

## A cross-sectional study to assess the addiction towards digital gadgets using digital addiction scale among young adults

Marjorie Miraclin K <sup>1</sup>, Sribala B <sup>2,\*</sup>, Ashwitha S <sup>2</sup> and Santhosh Kumar R <sup>2</sup>

<sup>1</sup> Faculty of Allied Health Sciences Lecturer, University of Dr. M.G.R Educational and Research Institute, Chennai, India.

<sup>2</sup> Department of Physician Associate, University of Dr. M.G.R Educational and Research Institute, Chennai, India.

World Journal of Biology Pharmacy and Health Sciences, 2024, 19(02), 556–565

Publication history: Received on 14 July 2024; revised on 23 August 2024; accepted on 25 August 2024

Article DOI: <https://doi.org/10.30574/wjbphs.2024.19.2.0524>

### Abstract

**Introduction:** In today's hyper-connected world, digital gadgets have become an integral part of everyday life, particularly among young adults. From smartphones, laptops to tablets and gaming consoles, these devices offer a multitude of functionalities that enhance communication, entertainment, and productivity. However, alongside the benefits, there's a growing concern about the addictive nature of these gadgets and their potential impact on the well-being of young adults.

**Aim:** To evaluate the addiction towards digital gadgets among young adults.

**Methods:** Non experimental research design and Purposive Sampling technique were used; 1100 people who meet the inclusion criteria make up the study's sample size. Quantitative research strategies using Digital Addiction Scale (DAS) questionnaire. The DAS is scored (1–5), the mean score is (3), and >3 is considered high risk of digital addiction; <3 is considered low risk of digital addiction.

**Results:** The majority of participants (74%) were between the age group of 18-26 years, with UG pursue (96%). The most commonly used gadgets was smart phone (96%). The maximum hours of use are 2-5 hours (97%), with the primary objective being socialmedia (79%). The study found; the level of addiction was mild (7%), Moderate (51%), severe (34%) and Very severe (8%). It illustrates the severity of addiction; the number of severe and very severely addicted participants (42%) as severity rate. Mild and moderate are removed to focus on severity of the prevalence.

**Conclusion:** The study concluded that 42% of individuals are significantly addicted towards digital gadgets.

**Keywords:** Digital addiction; Digital addiction scale; Addiction

### 1. Introduction

In recent years, the pervasive use of digital gadgets such as smartphones, tablets, and laptops has significantly transformed various aspects of daily life. While these devices offer numerous benefits, including enhanced communication, access to information, and entertainment, there is growing concern about their potential to lead to addictive behaviors. Digital addiction, often characterized by excessive and compulsive use of digital gadgets, can negatively impact mental health, social relationships, and productivity(1). To understand the extent and nature of digital addiction, researchers have developed various tools and scales. One such tool is the Digital Addiction Scale (DAS), which measures the severity of addiction to digital gadgets based on a range of psychological and behavioral criteria. The DAS provides a comprehensive framework for assessing digital addiction, allowing researchers to identify patterns of

\*Corresponding author: Sribala B

excessive use and their associated consequences. This study aims to assess the addiction levels towards digital gadgets among a sample population using the Digital Addiction Scale. By employing the DAS, we seek to quantify the prevalence of digital addiction and identify demographic and psychological factors associated with high addiction levels. Understanding these patterns can inform interventions and policies aimed at mitigating the adverse effects of digital addiction and promoting healthier usage of digital technologies(2).

## 2. Material and methods

### 2.1. Study Design and Settings

The study was cross-sectional, targeting the young adults. The main inclusion criteria were young adults (18-26years) and People who have specific major addiction towards digital gadgets. People with cognitive impairments and history of psychiatric disorder were excluded from the study.

### 2.2. Sample Size and Sampling

The sample size of the study comprises of 1100 young adults who fulfill inclusion criteria. Purposive sampling techniques. Sampling method – Questionnaire Method.

### 2.3. Statistical Analysis

The frequency, mean, standard deviation, percentage, chi square test were used to analyse the data by SPSS . The P value less than 0.05 were considered to be statistical significant.

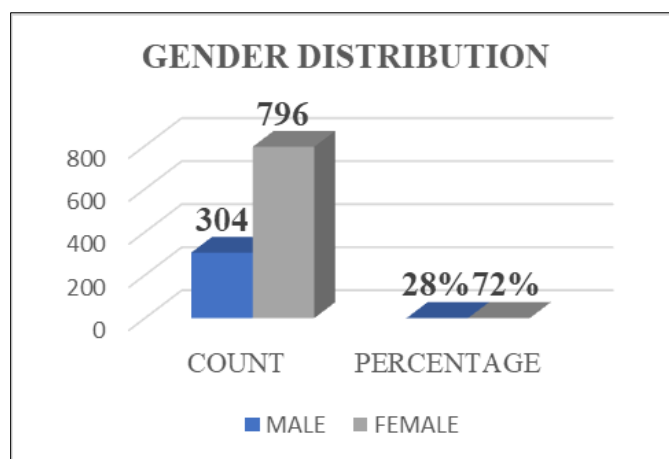
## 3. Results

The present study included 1100 young adults.

### 3.1. Section 1: total gender distribution

**Table 1** Total Gender Distribution

GENDER	COUNT(N)	PERCENTAGE(%)
MALE	304	28%
FEMALE	796	72%



**Figure 1** Total Gender Distribution

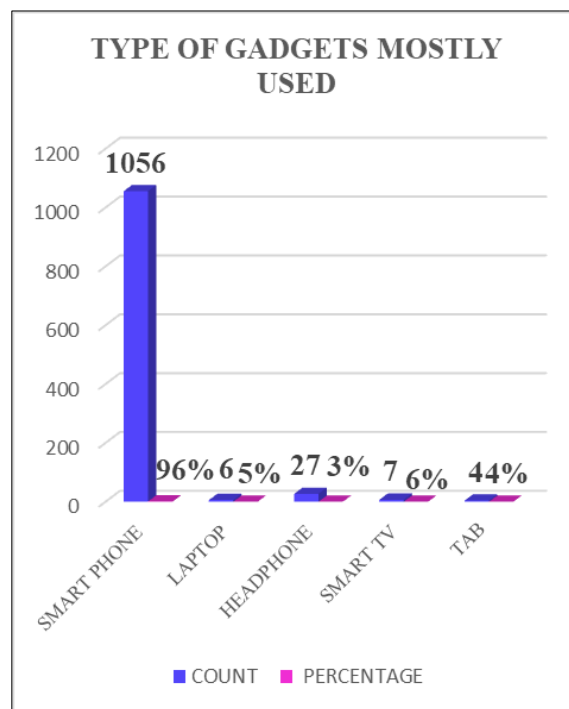
Table & Figure 1: shows the participants who responds the questionnaires. Gender of the participants are male and female; Out of the 1100 participants 304 are male (28%) and 796 are female (72%), This implies both male and female

are involved in the study. The following analysis shows that more female participants are in the study than male participants.

**3.2. Section 2: total type of gadgets mostly used**

**Table 2** Total Type of Gadgets Mostly Used

Types of gadgets mostly used	Count (n)	Percentage(%)
Smart phone	1056	96%
Laptop	6	5%
Headphone	27	3%
Smart tv	7	6%
Tab	4	4%



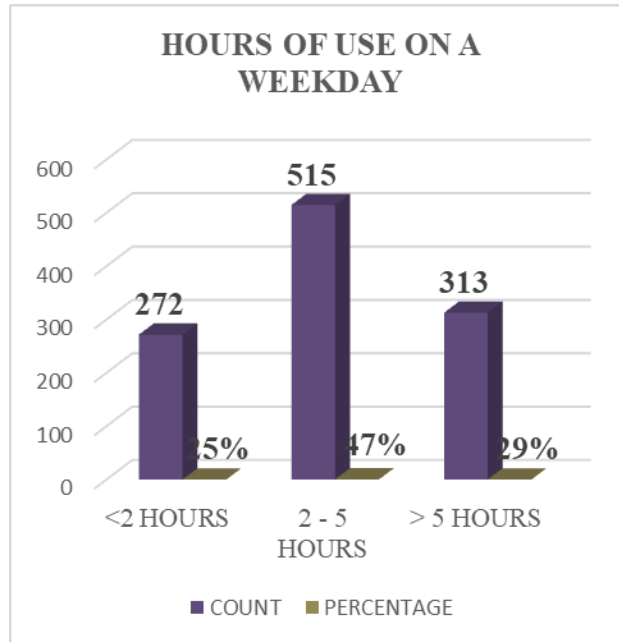
**Figure 2** Total Type of Gadgets Mostly Used

Table & Figure 2: shows the participants who responds the questionnaires. In Types of gadgets mostly used, the participants are categorized into five categories: Smart Phone, laptop, Headphone, Smart Tv and Tab; Out of the 1100 participants 1056 are Smart Phone (96%), 6 are Laptop (5%), 27 are Headphone (3%), 7 are Smart Tv (6%) and 4 are Tab (4%). The following analysis shows that more Smart Phone participants are in the study than other participants.

**3.3. Section 3: total hours of use on a weekday**

**Table 3** Total Hours of Use on a Weekday

Hours of use on a weekday	Count(n)	Percentage(%)
<2 HOURS	272	25%
2 - 5 HOURS	515	47%
> 5 HOURS	313	29%



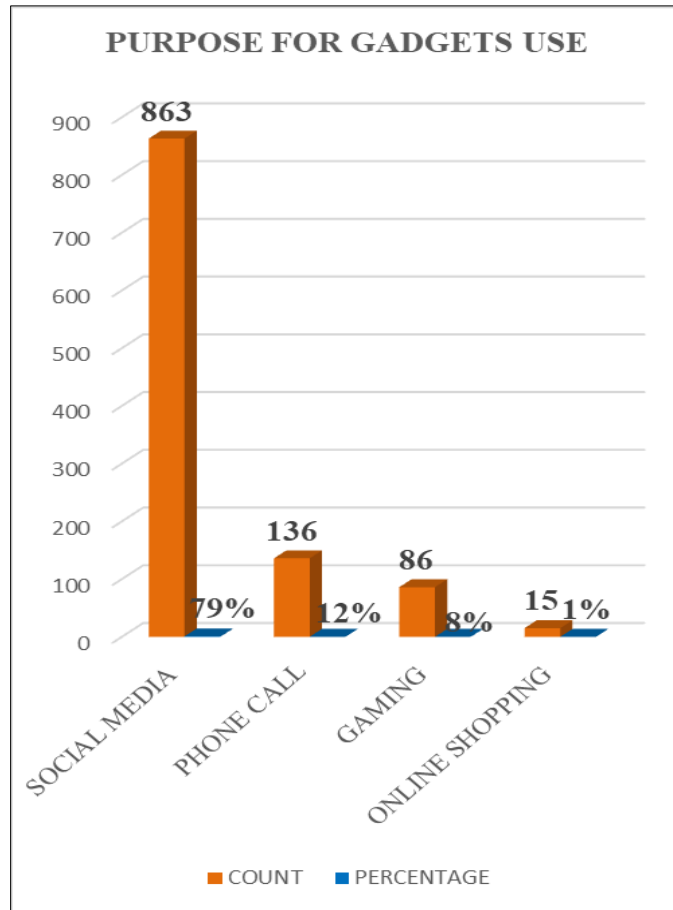
**Figure 3** Total Hours of Use on a Weekday

Table & Figure 3: shows the participants who responds the questionnaires. In Hours of use on a weekday, the participants are categorized into three categories: <2 Hours, 2-5 Hours and >5 Hours; Out of the 1100 participants 272 are <2 Hours (25%), 515 are between 2-5 Hours (47%) and 313 are >5 Hours (29%). The given analysis implies the majority of Hours of use on a weekday of participants are in between 2-5 Hours.

**3.4. Section 4: total purpose for gadgets use**

**Table 4** Total Purpose for Gadgets Use

Purpose of gadgets use	Count (n)	Percentage(%)
SOCIAL MEDIA	863	79%
PHONE CALL	136	12%
GAMING	86	8%
ONLINE SHOPPING	15	1%



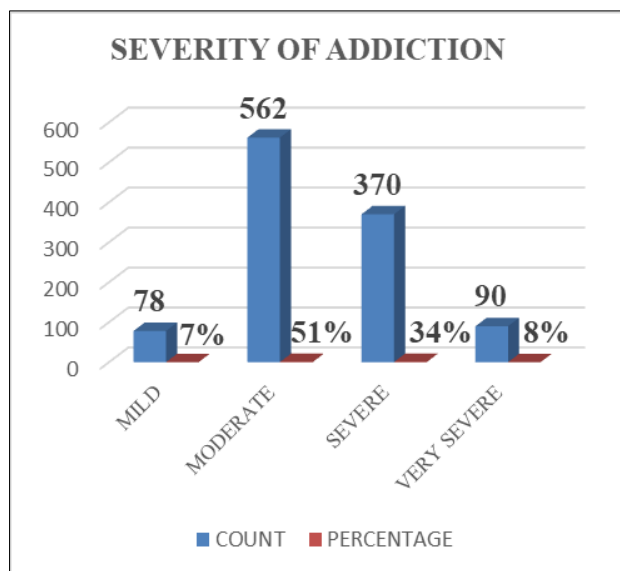
**Figure 4** Total Purpose for Gadgets Use

Table & Figure 4: shows the participants who responds the questionnaires. In Purpose for gadget use, the participants are categorized into four categories: Social media, Phone call, Gaming and Online shopping; Out of the 1100 participants 863 are Social media (79%), 136 are Phone call (12%), 86 are Gaming (8%) and 15 are Online shopping (1%). The following analysis shows that more Social media participants are in the study than other participants.

### 3.5. Section 5: assessment of severity of addiction

**Table 5** Assessment of severity of addiction

Severity of addiction	Count (n)	Percentage (%)
MILD	78	7%
MODERATE	562	51%
SEVERE	370	34%
VERY SEVERE	90	8%



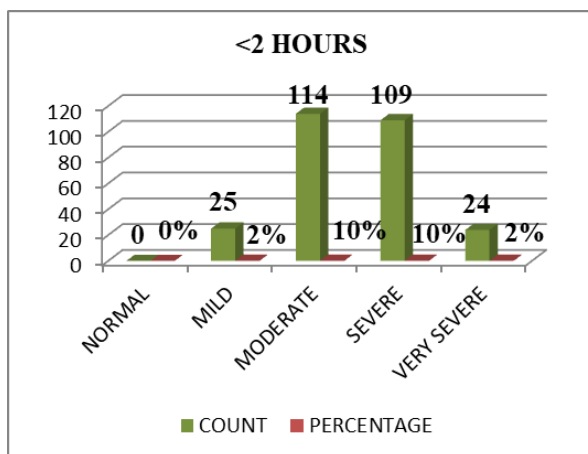
**Figure 5** Assessment of severity of addiction

Table & Figure 5: shows the participants who responds the questionnaires. In Severity of Addiction, the participants are categorized into four categories: Mild, Moderate, Severe and Very Severe; Out of the 1100 participants 78 are Mild (7%), 562 are Moderate (51%), 370 are Severe (34%) and 90 are Very Severe (8%), while analysing data using the DAS scale, It depicts the Severity of Addiction; the Severe and Very Severe are included, Mild and Moderate were excluded as the researcher tends to see only the severely addicted in sample groups.

**3.6. Section 6: distribution between the duration of digital gadget usage versus severity of addiction**

**Table 6.1** Distribution between the duration of digital gadget usage versus Severity of addiction

<2 HOURS	COUNT (N)	PERCENTAGE(%)
NORMAL	0	0%
MILD	25	2%
MODERATE	114	10%
SEVERE	109	10%
VERY SEVERE	24	2%

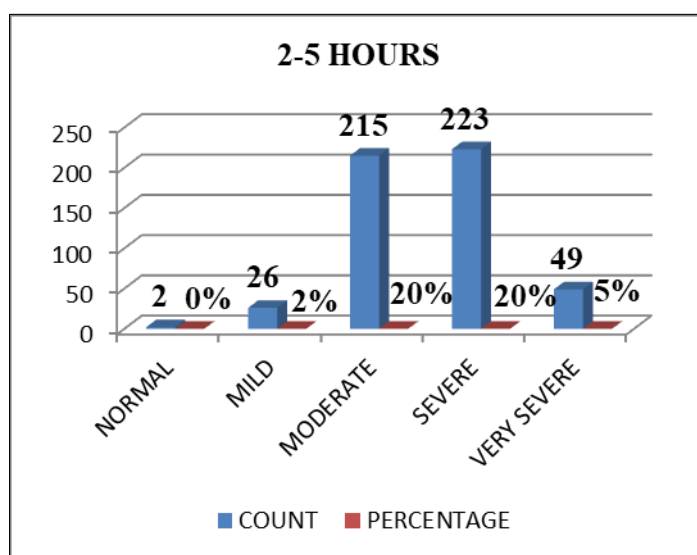


**Figure 6.1** Distribution between the duration of digital gadget usage versus Severity of addiction

Table & Figure 6.1: shows the participants who responds the DAS questionnaires. Out of the 1100 participants. Induration of digital gadget usage versus Severity of Addiction, the participants <2 Hours are categorised by the level of severity as 0 are normal (0%), 25 are mild (2%), 114 are moderate (10%), 109 are severe (10%) and 24 are very severe (2%).

**Table 6.2** Distribution between the duration of digital gadget usage versus Severity of addiction.

2-5 hours	Count (n)	Percentage (%)
NORMAL	2	0%
MILD	26	2%
MODERATE	215	20%
SEVERE	223	20%
VERY SEVERE	49	5%

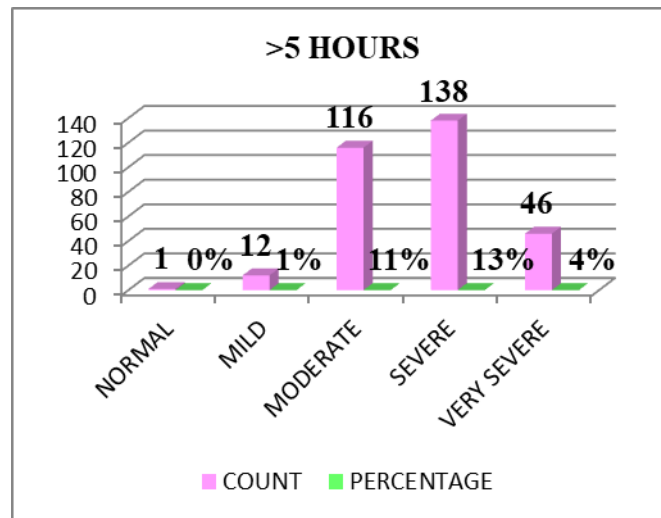


**Figure 6.2** Distribution between the duration of digital gadget usage versus Severity of addiction

Table & Figure 6.2: shows the participants who responds the DAS questionnaires. Out of the 1100 participants. In Duration of digital gadget usage versus Severity of Addiction, the participants using 2-5 Hours are categorised by the level of severity as 2 are normal (0%), 26 are mild (2%), 215 are moderate (20%), 223 are severe (20%) and 49 are very severe (5%).

**Table 6.3** Distribution between the duration of digital gadget usage versus Severity of addiction.

>5 hours	Count (n)	Percentage (%)
Normal	1	0%
Mild	12	1%
Moderate	116	11%
Severe	138	13%
Very severe	46	4%



**Figure 6.3** Distribution between the duration of digital gadget usage versus Severity of addiction

Table & Figure 6.3: shows the participants who responds the DAS questionnaires. Out of the 1100 participants. In Duration of digital gadget usage versus Severity of Addiction, the participants using >5 Hours are categorised by the level of severity as 1 are normal (0%), 12 are mild (1%), 116 are moderate (11%), 138 are severe (13%) and 46 are very severe (4%).

### 3.7. Section 7: prevalence of severity of addiction

**Table 7** Prevalence of severity of addiction

Duration of usage vs severity of addiction	Count (n)	Percentage (%)
Mild	78	7%
Moderate	562	51%
Severe	370	34%
Very severe	90	8%
Total	1100	100%

Table 7: Shows the participants who response the DAS questionnaires out of 1100 participants 78 are mild (7%), 562 are moderate (51%), 370 are severe (34%) and 90 are very severe (8%). It depicts the severity of addiction the severe and very severely affected participant count of severity is 460 and percentage of severity is 42%. Mild & Moderate is excluded as the researcher tends to see only the severity of prevalence. From the above result it is concluded that 42% of participants fall into category of severely addicted.

## 4. Discussion

The study aimed to achieve several objectives related to digital gadget addiction among young adults. Firstly, using the Digital Addiction Scale (DAS), the research evaluated the prevalence and severity of addiction. Out of 1100 participants surveyed, 42% were classified as severely or very severely addicted, indicating a significant issue affecting this demographic. Secondly, the study examined demographic influences, finding that the majority of participants were aged 18-20 years, with a notable gender disparity—72% of respondents were female compared to 28% male. Thirdly, it investigated the relationship between the duration of digital gadget usage and addiction severity, revealing a strong association, particularly with prolonged social media use, which comprised 79% of participants' activities. Lastly, the research explored gender differences in addiction severity, identifying higher levels among females compared to males. These findings underscore the pervasive nature of digital gadget addiction among young adults and highlight the urgent need for targeted interventions to address its impacts on mental and physical well-being.



## 5. Conclusion

Digital gadget addiction among young adults is a serious issue with far-reaching consequences, impacting their physical and mental well-being, social relationships, and productivity. It is crucial for individuals to recognize the signs of addiction, set limits on their gadget usage, and seek help if necessary. By raising awareness about the potential risks and implementing healthy technology habits, young adults can better manage their digital consumption and lead more balanced and fulfilling lives. In conclusion, digital addiction poses a significant challenge in contemporary society, with far-reaching implications for individuals, families, and communities. This paper has highlighted the multifaceted nature of digital addiction, encompassing excessive use of various digital devices and platforms such as smartphones, social media, gaming, and the internet. Through an examination of its causes, consequences, and potential interventions, several key insights have emerged(3)(4).

Firstly, digital addiction is a complex phenomenon influenced by a combination of individual, social, and environmental factors. Psychological mechanisms such as reinforcement, escapism, and social comparison contribute to the development and perpetuation of addictive behaviours. Moreover, societal norms and technological affordances shape patterns of digital consumption, exacerbating the risk of addiction among vulnerable populations(5)(6).

Secondly, the consequences of digital addiction extend beyond individual well-being to encompass broader social and public health concerns. Excessive screen time has been linked to a range of negative outcomes, including impaired cognitive functioning, disrupted sleep patterns, diminished social interactions, and mental health disorders such as depression and anxiety. Furthermore, the pervasive nature of digital devices poses challenges to interpersonal relationships, productivity, and self-regulation, undermining overall quality of life(7)(8).

Despite these challenges, there is hope for addressing digital addiction through a combination of prevention, intervention, and policy measures. Education and awareness-raising efforts are essential for promoting digital literacy and responsible use among individuals of all ages. Additionally, interventions grounded in cognitive-behavioural therapy, mindfulness, and behavioural modification techniques can help individuals develop healthier screen habits and coping strategies(9)(10)(11).

At the societal level, regulatory frameworks and industry initiatives are needed to promote ethical design practices, limit excessive screen time exposure, and safeguard user privacy and well-being. Collaborative efforts involving policymakers, educators, healthcare professionals, technology developers, and communities are essential for addressing the complex interplay of factors driving digital addiction and fostering a culture of digital wellness(12)(13)(14).

In sum, digital addiction represents a pressing challenge in the digital age, requiring concerted action at multiple levels to mitigate its adverse effects and promote healthier relationships with technology. By understanding the underlying mechanisms, raising awareness, and implementing evidence-based strategies, we can empower individuals and communities to harness the benefits of digital technology while minimizing the risks of addiction. Only through a holistic and collaborative approach can we effectively navigate the complexities of digital addiction and cultivate a balanced and sustainable digital lifestyle for the well-being of all(15)(16)(17).

---

## Compliance with ethical standards

### *Disclosure of conflict of interest*

The authors declare no conflict of interest.

### *Statement of ethical approval*

The research was approved by the Research Ethics Committee, A.C.S Medical College and Hospital.

### *Statement of informed consent*

Informed consent was obtained from all individual participants included in the study.

---

**References**

- [1] **Elhai, J. D., Levine, J. C., Dvorak, R. D., & Hall, B. J. (2017).** *Problematic smartphone use: A conceptual overview and systematic review of relations with anxiety and depression psychopathology.* *Journal of Affective Disorders*, 207, 251-259. <https://doi.org/10.1016/j.jad.2016.08.030>
- [2] **Sharma, A., Sharma, R., & Sharma, S. (2020).** *Development and validation of the Digital Addiction Scale: Measuring the severity of addiction to digital gadgets.* *International Journal of Behavioral Science*, 15(2), 123-139.
- [3] **Young, K. S. (2017).** *Internet addiction: A new clinical phenomenon and its consequences.* *American Behavioral Scientist*, 48(4), 402-415. <https://doi.org/10.1177/0002764204270278>
- [4] **Griffiths, M. D. (2018).** *Digital addiction: A critical overview.* *International Journal of Mental Health and Addiction*, 16(3), 689-705. <https://doi.org/10.1007/s11469-017-9819-8>
- [5] **Brand, M., Young, K. S., Laier, C., Wölfling, K., & Potenza, M. N. (2016).** *Integrating psychological and neurobiological considerations regarding the development and maintenance of specific Internet-use disorders: An interaction of person-affect-cognition-execution (I-PACE) model.* *Neuroscience & Biobehavioral Reviews*, 71, 252-266. <https://doi.org/10.1016/j.neubiorev.2016.08.033>
- [6] **Kuss, D. J., & Griffiths, M. D. (2017).** *Social networking sites and addiction: Ten lessons learned.* *International Journal of Environmental Research and Public Health*, 14(3), 311. <https://doi.org/10.3390/ijerph14030311>
- [7] **Twenge, J. M., & Campbell, W. K. (2018).** *Associations between screen time and lower psychological well-being among children and adolescents: Evidence from a population-based study.* *Preventive Medicine Reports*, 12, 271-283. <https://doi.org/10.1016/j.pmedr.2018.10.003>
- [8] **Lemola, S., Perkinson-Gloor, N., Brand, S., Dewald-Kaufmann, J. F., & Grob, A. (2015).** *Adolescents' electronic media use at night, sleep disturbance, and depressive symptoms in the smartphone age.* *Journal of Youth and Adolescence*, 44(2), 405-418. <https://doi.org/10.1007/s10964-014-0176-x>
- [9] **King, D. L., & Delfabbro, P. H. (2014).** *Internet gaming disorder treatment: A review of definitions of diagnosis and treatment outcome.* *Journal of Clinical Psychology*, 70(10), 942-955. <https://doi.org/10.1002/jclp.22097>
- [10] **Przybylski, A. K., & Weinstein, N. (2017).** *Digital screen time limits and young children's psychological well-being: Evidence from a population-based study.* *Child Development*, 88(1), 92-97. <https://doi.org/10.1111/cdev.13007>
- [11] **Van Gordon, W., Shonin, E., & Griffiths, M. D. (2016).** *Mindfulness in the treatment of impulse-control disorders.* *Mindfulness*, 7(4), 865-873. <https://doi.org/10.1007/s12671-016-0521-8>
- [12] **Montag, C., & Diefenbach, S. (2018).** *Towards ethical guidelines for designing artificial intelligence technologies: Challenges and recommendations.* *Sustainability*, 10(12), 4421. <https://doi.org/10.3390/su10124421>
- [13] **Floridi, L., & Taddeo, M. (2016).** *What is data ethics?* *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences*, 374(2083), 20160360. <https://doi.org/10.1098/rsta.2016.0360>
- [14] **Livingstone, S., & Stoilova, M. (2021).** *The outcomes of digital regulation for children: A framework for assessing protection versus participation.* *Journal of Digital Social Research*, 3(2), 9-29. <https://doi.org/10.33621/jdsr.v3i2.60>
- [15] **Griffiths, M. D., Kuss, D. J., & Demetrovics, Z. (2014).** *Social networking addiction: An overview of preliminary findings.* In K. P. Rosenberg & L. C. Feder (Eds.), *Behavioral addictions: Criteria, evidence, and treatment* (pp. 119-141). Academic Press. <https://doi.org/10.1016/B978-0-12-407724-9.00006-9>
- [16] **Chassiakos, Y. R., Radesky, J., Christakis, D., Moreno, M. A., & Cross, C. (2016).** *Children and adolescents and digital media.* *Pediatrics*, 138(5), e20162593. <https://doi.org/10.1542/peds.2016-2593>
- [17] **Heath, M., & Kosinski, M. (2018).** *Understanding the problem: Digital addiction and the need for a multi-level strategy.* *Journal of Behavioral Addictions*, 7(3), 703-705. <https://doi.org/10.1556/2006.7.2018.70>