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PREVALENCE OF EXCESSIVE ELECTRONIC GADGETS USE AND ITS IMPACT ON ACADEMIC PERFORMANCE AMONG ADOLESCENTS.

Psychiatry

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ABSTRACT

Background: Teens all over the world are growing up in a world in which the Internet, cell phones, text messaging, television and video games, and other technologies dominate their communication and are an integral part of everyday life and its over use have severe impact on their academic performance.1 This study aimed to assess the impact of excessive use of electronic gadgets on academic performance. A descriptive cross-sectional study was conducted. **Material And Method:** The non-probability convenient sampling technique was used for selecting 250 adolescents from selected High-schools. The tool was developed in the form of three section as sociodemographic variables, modified screening tool was used to assess excessive use of electronic gadgets, modified 5-point Likert scale was used to assess the level of academic performance. **Result:** The study finding revealed that, the majority of samples 128 (51.2%) were moderately use electronic gadgets, whereas 110 (44%) samples having excessive use of electronic gadgets and 12 (4.8%) samples having mild use of electronic gadgets. Majority of samples 97(88.18%) had average academic performance, whereas 7(6.36%) had poor academic performance and 6 (5.45%) had good academic performance who are using excessive electronic gadgets. The study was also found that, there was a positive correlation between cell phone and academic performance(r=0.263), video game and academic performance (r=0.342). There was negative correlation between academic performance and Television (r= -0.039), Internet (r= -0.083). There was significant association found between excessive use of electronic gadgets with Types of family (8.472) and social gathering (20.94). Significant association was found between academic performance with no. of siblings in the family (20.83). **Conclusion:** The study concludes that, there was positive correlation between cell phone, video game and academic performance.

KEYWORDS

Electronic gadgets, Academic performance, adolescents

INTRODUCTION

The 21st century is the century of science and technology. To live without technology in the contemporary world is an impossible. The newer technology in our daily lives are the electronic gadgets like, cell phone, television, internet, computer games have become widely and unrestrictedly used tools and one of the major phenomena, in the last decade. However, their healthy adaptive use progressively gave place to their excessive use and lack of control. Over use have severe impact on the daily life of millions of children and adolescents and their academic performance.[2]

Recently, every other day information technology or gadgets are attracting the attention of the present generation. As a vulnerable group, the adolescents become the largest consumer of such devices and services, which in turn makes them addicted to them at some point of time.3

Electronic gadgets are great tools for learning in an efficient manner, but there are negative effects if we will over used of electronic gadgets cause students to have a difficulty in concentrating in their studies because most of their time is spent on these devices that leads to have a poor academic performance.[4]

Objective

1. To assess the prevalence of excessive electronic gadgets use among adolescents.
2. To assess the level of academic performance among adolescents.
3. To assess the correlation between the excessive use of electronic gadget with academic performance.
4. To find out the association between the excessive use of electronic gadgets with their sociodemographic variables among adolescents.
5. To find out the association between academic performance with sociodemographic variable among adolescents.

MATERIAL AND METHODS

The quantitative approach and descriptive prospective research design was used. The inclusion criteria for the study includes 250 adolescents those who are studying in selected high-schools of the city, who are willing to participate in this study, who are having these four gadgets-cell phone, computer, video game, television and in the age group of 15 to 19 years from selected high schools of the Aurangabad. Adolescents were excluded from the study those who are having simple mobile phone and who are not willing to participate in this study. The data collection procedure was started from 23 December 2021 to 6 January 2022. The total duration of the study required 18 months.

After securing written permission from the respective authority subjects were selected from high-schools. Formal permission was obtained from the authorized high-schools and written inform consent was obtained from parents of the study sample. The sample size was determined by using survey formula n=([Z1])2{P(1-P)}/d2. The non-probability convenient sampling techniques was used to find out the level of excessive use of electronic gadgets. The sample selection bias was avoided by using larger samples. The data was collected by using sociodemographic variables, Modified screening tool was used to assess excessive use of electronic gadgets. The scale consists of 20 question and 5 alternatives. Modified 5-point Likert scale was used to assess the level of academic performance which consist of 15 question and 5 alternatives. The content of the scales was validated by 12 experts. The reliability of the tool was done by using the split half technique, the reliability of electronic gadget excessive use Screening tool(r=0.98), 5-point Likert scale to assess academic performance(r=0.92), was found by using Karl Pearson's (r=0.87)) respectively.

Data Analysis:

The data was analyzed by using descriptive and inferential statistics through the statistical package for the social science IBM SPSS 2013. The statistical test used for analysis were Karl-Pearson's coefficient of correlation method to test the correlation, Chi-square test for association, Degree of freedom, Mean, and Standard Deviation.

RESULT

Demographic Characteristics Of Adolescent

The study included 250 adolescents of which majority of samples 89(35.6%) belongs to the age group of 17-18 years. In relation to sex, the maximum 147(58.8%) of female adolescents participated in the study. In father occupation, it reveals that majority of the samples 112(44.8%) fathers were doing business and majority of the sample192(76.8%) mother was housewife. In family income per month, it is seen that majority of the samples 97(38.8%) were having income above 30,001. The no. of siblings with samples, majority of samples 112(44.8%) were having one sibling, which are shown in table no.2. Table no. 3 In relation to order of birth, maximum samples 137 (54.8%) were first child in their family. Regarding the area of residence, most 221(88.4%) of the samples were residing in urban area. It is observed in type of family, that majority of the samples were 182(72.8%) were belong to the nuclear family. In relation to availability of devices, the maximum no. of samples 140(56%) had cell phone in their family. In relation to leisure time activity, the majority of samples 86(34.4%) had spending time with their friends. The

maximum no. of samples 206 (82.4%) got percentage in past terminal exam were 75 & above are given in table no.3.

Table No.2: - Distribution Of Adolescents According To Their Sociodemographic Characteristics Education Of Mother, Occupation Of Mother And Father, Income, Religion, No. Of Siblings. N=250

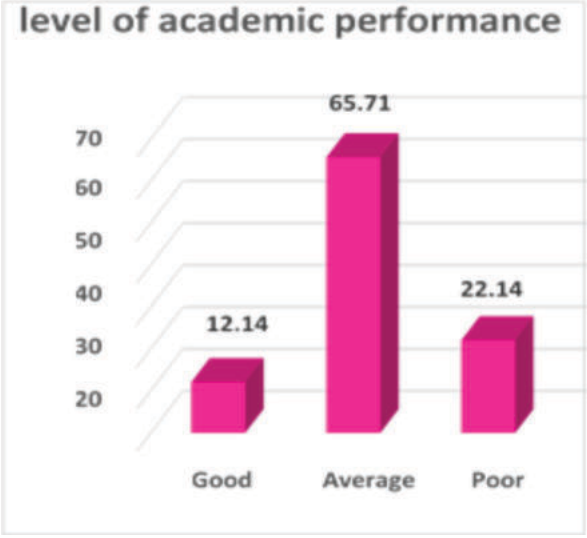
Sr. No.	Demographic Variables	Frequency	Percentage (%)
1	**Age**		
	a. 15-16years	53	21.2
	b. 16-17years	78	31.2
	c. 17-18years	89	35.6
	d. 18-19years	30	12
2	**Sex**		
	a. Male	103	41.2
	b. Female	147	58.8
3	**Standard**		
	a. 10th	50	20
	b.11th.	90	36
	c. 12th	110	44
4	**Education of father**		
	a. Uneducated	10	4
	b. Primary high school	49	19.6
	c. Higher secondary school	96	38.4
	d. Diploma	5	2
	e. Graduation & above	90	36

Table No.3: - Distribution Of Adolescents According To Their Sociodemographic Characteristics, Order Of Birth, Area Of Residence, Types Of Family, Availability Of Devices, Leisure Time Activity, Social Gathering, Percentage Got In Past Terminal Exam. N=250

Sr. No.	Demographic variables	Frequency	Percentage (%)
5	Education of mother		
	a. Uneducated	15	6
	b. Primary high school	92	36.8
	c. Higher secondary school	63	25.2
	d. Diploma	5	2
	e. Graduation & above	75	30
6	Occupation of father		
	a. Agriculture	15	6
	b. Business	112	44.8
	c. Government employee	33	13.2
	d. Private employee	75	30
	e. Unemployed	15	6
7	Occupation of mother		
	a. Housewife	192	76.8
	b. Government employee	15	6
	c. Private employee	23	9.2
	d. other	20	8
8	Monthly family income		
	a. below Rs.10,000	45	18
	b. Rs.10,001-20,000	54	21.6
	c. Rs.20,001-30,000	54	21.6
	d. Above 30,001.	97	38.8
9	Religion		
	a. Hindu	141	56.4
	b. Muslim	89	35.6
	c. Christian	0	0
	d. Others	20	8
10	No. of siblings in the family		
	a. None	24	9.6
	b. 1	112	44.8
	c. 2	45	18
	d. More than 2	69	27.6

Prevalence Of Excessive Use Of Electronic Gadgets

Graph-I:- Distribution Of Samples According To Level Of Electronic Gadgets Use. N=250

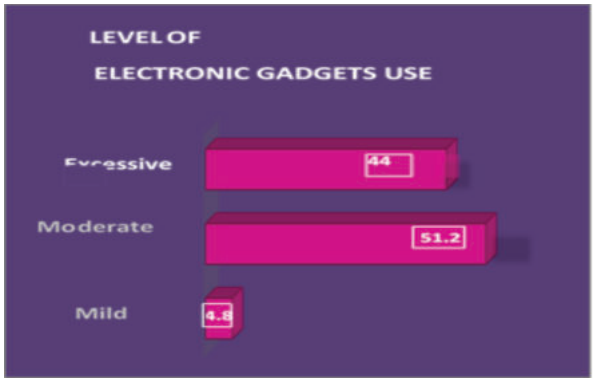


Graph: I Bar diagram showing the level of electronic gadgets use.

Graph-I - shows that, the majority of samples 128 (51.2%) were moderately using electronic gadgets, whereas 110 (44%) samples were excessively using electronic gadgets and 12 (4.8%) samples had mild use of electronic gadgets.

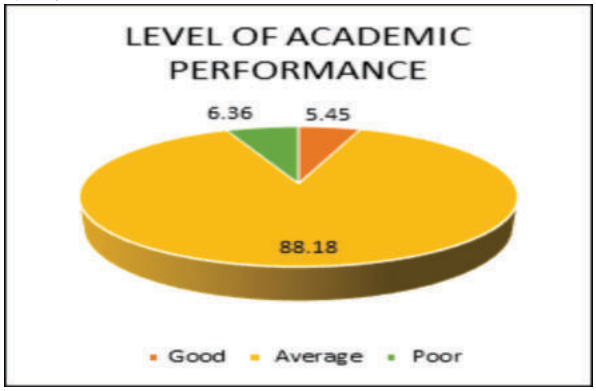
Academic Performance Among Adolescents

Graph II:- Distribution Of Samples Who Are Not Using Electronic Gadgets Excessively According To Level Of Academic Performance. **N=140**



Graph II- shows that, the majority of samples 92 (65.71%) had average academic performance, whereas 31 (22.14%) samples had poor academic performance and 17 (12.14%) samples had good academic performance.

Graph-III:- Distribution Of Samples Who Are Excessively Using Electronic Gadgets According To Level Of Academic Performance. **N=110**



Graph III- shows that, the majority of samples 97(88.18%) had average

academic performance, whereas 7(6.36%) samples had poor academic performance and 6 (5.45%) samples had good academic performance.

Table No. 4- Correlation Between The Excessive Use Of Electronic Gadgets With Academic Performance. N=110

Sr. No.	Demographic variables	Frequency	Percentage (%)
11	Order of birth		
	a. 1st	137	54.8
	b. 2nd	58	23.2
	c. 3rd	30	12
	d. 4th	25	10
12	Area of residence		
	a. Rural	29	11.6
	b. Urban	221	88.4
13	Types of family		
	a. Nuclear family	182	72.8
	b. Joint family	68	27.2
14	Availability of devices		
	a. Television	68	27.2
	b. Video games	17	6.8
	c. Computer(internet)	25	10
	d. Cell phone	140	56
15	Leisure time activity		
	a. Reading books	75	30
	b. Chatting on net	44	17.6
	c. Playing sports	25	10
	d. Spending time with friends	86	34.4
	e. Others	20	8
16	Social gathering		
	a. Going to religious places	25	10
	b. Attending family festivals	92	36.8
	c. Attending parties	20	8
	d. Family tour	113	45.2
17	Percentage got in past terminal exam		
	a. 75% & above	206	82.4
	b. 51-75%	44	17.6
	c. Less than 50%	0	0

Table no 4- Depicted that, correlation between the excessive use of electronic gadget and academic performance among 110 adolescents was calculated by using Karl Pearson's correlation coefficient method and it was found that there was a positive correlation between cell phone and academic performance(r=0.263) at a significant level of 0.05, video game and academic performance, (r=0.342) at a significant level of 0.05. There was negative correlation between academic performance and Television (r= -0.039), Laptop (Internet) (r= -0.083), it was not found to be significant at 0.05 level of significance.

Table no.5- Association Between The Excessive Use Of Electronic Gadgets With Their Sociodemographic Variables. N =250

Sr. No.	Correlation Between	Mean Score	Karl Pearson Correlation Coefficient	P-Value	Significance
1.	Cell phone versus	18.8 ± 2.62			
	academic	Versus	0.2636	0.005	S.
	performance	36.6z± 6.882			
2.	Television versus	18.8±3.284			
	academic	Versus	-0.039	0.685	N.S.
	performance	36.6z± 6.882			
3.	Video game versus	19.8 ± 2.638			
	academic	versus	0.3427	0.000	S.
	performance	36.6z±6.882			
4.	Computer (Internet)	19.1 ± 2.472			
	versus academic	versus	-0.083	0.387	N.S.
	performance	36.6z± 6.882			

Table No.6:- Association Between Academic Performance With Sociodemographic Variable. N=250

Sr. No.	Demographic variables	Mild	Moderate	Excessive	Total	X^2	Df	p value	Significance
1	Age								
	a. 15-16years	1	20	32	53	18.38	6	0.005	S.
	b. 16-17years	3	44	31	78				
	c. 17-18years	3	47	39	89				
	d. 18-19years	5	17	8	30				
2	Types of family								
	a. Nuclear family	5	90	87	182	8.472	2	0.014	S.
	b. Joint family	7	38	23	68				
3.	Social gathering								
	a. Going to religious places	1	14	10	25	20.94	6	0.002	S.
	b. Attending family festivals	5	59	28	92				
	c. Attending parties	3	4	13	20				
	d. Family tour	3	51	59	113				

Sr. No	Demographic variables	Good	Average	Poor	Total	X^2	Df	p value	Significance
1.	No. of siblings in the family								
	a. None	7	12	5	24	20.83	6	0.002	S.
	b. 1	7	91	14	112				
	c. 2	6	35	4	45				
	d. More than 2	3	51	15	69				
	b. Joint family	4	49	15	68				

DISCUSSION:

In the present study, the majority of samples 128 (51.2%) were moderately using electronic gadgets, whereas 110 (44%) samples having excessive use of electronic gadgets and 12 (4.8%) samples having mild use of electronic gadgets.

The above study findings are supported by study conducted by Abdel-Salam DM,Alrowaili HI, Albedaiwi HK, Alessa AI, Alfayyadh HA. on Prevalence of internet addiction and its associated factors among female students at Jouf university, Saudi Arabia. The study included, 368 female adolescent students. The data was collected using a self-administered Young's Internet Addiction Test (YIAT questionnaire. The study findings revealed that, 48.6% of the students were scored to be average Internet users. However, 49.5% and 1.9% of the students had moderate and severe addictions, respectively. The vast majority of students (94.6%) preferred home to access the Internet. Communication was the main purpose of using the Internet as it was reported by 47.3% of the students. The majority of the students (79.5%) utilized mobile phones for Internet access while other devices such as a laptop, tablets and desktop were used by 15.4%, 4.3%, and 3.2% of the students, respectively. More than half of the students (54.6%) used the Internet for an average of more than 4 h every day. Also, more than half (51.4%) used it in the evening being the dominant time of using the Internet. The study concluded that nearly half of female students at Jouf University have moderate or severe Internet addiction. The significant predictors of Internet addiction were sleeping hours ≤ 6, midnight as the dominant time for utilizing the Internet and using the Internet for entertainment purposes.[5]

In the present study, the majority of samples 92 (65.71%) had average academic performance, where as 31 (22.14%) had poor academic performance and 17 (12.14%) had good academic performance. Majority of samples 97(88.18%) had average academic performance, whereas 7(6.36%) had poor academic performance and 6 (5.45%) had good academic performance who are using excessive electronic gadgets.

The above study findings are supported by a study conducted by Esther Jennifer S. on Influence of electronic gadgets excessive use on academic performance and family interaction among adolescents. The study included 100 adolescents. The data were collected by using 5-point Likert scale for excessive moderately use electronic gadgets and family interaction and academic performance was assess by academic record analysis. The study findings revealed that 48% of the sample were using electronic gadgets excessively,31% were using moderately, and only 21% were using averagely. The 57% sample had average academic performance,33% had good and only 10% had poor

academic performance.[2]

In this study there was significant association found between the excessive use of electronic gadgets with age, type of family and social gathering. There was significant association found between academic performance with no. of siblings in the family.

The above study findings are supported by a study conducted by Adelantado-Renau M et.al. on to assess association between screen media use and academic performance among children and adolescents. The study included, a total no. of studies 5599, which are published between the year of 1958 and 2018 from 23 countries. The data was collected by using, preferred reporting Items for systemic review and meta-analyses (PRISMA). The random effect models were used to find the pooled effect size (ES). The study findings revealed that 58 studies (1.0%) of 5599 articles were included in the systematic review, of which 30 (52%) were included in the meta-analysis of the study. Across studies the amount of time spent on overall Screen-media use was not associated with academic performance (ES= -0.29; 95% CI, -0.65-0.08). individually, television viewing was inversely associated with composite academic performance scores (ES=−0.19; 95%CI, −0.29to−0.09), video game playing was inversely associated with composite academic performance scores (ES = −0.15; 95% CI, −0.22 to −0.08). The study concludes that, each screen-based activity should be analyzed individually for its association with academic performance particularly television viewing and video game playing, which appeared to be the activities most negatively associated with academic outcome.[6]

CONCLUSION:

The study concluded that, most of the adolescents are moderately using electronic gadgets. Most of the adolescents had average academic performance and family interaction. There was positive correlation between cell phone, video game and academic performance and negative correlation between excessive electronic gadgets use and family interaction among adolescents. The significant association was found between excessive electronic gadgets and academic performance with their sociodemographic variables.

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