May, July, September, and November). Such criteria were introduced in order to increase the randomized and unbiased approach in the content analysis of national newspapers. The list of selected newspapers for each country is shown in Table 1.

Table 1
List of newspapers included per country

Country (<i>n</i>)	Newspaper's name
Belgium (6)	De Standaard
	De Morgen
	Het Laatste Nieuws
	Het Nieuwsblad
	De Gazet van Antwerpen
	Het Belang van Limburg
China (2)	光明日报
	人民日报
Cyprus (1)	Καθημερινή
Greece (9)	Η εφημερίδα των συντακτών
	Δημοκρατία
	Έθνος
	Τα Νέα
	Ριζοσπάστης
	Καθημερινή
	Ελεύθερος Τύπος
	Espresso
	Το Βήμα
Lithuania (3)	Lietuvos Rytas
	Respublika
	Lietuvos žinios
Macedonia (2)	Нова Македонија
	Вечер
Portugal (4)	Publico Art
	Journal de Noticias
	Correio da mancha
	Diário de Notícias
United Kingdom (9)	The Guardian
	The Times
	The Daily Telegraph
	The Independent
	The Sun
	The Mirror
	The Express
	Daily Mail
	Daily Star

Table 1 provides detailed list with chosen newspapers from the participating countries. With exception of China, the numbers of selected newspapers per country, corresponds to the numbers of citizens (i.e., readership audience) per country, with biggest sample for United Kingdom and Greece (nine newspapers) and smallest for Cyprus (one newspaper), accordingly. All statistical analyses have been conducted with IBM Statistical Package for Social Sciences (SPSS software, version 25).

Results

A total of 212 articles related to PIU were found for the appointed periods in 2014 and 2018 (104 and 108 respectively).

Frequency of PIU Media Coverage and Differences in Article Distribution between Countries

The overall annual publication of articles for the designated periods was considerably balanced, with 104 articles in 2014, and 108 in 2018 respectively. Indeed, no significant differences have been found ($\chi^2(7, 212) = 8.19, p = .32$) in the number of published articles for the corresponding periods.

The largest quantities of published articles were registered in the largest countries: 54 articles ($n = 25$ vs $n = 29$) in China, followed by 40 articles in the UK ($n = 24$ vs $n = 16$). On the other hand, the medium-range registered quantities did not correspond to the amount of readership audience for the participating countries; 39 in Belgium ($n = 15$ vs $n = 24$) and 34 North Macedonia ($n = 19$ vs $n = 15$, for 2014 vs 2018 respectively). In addition, 17 articles were registered in Portugal ($n = 8$ vs $n = 9$), 15 in Greece ($n = 5$ vs $n = 10$), 11 in Cyprus ($n = 6$ vs $n = 5$), while only two articles were found in Lithuania ($n = 2$ vs $n = 0$, for 2014 vs 2018 respectively). The data shows that the number of articles published in China, Greece, Belgium, and Portugal was higher in 2018 in comparison to 2014, while the reversed trend was in Cyprus, Lithuania, North Macedonia, and the UK.

Main Focus of the Article and Prominent Types of PIUs across Time

Significant statistical differences were found for the main focus of the articles and the specific time period ($\chi^2(3, 210) = 8.38, p = .04$). Namely, in 2014 the arrangement (given in ascending order) was as follows: 16 (15.4%) articles provided an outline of PIU-related research; 25 (24%) articles were related to policy, action and/or interventions; 26 (25%) articles presented a PIU-related case study; while 37 (35.6%) articles were “other” types of reports on PIU (such as an interview, a crime report or a discussion of new trends in digital media). On the other hand, in 2018 the respective order had the following arrangement: 15 (14.2%) articles, 45 (42.5%), 19 (17.9%), and 27 (25.5%), for each article type correspondingly.

As for the most frequently reported type of PIU, no significant differences were found for the designated periods in 2014 and 2018, $\chi^2(8, 212) = 4.63, p = .79$. However, significant differences were noted between the compared countries¹⁵, $\chi^2(42, 195) = 186.05, p \leq .01$. Overall, cyberbullying was the most prominent topic in all articles across countries (52 [26.7%]), followed by excessive social media use (36 [18.5%]), Internet addiction (29 [14.9%]), Internet gambling (19 [9.7%]), addiction to cybersex (17 [8.7%]), Internet gaming ($n = 14$ [7.2%]) and cyberchat (2 [1%]). Employing cloud tag analysis, on the translated titles of selected articles (into English), allowed us to a) analyse the text and retrieve the frequency of each word within the text, and b) represent the main focus of the articles visually as depicted in Figure 1, 2, and 3 below.

15 This comparison excludes Portugal due to unavailability of the data.

Table 2
Reported PIU types across included countries

PIU type/ Country	Belgium	China	Cyprus	Greece	Lithuania	North Macedonia	United Kingdom
Internet addiction	2 (5.1%)	15 (27.8%)	1 (9.1%)	3 (20%)	1 (50%)	6 (17.7%)	1 (2.5%)
Internet gaming	5 (12.8%)	4 (7.4%)	0 (0%)	1 (6.7%)	0 (0%)	0 (0%)	4 (10%)
Internet gambling	7 (17.9%)	5 (9.3%)	1 (9.1%)	4 (26.7%)	0 (0%)	1 (2.9%)	1 (2.5%)
Cyberbullying	19 (48.7%)	4 (7.4%)	0 (0%)	7 (46.6%)	0 (0%)	1 (2.9%)	21 (52.5%)
Cybersex	4 (10.3%)	12 (22.2%)	1 (9.1%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Cyberchat	0 (0%)	2 (3.7%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Social media	1 (2.6%)	12 (22.2%)	2 (18.2%)	0 (0%)	1 (50%)	7 (20.6%)	13 (32.5%)
Other	1 (2.6%)	0 (0%)	6 (54.5%)	0 (0%)	0 (0%)	19 (55.9%)	0 (0%)
Total	39 (100%)	54 (100%)	11 (100%)	15 (100%)	2 (100%)	34 (100%)	40 (100%)

Corresponding patterns can be traced for the reported type of PIU across the compared countries. Specifically, all countries, except Cyprus and Lithuania reported cyberbullying the most. Internet addiction as well has been frequently covered topic within all countries, followed closely by Internet gambling (apart from Lithuania) and social media (apart from Greece). Internet gaming was featured in all countries with the exception of Cyprus and Lithuania. The least amount of media attention was paid to cyberchat (featured only in Chinese newspapers), followed by cybersex (featured in Belgian, Chinese and Cypriot newspapers). Portuguese data did not evidence articles on that particular of PIU behaviour.

Context and Tone of Narrative in which Problematic Internet Use is Portrayed in Daily Newspapers

The most popular genre of articles portraying PIU, were news (60 [28.3%]), followed by report articles (44 [20.8%]), analyses (24 [11.3%]), and reportage (23 [10.8%]). Letters were the least popular genre (1 [0.5%]), followed by ‘entrefilets’¹⁶ (3 [1.4%]), surveys (4 [1.9%]) and statements (6 [2.8%]). Over half of the articles (119 [56.4%]) were written in a neutral tone, usually in a descriptive or informative manner. However, the narrative in more than a third of the remaining articles (72 [34.1%]) was marked with a negative tone, whilst only less than a quarter (20 [9.5%]) in a positive tone. The differences in the tone of the narrative were significant between countries ($\chi^2(14, 212) = 45.28, p \leq .01$). Table 3 shows different tones of narratives between countries.

¹⁶ Short media article, snippet.

Table 3
Tone of the narrative of articles across countries

Country	Tone of the narrative			Total
	Neutral	Negative	Positive	
Belgium	20 (51.3%)	18 (46.1%)	1 (2.6%)	39 (100%)
China	28 (52.8.5%)	20 (37.8%)	5 (9.4%)	53 (100%)
Cyprus	0 (0%)	9 (81.8%)	2 (18.2%)	11 (100%)
Greece	6 (40%)	6 (40%)	3 (20%)	15 (100%)
Lithuania	0 (0%)	1 (50%)	1 (50%)	2 (100%)
North Macedonia	24 (70.6%)	5 (14.7%)	5 (14.7%)	34 (100%)
Portugal	17 (100%)	0 (0%)	0 (0%)	17 (100%)
United Kingdom	24 (60%)	13 (32.5%)	3 (7.5%)	40 (100%)

Geographical Focus of the Articles

More than half of the articles (118 [57.3%]) focused on national news related to their own country, followed by local/regional news (41 [19.9%]) and international news that were pertaining to many countries (24 [11.7%]). Foreign news that were related to a single foreign country (9 [4.4%]), and articles presenting news with a combined geographical focus (14 [6.8%]) received the smallest amount of attention. Differences in the geographical focus of articles between countries were statistically significant ($\chi^2(28, 206) = 125.41, p \leq .01$). Table 4 presents the geographical focus of articles between countries.

Table 4
Spread of the geographical focus of the articles between countries

Country	Geographical focus					Total
	Local/ regional news	National news	Foreign news	International news	Sum of all types	
Belgium	18 (47.4%)	13 (34.2%)	1 (2.6%)	2 (5.3%)	4 (10.5%)	38 (100%)
China	7 (14%)	39 (78%)	0 (0%)	4 (8%)	0 (0%)	50 (100%)
Cyprus	4 (36.4%)	7 (63.6%)	0 (0%)	0 (0%)	0 (0%)	11 (100%)
Greece	1 (6.7%)	14 (93.3%)	0 (0%)	0 (0%)	0 (0%)	15 (100%)
Lithuania	0 (0%)	0 (0%)	0 (0%)	2 (100%)	0 (0%)	2 (100%)
Macedonia	7 (20.6%)	4 (11.8%)	4 (11.8%)	9 (26.5%)	10 (29.3%)	34 (100%)
Portugal	4 (25%)	8 (50%)	1 (6.3%)	3 (18.7%)	0 (0%)	16 (100%)
United Kingdom	0 (0%)	33 (82.5%)	3 (7.5%)	4 (10%)	0 (0%)	40 (100%)

Discussion

The aim of this study was to explore the extent and the content of media coverage on PIU in nationally representative daily newspapers, across eight countries of which seven are European countries (Belgium, Cyprus, Greece, Lithuania, North Macedonia, Portugal, and United Kingdom) and one is an Asian country (China). On the basis of a content analysis, we described general

trends and made comparisons across countries. The analysis focused on the second week of every other month of two years – 2014 and 2018.

While no significant differences were found in the extent of media coverage of PIU for the corresponding periods between 2014 and 2018, the biggest number of articles was found in China and the UK, followed by Belgium and North Macedonia to report on PIU¹⁷. The smallest number of articles was published in countries belonging to the Mediterranean (Portugal, Greece, Cyprus) and Eastern European region (Lithuania). There are few potential explanations for these differences. It is possible that in the latter group of countries either less attention is paid by the press to PIU or the risk level of PIU is indeed lower, although this has not been empirically confirmed (Ólafsson, Livingstone, & Haddon, 2013). However, the reasons behind these differences remain to be identified in future studies which will build upon our initial findings, conducting analysis on media portrayal of PIU in the mentioned countries in relation to other factors (like public health challenges, security concerns, etc.). Factors related to logistics and technical issues may also play a role. Namely the digital information availability of the considered country can considerably influence the data collection process by all sources (for instance, it can be expected that the informational availability is higher in more technologically advanced countries like UK, Belgium, or China).

With regards to main topics of articles for the selected period, significant differences have been observed. There were more articles outlining PIU-related research and case studies or case scenarios published in 2014 than in 2018. On the other hand, articles on policy, action and/or interventions were more prevalent in 2018 (as evident from extracted cloud tags, with the tag “social needs” emerging among the more prominent phrases for 2018). This may be a result of a shift in the media focus, from introduction to intervention in the PIU domain, from theory to practice, from research to application coverage and media portrayal. In this context, the number of articles related to other topics (not necessarily in the strict sense of PIU or loosely related to PIU behaviours) has also decreased in 2018. Narrowing the focus to specific types of PIU, it can be observed that while no significant differences were found between 2014 and 2018, the significant differences were found between countries. Cyberbullying (in the UK, Belgium, and Greece), social media (in the UK, China, and North Macedonia), and Internet addiction (China, North Macedonia, and Greece) were the most prominent types of reported PIU behaviours. One possible explanation for this finding, lies in the fact that the most reported problematic behaviours which are emerging with the rise of the digital media (and pertaining exclusively to Internet), have not received adequate amount of medical attention, as is the case with the Gaming and Gambling Disorder (WHO, 2018). In this regard, the newspapers can serve as a corrective force, guiding the attention of the scientific community. The topics which received the least media attention are: Internet

17 The majority of the articles found in the first three countries were more closely related to PIU, while the articles found in the latter country were more loosely related to PIU.

gambling (in Belgium, China, and Greece), Internet gaming (in Belgium, China, and the UK) and cyberchat (in China). The articles categorised as ‘others’ provided an abundance of information on protection from increased cybercrime and education on increased e-safety. Such findings may indicate an increased community concerns, as well as growing trends in the scientific research and policy initiatives on e-safety issues (Gaffney, Farrington, Espelage, & Ttofi, 2018). These findings may also indicate that those phenomena are emphasized as most problematic, or exaggerated as such, in the given society and country. Some also seem to confirm well-known and recorded findings, such as the case of the high internet addiction rate in Asian countries, as shown by Chinese data (Livingstone, Mascheroni, & Staksrud, 2017; Lu et al., 2018).

By considering the context and the manner in which PIU was portrayed (for the selected newspapers, countries, and periods), our pilot study showed that articles were mainly classified as news, reports and analyses, and less frequently written as reportage, letter, entrefilet, survey, and statement. Overall, the majority of articles were written in a neutral tone, usually in a descriptive or informative manner. In the remaining articles, the negative tone of narratives (presenting facts and cautioning against adverse PIU effects) was more prevalent, than the positive tone (highlighting the important achievements and improvements related to internet technologies, research undertaken, benefits of using social media, online educational programs and informative programs for e-safety). Differences in the tone of narratives were significant between countries. A neutral tone of narrative was most prevalent in all countries apart from Cyprus and Lithuania. A bigger number of articles with a negative tone was found in Cyprus, and with a positive tone of narrative in China and North Macedonia. The future studies may benefit from investigations on the prevalent tone in the national media coverage of PIU on one hand, and the current state of PIU related legislations in the concerned countries, on the other.

The geographical focus of articles revealed that the biggest interest is related to the national news of each country (except Lithuania), followed by local and regional news related to a city within one’s own country. International news (pertaining to many countries) as well as foreign news (related to one foreign country) have been found less frequently. The differences in the geographical focus of articles between countries were significant. Comparison between countries showed that PIU was presented in most countries within the national news (apart from Lithuania). Belgium had the highest number of local/regional news, which was not the case for the United Kingdom or Lithuania. In Cypriot and Greek articles foreign and international news were not featured. These findings highlight the notion that media are guided predominantly by the so-called economy of attention, where the proximity and the magnitude of the newsworthy event carry the biggest “weight”, since they are of direct interest to the readers and the local community. Still, regardless of the narrow geographical focus and its own set of challenges, the media remains the most powerful source with the widest outreach toward different kinds of audience. At the same time,

the news aggregators remain among the most frequently visited sites, while acquiring information and news updates are one of the mostly used services on the Internet (besides communicating, sharing experiences, playing games, developing interpersonal relationships, shopping).

Thus, the impact of the media in constructing public consciousness about PIU should not be underestimated as it brings forth variety of implications. Namely, the media can serve to promote products and shape behaviors predominantly of young people (Romer & Moreno, 2017). Numerous studies also highlight the impact of the media on the perception of illnesses, stigma, mental distress and violent behavior (Ross et al., 2019; Williams & Witte, 2018; Wormwood, Wormwood, Lin, Lynn, Barrett, & Quigley, 2019).

However, the assessment of the media portrayal on PIU and its impact on the society, remains a challenging task for systemic research and evaluation. It relies not only on the interest and capacity of the researchers, but also on their media literacy, critical thinking skills and ability to decipher the intention behind the published story. If the articles, for instance, contain superficial information intended to attract and/or impress readers for economic purposes, then it becomes difficult to assess the extent of the true impact and the type of effect (positive or negative) over the general public. So, in a way, the impact of the media portrayal (and its assessment) becomes a reflection of a broader societal problem. This is why, correct reporting with precise facts and accurate descriptions of the problem is of utmost importance as it will encourage and mobilize effective ways of prevention, intervention and treatment. Indeed, public that is systematically informed about a problem, has consistently demonstrated increased levels of awareness about the problem as well as proactive attitudes, behaviours and capacities in its handling (Vreese, 2005; Scheufele & Tewskbury, 2007). With our study we aim to contribute towards a well-informed readership audience that is concerned about the universal nature of the problematic internet use, approaching the topic not as “someone’s else problem” but as a present and potent risk, regardless of the sociopolitical context.

To the best of our knowledge, this is a first attempt to bind many countries and a multitude of scientific disciplines, in the research of media portrayal on PIU. However, several methodological limitations should be considered upon the discussion of the results. Firstly, the number of daily popular newspapers differed between the countries, which could have caused a bias in the reporting of respective differences. Secondly, the specific time-frame for content analysis (every second week of every other month in 2014 and 2018) may have contributed to more varied or less balanced results (so, it is possible that if a different timeframe was used, the emerging results would have differed to a certain extent). Thirdly in some countries an electronic search of the articles was not possible and instead a manual search of the national archives was performed, which may have widened the scope of the analysis to a certain extent. Future studies, with longitudinal design, covering longer periods and a wider range of countries, might yield better insight on this topic.

Conclusion

In summary, the media portrayal of problematic Internet use is a viable topic of interest for newspaper articles in many European countries throughout recent years. So far, the tone of reporting remains predominantly neutral while the scope is mostly national, and the coverage of youth risks (like cyberbullying and excessive social media use) is prevalent. Although we can only draw tentative conclusions (due to discussed methodological constraints), they nevertheless present an informative overview of media portrayal of PIU in daily newspapers. As PIU-related behaviours acquire new dimensions through technological and digital innovations, they will inevitably hold a continual media interest (as evidenced from 5-year gap comparison between 2014 and 2018). Also, it is to be expected that they would widen the focus of media interest, in terms of covering new topics and maybe doing so in a different manner. The increased media interest on specific types of PIU like excessive social media use, Internet addiction and gambling (as well as a steady presence of cyberbullying), are also informative of societal trends, scientific concerns, and national policies. Finally, this pilot study is very instructive regarding the coding scheme for media monitoring, since newly introduced updates and improvements allow for a more effective data coding and more appropriate recording of a country's data, in order to examine possible cultural differences among the participating countries in a standardized manner. Therefore, it can be used as a cornerstone and seminal work for all future research in the domain of media portrayal of PIU.

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Problematična upotreba Interneta: prikaz u medijima u osam zemalja

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Informaciono doba je obleženo Internetom i medijima kao ključnim faktorima, te njihovim kompleksnim interakcijama. Međutim, prepoznaje se da oni sve češće dovode do negativnih posledica, poput problematične upotrebe Interneta (PUI) i da to nije adekvatno predstavljeno u medijima. U ovoj studiji smo pristupili istraživanju medijske slike o problematičnoj upotrebi Interneta putem analize sadržaja dnevnih novina sa nacionalnom distribucijom u osam

zemalja Evroazije. Istraživanje je po svojoj prirodi bilo transverzalno i uključivalo je unapred definisane intervale tokom 2014. i 2018. godine. Pretragom (izdanja izabranih dnevnih novina, prim. prev.) u ovom intervalu dobijeno je 212 članaka sa balansiranom distribucijom po označenim periodima i dominantno objavljenih u najvećim zemljama. Rezultati su pokazali da su najčešći članci sa neutralnim narativom i nacionalnim (tematskim, prim. prev.) opsegom, a da dominiraju teme koje se tiču sajbernasilja i prekomerne upotrebe socijalnih medija. Ova studija je pionirski pokušaj da se da multinacionalni i višeslojni prikaz priča koje privlače pažnju medija, određuju zainteresovanost javnosti i usmeravaju zdravstvenu politiku.

Ključne reči: problematična upotreba Interneta, medijski prikaz, analiza sadržaja, dnevne novine

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