Behavioural Addictions in the Context of New Media

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Abstract: New media are an integral part of modern society, and therefore an integral part of the lives of school-aged children. In recent scientific studies the term "digital natives of the technology age", refers to the immersion of school-aged children in media content within the new millennium. Existing scientific research is insufficiently focused on the study of behavioural addictions observed through the discourse of new media. Synthesizing the correlation of these claims, the focus of this study is on the impact of new media use on the occurrence of behavioural addictions during the pandemic in the period of 2021-2022 in the school-aged population. The research is based on a quantitative study of the length of daily use of new media and the impact on the mental health of school-age children (N = 200). The analysis of the obtained results of the survey conducted on a representative sample elaborates the hypothesis which claims that the pandemic affected the increase in the use of new media in the population of children. The perception of the occurrence of symptomatology belonging to the spectrum of behavioural dependencies of the mentioned population was also analysed, and the obtained results were compared. Consequently, the more hours children spend online playing video games, the more often negative symptoms such as helplessness, guilt and anxiety occur, as well as they distance themselves from social relationships and lose contact with friends and family. The scientific contribution of this paper is reflected in the analysis and comparison of the results obtained in Croatia with the results of similar research on the global level.

Key-Words: behavioural addictions, new media, pandemic, mental health, school-aged children.

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1 Introduction

The pandemic has influenced the way of upbringing and education as well as the use of the free time of school-aged children. The new media were an integral part of the daily life of children even before the pandemic, however during and after the pandemic, they began to significantly occupy a considerable amount of time in their lives. As a result of curfews, self-isolation, social distancing, and quarantining children did not only change their interaction with the new media but it also considerably affected their social relationships and behaviour, [1]. Through new media, various online social platforms as well as playing video games children are progressively connecting with their friends and family members while sharing content, photos and ideas, [2]. The increase in time spent on new media is changing the contextual framework of the notion of mental health and behaviour patterns. Therefore, observed through a broader social definition, the question that should be addressed is how the use of new media affects mental health of children specially behaviour related addictions. The aim of this study is to synthesize available scientific research and to evaluate the significance attached to new media leading to behavioural addictions among the population of school-aged children in the Republic of Croatia during the COVID-19 pandemic.

1.1 The Definition of Behavioural Addictions

Behavioural addiction or behavioural disorder is defined as an addiction that is not related to the abuse of a psychoactive substance but shares some characteristics with addiction caused by a psychoactive substance, [1], [2]. The most frequently mentioned addictions are gambling addiction, pathological overeating, hypersexual disorder, compulsive shopping disorder, exercise addiction, etc. covered by spectrum of disorders in Diagnostic and statistical manual of mental disorders DSM 5 [3], however in this scientific research, the emphasis will be on Internet addiction and Internet/video games addiction, which are commonly related to the new media use and children. Many terms such as internet addiction disorder, compulsive internet use, problematic or pathological internet use, computer addiction and

pathological use of video games have also been used to describe this phenomenon, [4], [5]. Because there is insufficient evidence to establish the diagnostic criteria needed to identify it as a separate mental disorder, internet addiction is regarded as a behavioural disorder in DSM-5, [4], [5].

Internet addiction as persistent and repetitive use of the Internet to participate in games, often with other players, leading to clinically significant impairment or suffering and refers to 5 or more of the following criteria over a 12-month period:

1) Preoccupation with online games (a person thinks about earlier games or plans to play the next game, playing online becomes the dominant activity in everyday life).
2) Symptoms of constriction when online gaming is discontinued (e.g., irritability, anxiety, or sadness, but no physical signs as in pharmacological constriction).
3) Tolerance - the need to spend more and more time playing games online.
4) Unsuccessful attempts to control participation in online games.
5) The loss of interest in past hobbies and entertainment, except for online games.
6) Constantly excessive participation in online games despite learning about the existence of psychosocial problems.
7) Lying to family members, therapists, or other persons regarding the extent of online gaming.
8) Using online games to avoid or reduce negative moods (e.g., feelings of helplessness, guilt, anxiety).
9) Endangering or losing an important relationship, job, educational or business opportunity due to participating in online games.

Numerous scientific studies suggest that time spent on new media influences the rise of behavioural addictions that often come in comorbidity with other mental health difficulties. Behavioural addictions are often combined with anxiety disorders and mood disorders [6]. Many authors also state that behavioural addictions often serve as a means of sublimation to reduce unwanted emotional states or to suppress overwhelming emotions [6]. School-aged children are the most vulnerable part of the population to the occurrence of mental health problems that occur as a result of frequent playing games online [7]. There are difficulties in the field of children's mental health, which are often manifested by symptoms such as neglect of school obligations, neglect of social activities, and less interest in active leisure time. Behavioural addictions are in comorbidity with other mental health problems such as anxiety and depression in their research. Adolescents have been called the "digital natives of the technology age", but their awareness, attitudes, and behaviour should nevertheless be shaped and monitored [8], [9]. This is especially true during the COVID-19 pandemic, and could lead to difficulties in re-adapting to "normal" life after the crisis, which could negatively affect the quality of their lives. Habits are hard to break, and adolescence is a critical stage in terms of addiction development, [5].

2 Methodology

In the Republic of Croatia, there is no in-depth research dealing with the influence of new media on the occurrence of behavioural addictions in school-aged children during the COVID-19 pandemic. The aim of the research conducted for the purpose of this paper was to explain the influence of time spent using new media on the incidence of symptoms from the spectrum of behavioural addictions. The survey lasted for one year, from April 2021 to April 2022, applying the online Google Questionnaire which was formed based on DSM 5 symptoms and variables were conducted. Variables for research into the impact of new media on mental health were determined:

1. Symptoms of constriction when playing online are discontinued.
2. Increased tolerance of time spent on new media.
3. Unsuccessful attempts to control participation in online games.
4. The loss of interest in earlier hobbies.
5. Excessive participation in online games despite learning about the existence of psychosocial problems.
6. Lying about the extent of online gaming.
7. Using online games to reduce negative moods.
8. Endangering or losing important relationships.

The questionnaire consisted of 13 items measured on a 5-point Likert scale (from 1 = "not at all like me" to 5 = "very much like me") and was aimed at assessing the level of self-control capacities referred to the domains of achievement and task performance, impulse control, adjustment, interpersonal relationships, and moral emotions. Younger children completed the questionnaire with the support of parents / foster parents, jointly answering questions about the perception of the use of new media and the impact on the occurrence of behavioural symptoms.

It took an average of 15 minutes to complete the questionnaire. The questions were divided into two categories; firstly, the personal characteristics and behavioural characteristics of the respondents were examined (age, preferred social networks, average time spent on social networks, preferred devices). The second category of questions examined respondents' attitudes and perceptions of themselves and the symptoms they perceived to have of themselves.

2.1 The Aim of the Research and Hypotheses

The main goal of this study is to explain the impact of new media on the incidence of behavioural addictions studied through the duration of the COVID-19 pandemic in school-age children. A more detailed study of the constructs that influence the use of media will investigate the time children spend on new media during the pandemic, as well as the incidence of symptomatology from the behavioural addiction spectrum.

The comparative analysis aims to determine whether there are differences in the perception of the use of new media on the occurrence of mental health problems with an emphasis on behavioural addictions in the period of one year from March 2021 to March 2022 in Croatia.

Under the goals, hypotheses were set:
H1: The pandemic affects the increased consumption of new media by school-age children in Republic of Croatia
H2: There is a correlation between time spent on new media and the incidence of behavioural addiction symptoms.

2.2 Sample of Respondents

The sample of respondents (participants in the research) consists of 200 primary school students (N = 200) in the Republic of Croatia, 51.40% boys and 48.60% girls. The average age of the students included in this study was M = 12.86.

2.3 Data Analysis and Discussion

Descriptive statistics and pairwise Pearson r's correlations (*p*-value > .05) were assessed through SPSS v20.0. Correlations and the graphical representation of paired variables association were performed to assess multicollinearity among variables.

Table 1. Time spent on new media on daily basis before the pandemic

Time (hours)	*Frequency*	*%*
1-3	71	35,5
3-6	89	44,5
6-9	36	18
9>	4	2

Table 2. Time spent on new media on daily basis during the pandemic

Time (hours)	*Frequency*	*%*
1-3	2	1
3-6	67	33,5
6-9	122	61
9>	9	4,5

Analysing the frequencies and percentages of responses obtained in Table 1 and Table 2, it is evident that the pandemic significantly affected the use of new media during its time. The increase is visible in all age groups. The average use of media before the pandemic in the age group was M =3,86, while during the pandemic the daily median was M =7,51. The analysis and evaluation of the obtained results show that with the increase of time spent on new media, the tolerance for time spent on the Internet increases. The more time a student spends on different online content, the higher his tolerance. Also, with more time spent online, students' interests in earlier hobbies and time spent with friends decreases, while the need for further playing video games increases. Despite the appearance of psychosomatic symptoms, anxiety, difficulties with learning and fulfilling obligations, the student still does not have the opportunity for self-reflection and introspection and continues to increase the time spent online. The more time a student spends playing games, the more often he or she lies about the time spent on them. A significant correlation (p <.001) can be seen in the last two variables, which suggest that the more hours a student spends online playing video games, the more often negative symptoms such as helplessness, guilt and anxiety occur, and he or she distances from social relationships and loses contact with friends and family members. Table 3 shows several statistically significant correlation coefficients. The highest statistically significant correlation was found between the first and the second variable. Evaluating the obtained results, which are shown in Table 3, it is evident that with the increase in the time that school-age children spend on new media, the probability of the appearance of symptoms such as more and more frequent thinking about playing games earlier or planning about playing the next

game increases (p value = -1.0). With the before mentioned behaviours, playing games on the Internet becomes a dominant activity in everyday life, which subsequently leads to difficulties in the social-emotional functioning of the individual, and creates a greater possibility for the development of behavioural addictions. The results also show that in children who spend more time on new media, withdrawal symptoms occur more often when the media is discontinued. The listed symptoms are mostly manifested on a physiological level such as irritability, anxiety or sadness. Observing the obtained positive and statistically significant correlations in other variables, it is evident that the increase in time that children spend on new media also affects the loss of interest in engaging in other hobbies, and the increasing entry into the virtual world with the aim of reducing experiencing and experiencing negative emotions, which ultimately significantly measures impact on mental health difficulties (p value = 0.687). From Table 3, it can be concluded that there is a correlation between the amount of time spent on new media with an emphasis on video games and time spent on social networks with difficulties in the field of occurrence of behavioural addiction symptoms. To combat the COVID-19 pandemic, many governments have implemented unprecedented measures, such as social distancing, social isolation, curfews, and even government-enforced large-scale quarantines. This has resulted in technological tools becoming an even more essential source of information, communication, and socialization). The findings, [10], [11], [5] also show that gender does not moderate the indirect effect of attitude on behaviour. However, when the extent (duration) of technology use is included, both sex and duration of use moderate the indirect effect of attitude and behaviour. Regardless of the duration of technology use, when the attitudes of females were negative, their addictive behaviour was lower, and vice versa. The results of the study indicate the difficulties of self-control in children who are excessively exposed to new media, which is confirmed by the results of this research, with emphasis on increasing tolerance for time spent on media content. According to the results obtained in Tables 1 and 2, it can be seen that the pandemic affected the increase in time spent on new media. The average time spent on new media before the pandemic was estimated at 3-5 hours, while during the pandemic it was estimated at 7-9 hours per day.

Behavioural addictions are maladaptive behaviours that can be conceptualized as emotional-regulatory strategies, [12], [13], [14], [15], [16], [17], [18]. The results obtained in this study coincide with the results of other recent studies confirming that psychopathological elements occur in children who are excessively exposed to new media, regardless of the type of device they access Internet content, while certain studies predominantly emphasize access to Internet content via mobile, [5], [19]. Elaborating all the above statements that coincide with the results obtained by methods of inferential statistics (Table 3), the second hypothesis was confirmed, which supports the relationship between time spent on new media and the incidence of behavioural addiction symptoms. Considering the role of the new media, it can be concluded that children who are less satisfied with life and less socially adjusted use the media more, so the media can be understood as a compensation for shortcomings in real life, [20], [21]. The analysis and synthesis of the obtained results confirmed that new media are an integral part of the everyday life of school-age children, and the time spent on new media increased significantly during the pandemic, which can be partly explained by the duration of online teaching and social isolation, as well as playing online games in free time.

3 Conclusion

New media are an integral part of modern society and time spent on new media is one of the predictors of the occurrence of symptoms from the spectrum of behavioural addictions. The time students spend using social media and playing video games significantly affects their mental health. According to the results of the research, there is more isolation and more pathological patterns of behaviour such as lying, and hiding time spent on the Internet, which in turn reduces live social contacts, and declines in quality of life. What makes it difficult to ‘’identify’’ behavioural addictions is certainly the fact that the behaviours and habits are legal, desirable and often healthy. The question is how and where to draw the line when a "normal" and common behaviour becomes addictive, or what criteria must be met for a behaviour to be considered addictive? The definition that best describes this "limit" states: "the difference between healthy enthusiasm and behavioural addiction is that healthy enthusiasm contributes to the quality of life and addiction greatly impairs it" [22], [23], [24]. The pandemic further encouraged children's immersion in media content, due to the use of online platforms for attending classes, and isolation to prevent the spread of disease, and thus there was an increase in time spent in the digital world. Although behavioural

addictions are a relatively new construct, in the future more attention will certainly be paid to the prevention and detection of this addiction, and new media as creators of "digital natives of the technology age".

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Conflict of Interest

The author has no conflict of interest to declare that is relevant to the content of this article.

APPENDIX

Table 3. Pearson correlation of time spent on new media and symptom incidence

		1.		2.		3.		4.		5.		6.		7.	8.
1.	Pearson's r	—													
	p-value	—													
2.	Pearson's r	-1.000	***	—											
	p-value	< .001		—											
3.	Pearson's r	-0.051		-0.051		—									
	p-value	0.836		0.836		—									
4.	Pearson's r	0.687	***	0.687	***	0.687	***	—							
	p-value	0.001		0.001		0.001		—							
5.	Pearson's r	-1.000	***	-1.000	***	-0.051		0.687	***	—					
	p-value	< .001		< .001		0.836		0.001		—					
6.	Pearson's r	0.546	**	0.546	**	-0.076		0.688	***	0.546	**	—			
	p-value	0.016		0.016		0.756		0.001		0.016		—			
7.	Pearson's r	0.687	***	0.687	***	0.687	***	-1.000	***	0.687	***	0.688	***	—	
	p-value	0.001		0.001		0.001		< .001		0.001		0.001		—	
8.	Pearson's r	0.687	***	0.687	***	0.687	***	-0.331		0.687	***	-0.053		-0.331	—
	p-value	0.001		0.001		0.001		0.166		0.001		0.831		0.166	—

* p < .05, ** p < .01, *** p < .001

Legend: 1. Symptoms of constriction when online gaming is discontinued, 2. Increased tolerance of time spent on new media, 3. Unsuccessful attempts to control participation in online games, 4. The loss of interest in previous hobbies, 5. Excessive participation in online games despite learning about the existence of psychosocial problems, 6. Lying about the extent of online gambling, 7. Using online gambling to reduce negative mood, 8. Threatening or losing important relationships.