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Original Research

A cross-sectional study to assess the internet gaming addiction, problematic uses of internet and sleep hygiene among young adults of selected college of nursing, Delhi

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ABSTRACT:

Introduction: A cross sectional study to assess the internet gaming addiction, problematic uses of internet and sleep hygiene among young adults of selected college of nursing, Delhi was conducted. **Objectives**: The study aimed to assess the level of internet gaming addiction, problematic uses of internet and sleep hygiene among young adults, to find out the association between internet gaming addiction and sleep hygiene among young adults and to find out the association between problematic uses of internet and sleep hygiene among young adults of selected college of nursing, Delhi. **Methodology**: The conceptual framework adopted for the present study was based on biopsychosocial model by George L. Engel. The quantitative research approach was adopted for the study with a descriptive survey- cross sectional research design and purposive sampling technique. The sample of present study comprised of 196 young adults from selected college of Nursing, Delhi.The data was collected through online google forms. Standardized rating scales- IGDS9-SF was used to assess level of internet gaming addiction and GPIUS-2 was used to assess the problematic uses of internet among young adults. Structured rating scale (Sleep Hygiene Assessment Scale) was used to assess sleep hygiene among young adults. **Results**: The study findings revealed that about one-fourth of young adults had internet gaming addiction and about two third of young adults were problematic users of internet from mild internet addiction to severe internet addiction. The findings of the present study also revealed that there was a significant, though weak positive relationship between internet gaming addiction and sleep hygiene and significant, though moderately positive relationship between problematic uses of internet and sleep hygiene among young adults. **Conclusion:** It was found that a problematic use of internet does affect the sleep hygiene of the young adults significantly.

Key words: Internet Gaming Addiction, Problematic Uses of Internet, Sleep Hygiene, Young Adults.

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INTRODUCTION

To develop the interconnection of networks and to develop communication "internetworking" was first invented by Robert E. Kahn and Vint Cerf in 1974 and on 6th August, 1991, the world wide web went live to the world and the term internet came into recognition [(1).]The internet has become an important part of human life and the internet gaming addiction is one of the major concern among young adults.

Students and medical professionals use internet for both entertainment and educational purposes. Interestingly they are more adhered to browsing, social networking sites (Facebook and WhatsApp), gaming and online shopping.

Definitions of social media addiction have changed many times from internet addiction by Ivan Goldberg in 1995[(2)] for compulsive use of internet to pathological internet use and further to problematic uses of internet by Caplan in 2007[(3)].

According to international telecommunication union (ITU) global internet usage increased from 1990 million in 2010 to 3385 million in 2016[4].There were about 42 million active internet users in urban India in 2008 as compared to 5 million in 2000[5]. According to surveys 22% of gamers spent between 61-80% of time playing game. Male are at high risk between 18-24 years of age.In year 2019, 300 million of online gamers reported in India. Estimation may reach to 440 million in 2022. India ranks highest in terms of growth in online game down loads on app stores with growth rate of 165% between 2016- 2018 [6].Most of the games are multiplayers and from different time zones. These games are fascinating, Law-less, missionary, real time (person can chat along with playing) and multiple players are involved.

On 8th September, 2020 an article came in Hindustan Times on gaming addiction, in which a 15-year-old boy in North Delhi's Timarpur transferred amount of 2.3 lakh from his grandfather's account to pay for PUBG account for at least two months and stopped only when his PUBG account got hacked, the moment his grandfather got aware of the money debt he reported in police and got to know the truth on further investigation. With the leading impact of gaming on youth the Indian Government banned PUBG in the month of September, 2020[7].

NEED OF THE STUDY

Many studies have been done to seek relation of internet gaming addiction and problematic uses of internet with depression, anxiety, behavioral aspects along with sleep quality in various countries. But no study has been done on nursing students focusing on internet gaming and its impact on sleep hygiene of nursing students. Medical professional as they use internet very much for educational purpose usually gets diverted and are at high risk to develop internet gaming addiction and may also have problematic uses of internet.

This sudden crises of COVID-19 increased risk of gaming addiction and problematic uses of internet among nursing students also. COVID – 19 has affected the education, teaching and learning in general in schools and institutions of higher educations across the world. Nursing education has switched to online teaching and learning.

Nursing students have not been able to go to colleges and their clinical areas during this phase of SARS COV-2. They are spending most of their time on their laptops, PC's, mobile phones for studies and are more prone to internet gaming and problematic uses of internet, which is having impact on physical, social and mental aspects of their life. Increased screen time has led to disturbed sleeping, eating, bowel and bladder patterns as well as to the circadian rhythms. Therefore, there is a need to study pattern of internet usage and online gaming among young adults in Indian setting and how they are affecting their sleep hygiene.

METHODOLOGY

A quantitative research approach using descriptive survey-cross- sectional research design was incorporated to conduct the study. Research variables were internet gaming addiction, problematic uses of internet and sleep hygiene. 196 young adults were selected as the study sample from the selected college of nursing, Delhi using purposive sampling technique. Data collection was done through online Google forms.

The tools used for study were divided into four sections. Section A consisted of questionnaire regarding background data which contains demographic, internet/ gaming access and sleep hygiene related data. Section B consisted of Internet gaming disorder scale – short form (IGDS9-SF) that was used to assess internet gaming addiction among young adults in view of games played by them, since past 12 months' period of time. It was a standardised tool formulated by Pontes and Griffiths in 2015[8]. The tool consisted of 9 questions with scoring between 9-21 (non- disordered gamers) and 21-45 (disordered gamers). The reliability of tool IGDS9- SF was given as r = 0.87 by the developers of tool. Section C consisted of Generalized Problematic Internet Use Scale -2 (GPIUS-2) developed by Caplan in 2010[9] used for assessing internet/ social media use through the degree of cognitions, behaviors and negative outcomes experienced by young adults while they use internet/ social media. It is 8- point Likert scale with 15 questions and scoring range between 15-120. The reliability of tool GPIUS-2 was given as r = 0.88 by developers of tool.

Section D consisted of self- structured rating scale developed by researcher and named as Sleep Hygiene Assessment Scale which was formulated to measure sleep hygiene among young adults. It is five point Likert scale with 25 questions and scoring range of 0-100. The content validity of the tool was assessed by giving the tool to nine experts from the field of psychiatric nursing and psychology. The suggestions of the experts were incorporated in the tool and the tool was modified. The reliability of the tool was assessed through Cronbach's alpha formula and reliability was found to be r = 0.8627.

Once the tool was ready, it was administered by the researcher to conduct the pilot study to assess feasibility and practicability of research study and then the final study was conducted. The consent form was given to the study samples in form of Google forms through their mail id. If they gave their consent, then only they could proceed to the next section of the tool. All the items were mandatory to answer before the submission of the tool. It took approximately 30-35 minutes for each study sample to complete the tool. After submission of the forms it was received by researcher through online in Google drive. The responses were received in master data sheet. Descriptive and inferential statistics were used further to analyse the data.

RESULTS

Section 1: Findings related to background data of the population

PART A: Frequency and percentage distribution of respondents by their demographic data.

Table 1(a): Frequency and percentage distribution of samples by their demographic characteristics (Age, Gender, Residence).

n= 196

Sample Characteristics	Frequency (F)	Percentage (%)
Age		
18-21	158	80.6%
22-25	34	17.4%
26-30	4	2%
Gender		
Male	48	24.5%
Female	148	75.5%
Transgender/other	0	0
Residence	142	72.4%
Urban	36	18.4%
Rural	18	9.2%
Urban Village		

PART B: Frequency and percentage distribution of the samples by their internet/ gaming/ mobile access and sleep hygiene related data.

Table 1(b): Frequency and percentage distribution of study samples by their internet/ gaming/ mobile access and sleep hygiene related data

n= 196

Sample Characteristics	Frequency (F)	Percentage (%)
Smartphone availability		
Through self	121	61.7%
Through parents	75	38.3%
Through peer/ friends/cousin	0	0
Available mode of internet		
Wi-Fi	47	24%
Mobile Data	149	76%
Source of gaming		
Computer/Laptop	7	3.6%
Smartphone	180	91.8%
Any other (I-Pad. Tablet)	9	4.6%
Games played on smartphone/laptop/ desktop		
Online games	99	50.5%
Offline games	97	49.5%
Source of recharging the data		
Parents	180	91.8%
Friends	5	2.6%
Other	11	5.6%
Average waking up time		
Between 4am-6am	31	15.8%
Between 6am to 8am	79	40.3%
Between 8am-10 am	72	36.7%
After 10 am	14	7.2%
Average sleeping time		
Between 8pm- 10 pm	29	14.8%
Between 10pm-12 am	109	55.6%
Between 12am -2am	51	26%
After 2 am	7	3.6%

Section II: Findings related to internet gaming addiction among young adults.

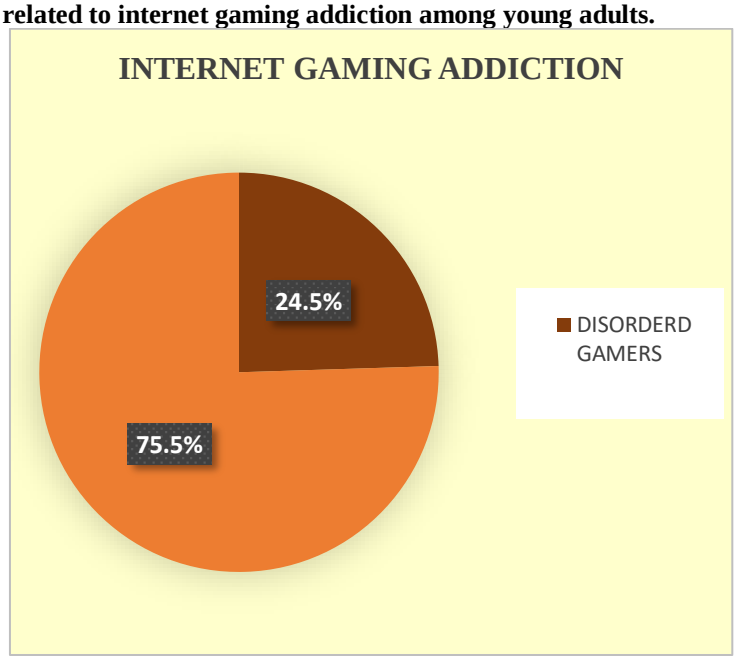

Figure 1: A pie chart showing frequency and percentage distribution of the study samples as per their level of internet gaming addiction

The data collected through IGDS9-SF depicted that the 148(75.5%) of samples were found to be non-disordered gamers whereas only 48 (24.5%) of samples were found to be disordered gamers. The mean score of internet gaming addiction was 17.06 and median was 15. This shows about one-fourth of young adults from selected college of nursing had internet gaming addiction.

SECTION III: Findings related to problematic uses of internet among young adults.

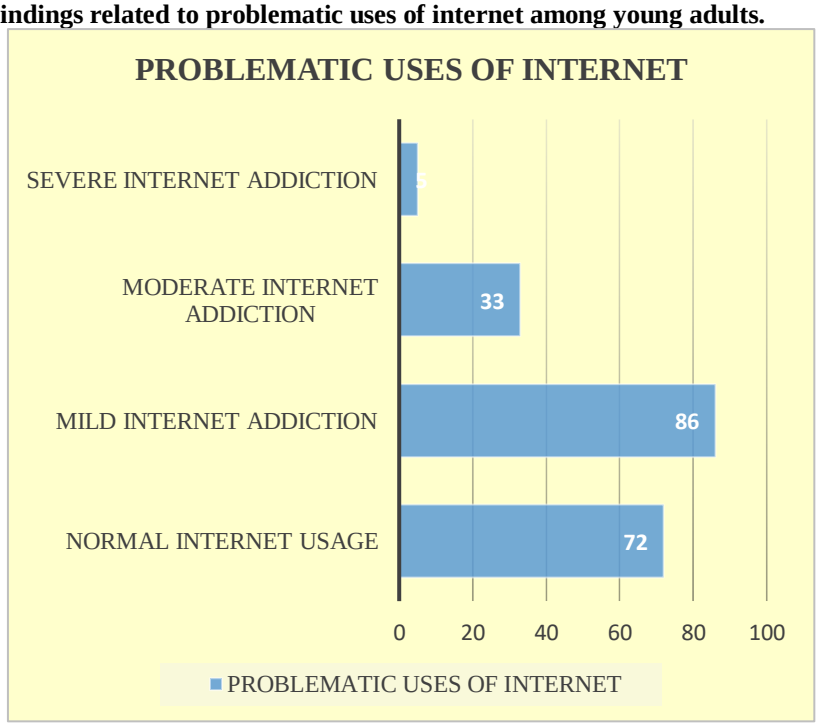

Figure 2: A bar graph representing the frequency of problematic uses of internet among young adults.

The data collected through GPIUS-2 depicted that 72 (36.7%) of the samples were normal internet users, 86 (43.9%) samples had mild internet addiction, 33 (16.8%) samples had moderate internet addiction and the remaining 5 (2.6%) samples had severe internet addiction. The mean score of problematic uses of sleep scale was 50.69 and median was 50. The data shows that about two third of young adults of selected college of nursing had social media/ internet addiction.

SECTION IV: Findings related to sleep hygiene among young adults.

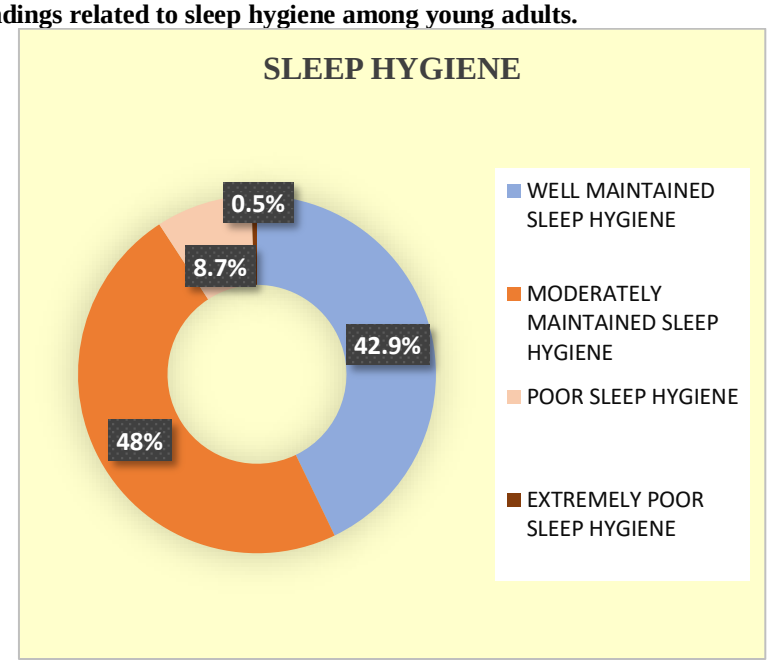

Figure 3: A doughnut diagram representing the frequency and percentage distribution of samples as per their sleep hygiene.

The data in Section IV depicts the sleep hygiene of young adults studying in selected college of nursing, Delhi. Out of 196 samples, 84 (42.9%) had a well maintained sleep hygiene, 94(48%) of samples had moderately maintained sleep hygiene, 17 (8.7%) of samples had poor sleep hygiene and 1 (0.5%) had an extremely poor sleep hygiene. The mean score of sleep hygiene assessment scale was 30.13 and median was 27.

SECTION V: Findings related to the association between internet gaming addiction and sleep hygiene among young adults.

Table 5: Mean, standard deviation and 'r' value for correlation of internet gaming addiction and sleep hygiene among young adults.

n=196

Variable	Mean	Standard Deviation	'r'
Internet gaming addiction	17.06	7.35	0.472*
Sleep hygiene	30.13	14.17	

*'r' (194) = 0.138, p>0.05 level. Significant at 0.05 level

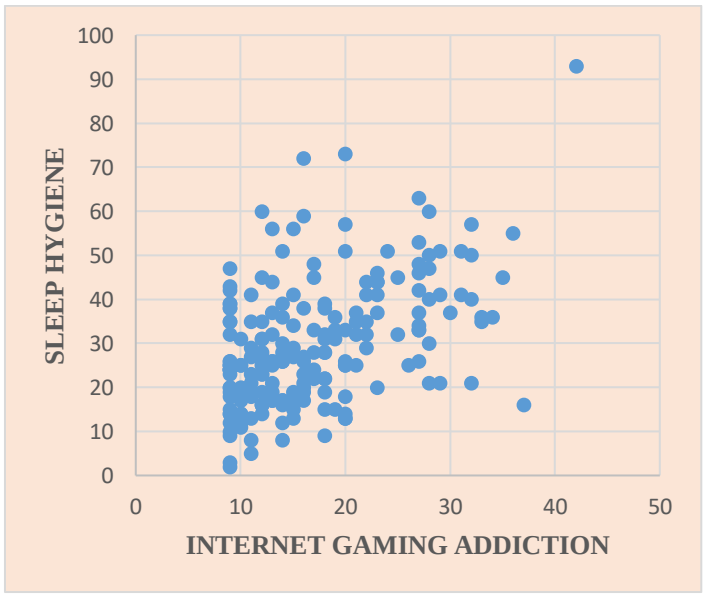

Figure 4: Scatter diagram showing Coefficient of Correlation between internet gaming addiction and sleep hygiene

The data in table 5 and figure 7 shows that Coefficient of Correlation 'r' between internet gaming addiction and sleep hygiene among young adults is 0.472 and table value of 'r' at df 194 is 0.138 at 0.05 level of significance. Since the computed value 0.472 is more than the table value 0.138, it indicates there is a significant positive but weak relationship between the internet gaming addiction and sleep hygiene among young adults.

Section VI: Findings related to the association between problematic uses of internet and sleep hygiene among young adults

Table 6: Mean, median, standard deviation and 'r' value for correlation of problematic uses of internet and sleep hygiene among young adults.

n=196

Variable	Mean	Standard Deviation	'r'
Problematic uses of sleep	50.69	20.37	0.510*
Sleep hygiene	30.13	14.17	

*'r' (194) = 0.138, p>0.05 level. Significant at 0.05 level

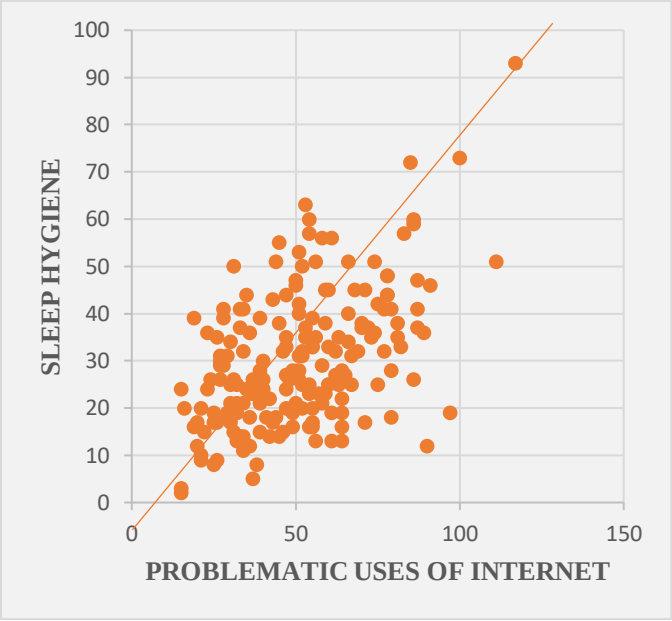

Figure 8: Scatter diagram showing Coefficient of Correlation between problematic uses of internet and sleep hygiene

The data in table 6 and figure 8 shows that Coefficient of Correlation 'r' between problematic uses of internet and sleep hygiene among young adults is 0.510 and the table value of 'r' at df 194 is 0.138 at 0.05 level of significance. Since the computed value 0.51 is more than the table value 0.138, it indicates there is a significant but moderately positive relationship between problematic uses of internet and sleep hygiene among young adults.

DISCUSSION

The present study revealed that a one fourth that is 24.5% of the young adults were disordered gamers and 63% of young adults were problematic users of internet. It is found that young adults with greater internet gaming addiction and the problematic users of internet tended to have poor sleep hygiene. Also, through the calculation of Karl Pearson's coefficient of correlation it was demonstrated that sleep hygiene had more robust association with problematic uses of internet as compared to the internet gaming addiction.

Consistent to this study, a cross-sectional study was conducted by Wong et.al to investigate the relationship between internet gaming disorder and problematic social media use with sleep quality and psychological distress among young adults. The study findings revealed that both severities with internet gaming disorder and social media addiction associate with more psychological distress and poorer sleep quality, although the strengths of association may differ.

The present study reveals that the internet gaming disorder is significantly associated with sleep hygiene among young adults and these findings were consistent with the findings of the previous research by Hawi et.al. which aimed to explore the relationship between internet gaming disorder, sleep habits and academic achievement have found that those with internet gaming disorder slept significantly less hours per night (5 hours) and compared with casual online gamers (7 hours).

The present study had assessed the association between internet gaming addiction, problematic uses of internet and sleep hygiene among young adults and found a significant positive correlation which is similar to findings of previous study of Halley who conducted a correlational study to investigate the

differential effects of social networking site addiction and Internet gaming disorder on psychological health. They found that IGD appeared to exacerbate the symptoms of depression, anxiety, and stress. In addition, SNS addiction also contributed toward augmenting the severity of depression, anxiety and stress but to a slightly lesser extent.

The present study also revealed the significant association between problematic uses of internet and sleep hygiene which was consistent with the previous research of Scott et.al that was to seek association between social media addiction and multiple sleep parameters in adolescents and resulted that girls spent more time on social media addiction than boys, also the study indicated significant association between social media use and sleep patterns, particularly late sleep onset.

A similar study was done by Khayat et. al. to evaluate the relationship between sleep quality and the level of internet addiction among students of King Abdul-Aziz University (KAU). They found a significant correlation between sleep quality and internet addiction. A consistent result came in the present study among young adults of selected college of nursing that is a significant positive correlation between sleep hygiene and problematic uses of internet.

During the data collection time the researcher noticed that the majority of the students in the nursing college are aware of internet gaming addiction and problematic uses of internet and participated in the study voluntarily. However, many of the respondents said that while filling the questionnaires of internet gaming addiction, problematic uses of internet and sleep hygiene they got more aware of how internet/ social media can also interfere in their daily life.

LIMITATION

The study is performed only on the young adults of a selected college of nursing, Delhi hence generalisation in other populations and setting is not possible. Also the study has its cross-sectional design and relies on self-reported data. All of these methodological issues have well-known biases (e.g., social desirability bias and recall bias).

CONCLUSION

The study concluded that about one-fourth of young adults had internet gaming addiction and almost two third of young adults were problematic users of internet ranging from mild internet addiction to severe internet addiction in the selected college of nursing. Also their average waking up time was between 6am to 8am and average sleeping time was between 10 pm to 12 am. Only 42.9% of young adults had well maintained sleep hygiene.

A significant positive but weak relationship was found between the internet gaming addiction and sleep hygiene among young adults. Also a significant but moderately positive relationship was found between problematic uses of internet and sleep hygiene among young adults.

It was found through the calculation of Karl Pearson's coefficient of correlation that sleep hygiene had more robust association with problematic uses of internet as compared to the internet gaming addiction.

These study findings can be used to conduct study on large sample and in different setting and age groups.

CONFLICTS OF INTEREST

None

REFRENCES

1. https://en.m.wikipedia.org/wiki/history_of_the_internet
2. Goldberg I. Internet Addiction 1996. Available from: http://web.urz.uniheidelberg.de/Netzdienste/anleitung/wwwtips/8/addict.html
3. Caplan SE. Relations among loneliness, social anxiety, and problematic internet use. Cyber-psychology Behavior 2007; p. 10:234-42.
4. Achab, S.; et.al. Massively multiplayer online role-playing games: Comparing characteristics of addict vs non-addict online recruited gamers in a French adult population. BMC Psychiatry 2011, 11, 144. [CrossRef]
5. Fossum I.N.; Nordnes LT.; Storemark S.S.; Bjorvatn B.; Pallesen S. The association between use of electronic media in bed before going to sleep and insomnia symptoms, daytime sleepiness, morningness, and chronotype. Behavior. Sleep Med. 2014, 12, 343–357. [CrossRef]
6. https://www.statista.com
7. Sunny Shiv. To pay for PUBG, boy transfers 2.3 lakh from grandad's pension account. Hindustan Times, 2020. September 8.
8. Pontes, H. M., & Griffiths, M. D. (2015). Measuring DSM-5 Internet Gaming Disorder: Development and validation of a short psychometric scale. Computers in Human Behavior, 45, 137-143. Doi: 10.1016/j.chb.2014.12.006
9. Caplan, S. E. (2010). Theory and measurement of generalized problematic Internet use: A two-step approach. Computers in Human Behavior, 26, 1089–1097.
10. Wong H Y; Mo H Y; Potenza M N; Chan M; Lau W M; Chui T K; Pakpour A H; & Lin C Y. Relationships between Severity of Internet Gaming Disorder, Severity of Problematic Social Media Use, Sleep Quality and Psychological Distress International journal of environmental research and public health, 2020: 17(6), 1879.https://doi.org/10.3390/ijerph17061879
11. Hawi N S. Samaha M. & Griffiths M D. Internet gaming disorder in Lebanon: Relationships with age, sleep habits, and academic achievement. Journal of behavioral addictions, 2018: 7(1), 70–78. https://doi.org/10.1556/2006.7.2018.16
12. Pontes H. M. (2017). Investigating the differential effects of social networking site addiction and Internet gaming disorder on psychological health. Journal of behavioral addictions, 6(4), 601–610. https://doi.org/10.1556/2006.6.2017.075
13. Scott H., Biello S. M., & Woods H. C. Social media use and adolescent sleep patterns: cross-sectional findings from the UK millennium cohort study. BMJ open, 2019: 9(9), 31161. https://doi.org/10.1136/bmjopen-2019-031161

14. Khayat M., et.al. Sleep Quality and Internet Addiction Level among University Students. The Egyptian Journal of Hospital Medicine, 2018: 73(7), 7042-7047.