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Original Article

Prevalence of Screen Addiction Based on Content Among University Students of Rawalpindi and Islamabad

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ABSTRACT

Objective: To determine the prevalence of Screen Addiction & to compare the addiction scores with respect to type of content most consumed

Study Design: Quantitative analytical cross-sectional study

Place and Duration of Study: Universities of Rawalpindi and Islamabad Pakistan, from Jan 2022-Apr 2022

Methodology: The research was conducted over a sample size of 343 participants, studying in universities of Rawalpindi Islamabad Pakistan aging 18-30 years. Individuals having access to electronic devices were included while individuals with terminal illness were excluded. SA –SV (Smart phone addiction Scale-Short Version) was used to assess screen addiction while an Open and Close ended questionnaire, "Questionnaire to assess Screen Usage Behavior and Content Consumed" helped in assessing the type of content through google forms.

Results: Screen addiction value was 3.7 on the six-point SAS-SV Likert scale. Sample size was 343. Screen addiction was present in 70% (240 participants). The commonest screen used were smartphones/tablets (68.2%) while social media (67%) was the major reason behind the use. WhatsApp (35.9%) and Facebook (24.5%) were used most frequently. About 50% individuals agreed the reason for over usage was to relax and 29.74% spent more than 3 hours continuously on the screen. Our study shows prevalence of screen addiction to be significant (p<0.01).

Conclusion: Our findings reveal that most people are suffering from screen addiction and the content they're most addicted to is, social media. Attention needs to be drawn towards this issue given to the increasing social and psychological problems.

KEYWORDS: Screen Addiction, content, Rawalpindi, Islamabad, university students

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INTRODUCTION

Ever since the electronic media and internet have become available to the public, they have been attracting more and more people to the extent that today it has become a part of our daily life in various forms. However, it's overuse is concerning and is now labelled as SCREEN ADDICTION. Addiction not only refers to drug or substance abuse, but it also refers to gambling, internet, games, or even smartphones. These also fall under the category of behavioral addiction.[1]

Screen addiction also follows the 6 criteria that define a behavior as an addiction according to DSM: - salience (vital part of life), mood modification, tolerance (progressive increase in amount of action to show same affect), withdrawal symptoms, conflict (dilemma), relapse. Screen addiction owing to the rapid development and its diversity (TV, laptops, smartphones etc.), has been on the rise since past 2 decades. However there has also been a shift in the usage of devices as technology progresses.[2]

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The ease of use and accessibility of smartphones and internet have played a major factor in developing screen addiction among masses. However, another factor being the globalization of the world which makes the use of screen a necessity.

Screen/smartphone addiction has been found to be more prevalent among younger individuals of 13-25 years of age than population in their 30s or 40s,[1] indicating that if necessary actions aren't taken this may involve even children affecting their brain development.[2] Children being the first to adopt newer technology are also the first ones to be affected by it while adolescents were found to be most susceptible to smartphone addiction.[3] The prevalence is higher in developed regions of the world and hence greater in urban areas than rural.[4]

According to recent studies a difference in smartphone addiction was seen. For instance, in the developed countries like European countries, like Switzerland, Spain and France were 16.90%, 12.50% and 21.59% respectively,[5] however, in the Asian

countries it was much higher as following:-middle east 48%, India 55.7%, South Korea 35.20% respectively.[6-8]

According to a study conducted in Turkey screen addiction can be further divided into internet, media, digital game addiction and addiction to technological tools.[9]

Screen addiction has been seen to be related to psychological problems like lowered self-esteem, chronic stress, anxiety.[10] It has also led to behavioral/ communication problems in teens and adolescents.[11] According to a study on US school children showed that individuals exposed to higher levels of screen time were less able to read non- verbal cues and show empathy along with psychopathy and narcissism in US college students.[12]

The use of different type of screens by individuals of diverse problems was seen in a study according to which the individual's using internet for entertainment and relaxation had a higher incidence of stress than the ones who used it for work.[13]

In another study it was seen that 57% of the Netherlands population took to internet for coping with stressful life events indicating that the addiction might be because of impactful incident.[14] Another study showed that the problematic mobile usage was a result of failure of self-control.[15]

Most of the studies conducted in past diagnosed screen /smartphone/internet addiction as a problem and type of device/medium/content. However, a very few studies cater for the type of content used that can be excellent predictors of the backgrounds, problems, interests of Pakistani population.

Our study provides an overview of prevalence of the type of screen and content consumed by university students of different majors as there has been lack of studies in our setup regarding screen addiction. This study can further provide the basis of research on psychological problems that the population faces and interventions that can be done to control screen addiction.

METHODOLOGY

The study design was Quantitative cross-sectional, with the duration of the study ranging from January till April 2022. Target population consisted of university students in the twin cities of Rawalpindi and Islamabad Pakistan while the sample size was 343 individuals.

Nonprobability convenience sampling technique was used. For data entry and analysis, we used IBM SPSS version 25. Summary statistics were produced using frequencies, percentages, mean and chi-square test of significance along with paired t test was applied. *p*-value <0.05 was taken to be significant.

Inclusion Criteria: Individuals who had access to electronic screen devices & were capable of comprehension and verbal communication were included in the study.

Exclusion Criteria: Those with terminal illness, critical conditions or a history of severe psychiatric disorder were excluded. Informed consent from individuals above 18 years of age as well.

Ethical approval was taken from Ethical review board of Army Medical College Rwp (ERC/ID/228).

All principles and values were considered while taking our responses. Which included Informed consent, voluntary participation, anonymity, and confidentiality.

The key study tool was the Smartphone Addiction Scale (SAS-SV). It consisted of 10 items each with a six-point Likert scale. A modified questionnaire to assess Screen Usage Behavior & Content Consumed was also used along with MCQs and short Questions. Questionnaire was available in English.

Operational Definitions

Screen Addiction: Addictive behavior is also reported to mean compulsively repeating a behavior at the cost of everything in life. "Digital addiction" is used to pinpoint the possible warning signs in being over exposed to technological gadgets at a time when the rate at which the use of digital gadgets in daily activities is ever-increasing and the possibilities of becoming dependent upon them is becoming frightening. Digital addiction is therefore a behaviororiented addiction and maybe described as the physical and mental dependence on the use of digital devices.[16]

Type Of Content Compared: The questionnaire had questions regarding the devices used by the respondents e.g,: (Laptop, TV, PC, Gaming Console etc.). The purpose of usage of the devices was asked & results were made by comparing the data collected on SPSS.

RESULTS

In this study, out of 343 participants 195(56.9%) were males and 148(43.1%) were females. The mean age of participants was 21±1.894, with the sample

range was 18-27 years. All the participants in this research were the students enrolled in medical and non-medical universities of Rawalpindi and Islamabad. Out of total sample size 343, 202(64.7%) were the medical students, 36(10.5%) were the engineering students, 30(8.7%) were arts students, and 55(16%) were students of further subjects.

Table-I: Demographics

Variables	Frequency(n)	Percentage (%)
Age		
18-22	258	75.2
23-27	85	24.8
Gender		
Male	195	56.9
Female	148	43.1
Major subject		
Medical	222	64.7
Engineering	36	10.5
Arts	30	8.7
Others	55	16.0

As for the usage of smartphone the average hours were 3.66±1.11 during weekdays, and 2.43±1.36 hours prior to sleep. The average longest duration of continuous screen usage was 8.12±7.797 hours while average longest screen free duration was 20.20±23.8 hours.

When ask about what the causes of frequent use of screen are, the main purpose for majority 182 (53.06%) was to relax, 62(18.06%) of the participants use it because of popularity of game/tv shows, while 99(28.9%) use screens for improvement of skills, to get over stress & because of availability of lots of free time.

When asked about type of game frequently played, 116(33.8%) participants played randomly, 62 (18.1%) had interest in sports games, while 43(12.5%) were interested in puzzle games, 36(10.5%) participants would like to play shooting and fighting games, while 47(13.7%) had interest in construction /management games.

Most 123(35.9%) participants mostly used WhatsApp, 84(24.5%) then Facebook, 75(21.9%) Instagram, while 61(17.8%) used TikTok, snapchat and twitter.

Following were the results when asked about favorite genres of tv series/movies. 71(20.7%) in drama, 45(13.1%) in comedy, 43(12.5%) in horror and romance, 47(13.7%) crime and suspense, 39(11.4%) in science fiction, 29(8.5%) and 26(7.6%) in anime.

Out of 343 participants, 232(67.6%) used the device for social media, 66(19.2%) for tv series/movies, 24(7%) for gaming, and 21(6.1%) for earning. This association with gender was found significant at (p<0.01).

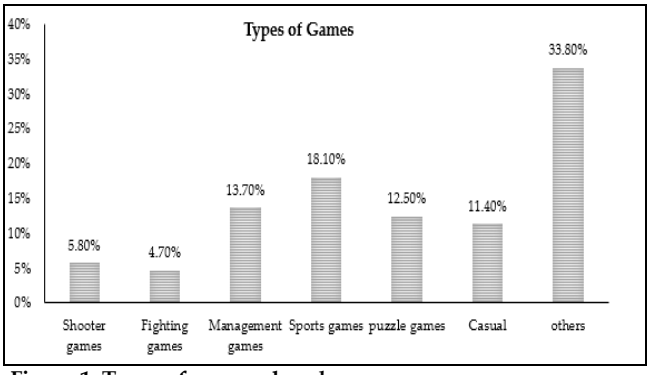

Figure-1: Types of games played

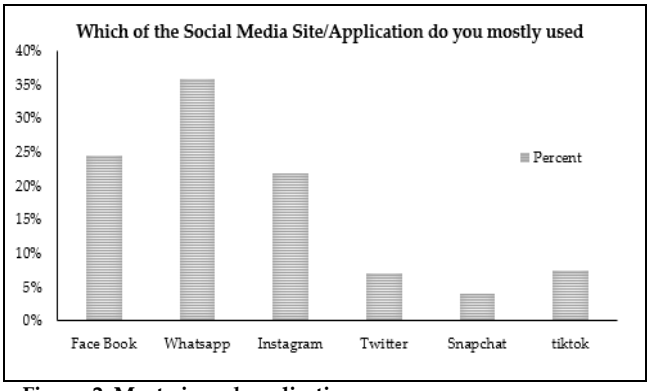

Figure-2: Most viewed applications

234(68.2%) participants used smartphone/tablets the most, only 50(14.6%) participants frequently used laptops, while 21(6.1%), 20(5.8%), 18(5.2%) participants mostly used pc, gaming console, and TV respectively. This was statistically significantly associated with gender (p<0.03). When asked about missing planned work 25.6% males and 29.1% females agreed to the statement, also reached statistical significance (p<0.03).

Most of the male participants (22.1%) and 28.4% of female participants agreed that overuse of gadgets is associated with pain in wrists and back of neck (p<0.005). Both male and female participants agreed that they use their smartphones longer than they had intended to use (p<0.001).

When asked about how many minutes prior to sleep the participants use screen devices, the male participants mostly (46.2%), while female participants (43.2%) used it for less than 1 hour. (p< 0.007).

DISCUSSION

Due to the increasing availability of electronic devices and user-friendly internet facilities, people all

around the world are dedicating more and more of their precious hours to screen time, to the extent that today it has become an indispensable part of our lives.

Table-II: Association of gender with different variables

Variables	Percentages (%)	X^2	*p*-value
Reasons for device use			
Males			
Strongly disagree	14.4%	16.005	<0.01
Disagree	15.9%		
Slightly Disagree	12.3%		
Slightly Agree	17.9%		
Agree	25.6%		
Strongly Agree	13.8%		
Females			
Strongly disagree	6.8%		
Disagree	13.5%		
Slightly Disagree	3.4%		
Slightly Agree	27.0%		
Agree	29.1%		
Strongly Agree	20.3%		
Use of smartphone longer than intended to use			
Males			
Strongly disagree	5.6%	18.268	<0.03
Disagree	13.3%		
Slightly Disagree	11.3%		
Slightly Agree	24.1%		
Agree	32.3%		
Strongly Agree	13.3%		
Females			
Strongly disagree	4.1%		
Disagree	6.1%		
Slightly Disagree	4.7%		
Slightly Agree	18.9%		
Agree	38.5%		
Strongly Agree	27.7%		
Use of devices prior to sleep			
Male			
Immediately	20.0%	12.007	<0.007
< 1 hour	46.2%		
2-3 hour	18.5%		
> 3 hours	15.4%		
Females			
Immediately	35.1%		
< 1 hour	43.2%		
2-3 hour	12.8%		
> 3 hours	8.8%		
Association of neck and wrist pain with gadget overuse			
Males			
Strongly disagree	13.8%	16.858	<0.005
Disagree	19.0%		
Slightly Disagree	14.4%		
Slightly Agree	19.0%		
Agree	22.1%		
Strongly Agree	11.8%		
Females			
Strongly disagree	7.4%		
Disagree	10.1%		
Slightly Disagree	8.1%		
Slightly Agree	27.7%		
Agree	28.4%		
Strongly Agree	18.2%		

Other socioeconomic factors like the recent trend of online businesses, earning opportunities and low literacy rate also come into play. Therefore, it becomes necessary to differentiate between dependence, abuse and need based use.

The prevalence of addiction in our study was found to be 70% which is quite high compared to the rates identified in Western or European countries, and as well as in our neighboring countries.

Our study revealed screen addiction to be more prevalent in young adults (19 and above) as compared to young adolescents,[15-16] which is shown in some other studies.[17] The result is consistent with the global smartphone penetration rate of 83.72%.[18]

Furthermore, the routine screen time spent each day is significant (p<0.01) in this population and is in accordance with previous studies conducted on middle school students in South Korea.[19] However, most individuals did not consider their behavior as addiction.

The smartphone technology is advancing at a highly swift speed. Previous studies conducted in Pakistan showed smartphone addiction to be at (60%).[20] Our study also showed consistent results of smartphone being the most used device (68.2%).

Numerous studies place social media as a leading cause of excessive screen usage.[17,19] Present study too resonates with previous findings and places social media (67.6%) to be the main reason for over usage, probably since majority of the students have a very hectic routine with limited physical or otherwise activities. For them, social media becomes a readily available means for relaxing and blowing off steam. Second most common reason was found to be binge watching tv shows and movies. This study is the first of its kind that gives insight on the type of content most consumed by the masses while engaging in such activities. It was found that most frequently viewed genre was drama (20.7%), followed by crime and suspense (13.7%).

Overuse of gadgets causes neck pain and wrist pain was also supported by other studies for example in Egypt.[21] Smartphone use longer than intended to use was also found in studies conducted in middle school students in Korea.[22]

In conclusion, screen addiction was found to be significantly prevalent amongst the university students of the twin cities. This newly emerging phenomenon poses a dire threat to our society and needs to be better understood and appropriately dealt with. Healthcare professionals and basic family units should be enlightened enough to adequately tackle the risks posed by it. They should be well prepared in terms of preventing, diagnosing /and treating screen addiction.

RECOMMENDATIONS

- This study suggests strictly reducing the screen time exposure to a few hours each day (both related to work and entertainment).
- Awareness and education about the prevalence and its adverse effects need to be spread among the public on a large scale.
- The widespread social media use owes to the glamorized portrayal of daily life by celebrities which is influencing young adults into unhealthy and unrealistic lifestyles.

LIMITATIONS OF STUDY

As the study was conducted over a population of a particular region, age group and educational background, its results can't be generalized. The study was not conducted in a controlled environment and so cannot be utilized for clinical diagnosis. Prevalence might have been affected due to Covid-19 Pandemic. The study was conducted through a questionnaire on google forms, which some participants might not have filled properly, and so the results might not be generalized.

CONCLUSION

The prevalence of screen addiction is significantly high in the university students. Strong association was found between screen use and type of content consumed. Most common mode of screen use was mobile phone/tablet and most consumed content was social media among effected students.

Conflict of Intrest: None.

Author's Contribution

Following authors have made substantial contributions to the manuscript as under:

AS: Supervision, conception, design, revising & final apporval of the version to be published.
SFM: Co- Supervision, Drafting of Article, Data analysis, Revising & final apporval of the version to be published.
HR: Conception, Design, Intellectual Content & final apporval of the version to be published
FH: Conception, Design, Intellectual Content & final apporval of the version to be published
MUZ: Acequstion of data, Interprection , Revising & final apporval of the version to be published
AN: Drafting of article, Intellectual content & final apporval of the version to be published
IUK: Revising, Analysis, Conception design Intellectual content & final apporval of the version to be published
SKT: Conceptio.n design, Drafting of article, Acqustion of data & final apporval of the version to be published

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investi-gated and resolved.

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