

Electronic media, its impact on traditional play and mental health among school-going children in selected schools of Bhubaneswar, Odisha

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Abstract: Objectives: 1. To determine the level of usage of electronic media among school-going children. 2. To assess the extent of traditional play among school-going children. 3. To find out the correlation between electronic media and mental health 4. To find a correlation between the impact of electronic media on traditional play 5. To determine the association between demographic variables and the impact of electronic media on traditional play. **Methods:** A total of 400 samples were included in the study. Samples were selected through random sampling and settings were selected through cluster sampling. Data were collected by using a self-structured tool for socio-demographic variables, usage of electronic media, traditional play, and standardized tool SCARED, KADS-6 for anxiety and depression respectively. **Result:** It was found that 28% of children are mild users and 17% are addicted to electronic media. Adolescents who were using electronic media among them 36% have anxiety disorder. A strong positive correlation was found between the usage of electronic media and anxiety ($r=0.751$) $p\leq 0.05$ *. The correlation was also found between electronic media and depression ($r=0.641$) $p\leq 0.05$ *. Socio-demographic variables like age, occupation of head of the family, earning member of family and income family associated with usage of electronic media. **Conclusion:** Electronic media have an impact on the mental health of young children.

Keywords: *Electronic media, Traditional play, Mental health*

INTRODUCTION

Children are highly exposed to screens and increasingly using different types of electronic media, often simultaneously. Children have even been called "Generation M" for media. Children's consumption of electronic media is increasing, resulting in large part from technological transformations, easy access to, and ownership of mobile devices, especially cell phones and popular activities like social networking. The increase in the use of electronic media is exposing children to electronic aggression, or harassment or bullying that occurs through email, chat room, and social media. Screen time might impact sleep by fostering irregular bedtimes. Besides, it is too exciting especially at bedtime, and exposure to light can alter melatonin secretion which put impact on mental health indirectly.¹

Electronic media has become a central part of the lives of adolescents. They are intensive users of new technology. There is growing concern that rising rates of electronic media use might be harmful. However, the extent to which different types of electronic media use might be associated with emotional and behavioral problems.²

Importance of play in promoting healthy child development and maintaining strong parent-child bond play, found play had a major role in the development of physical, mental, cognitive, and psychosocial development of children. But it is decreasing nowadays due to the busy lifestyle, changes in family structure, and increased focus to academics.³

The magnitude of the association between social media use and depressive symptoms was larger for girls than for boys. Greater social media use related to online harassment, poor sleep, low self-esteem, and poor body image; in turn, these related to higher depressive symptom scores. depressive symptom scores directly (15% higher depressive symptom scores) and indirectly via self-esteem.⁴

Emotional problems were categorized. Students who are using gadgets for 6-10 hours have most borderline and those who were using more than 10 hours categorized in abnormal. This study finds a strong association of emotional problems with the duration of electronic gadget use. when a child involved in the electronic gadget, he/she communicates very less, so that communication skill is not developed. Children also suffer from anxiety and childhood depression. Gadget usage put negative impact on the character of children.^{5,6}

METHODS:

A cross-sectional study design was selected for the study. Demographic variables were age, sex, standard, type of family, the income of a family, earning member of the family, living area. Research variables were Electronic media, Traditional play, Anxiety, and Depression.

In this study whole Bhubaneswar municipality area was divided into four clusters according to direction. Schools where there is 6th, 7th and 8th class are identified in each cluster. One school from each cluster was chosen on a random sampling method. Total 100 numbers of students are selected from each school based on the random sampling method by using the lottery method.

RESULTS:

In this study majority of the students are of 11-12yrs old i.e. 44%. The researcher selected 69% and 31%. 59% of adolescents are living in nuclear families whereas 1% i.e. 4 are living in single-parent families. 37% are private. Employee and 16% are doing farming parents were there. Father is the earning member in most of the family i.e. 77% and 9% both parents were earning. Most of the adolescents are living in town (56%) and the least number of are living in a village 14%. The majority of the family income i.e. 37% are >20001 and 31%. (Table-1). It was found that more than one-third of the adolescents are normal users i.e. 37%. Mild user of electronic media is 28%. Adolescent who are addicted to electronic media is 17%. (Figure-1). The majority of the adolescents are occasionally playing traditional play i.e., 64%. and there is a very less no. of adolescents who have never played any traditional play is 13%. (Figure-2). A weak negative correlation was found ($r=-0.248$) between the usage of electronic media and traditional play at a 5% level of significance. It indicates that if there will an increase in electronic media, traditional playing will be decreased (Table-2). A strong positive correlation ($r=0.751$) between usage of electronic media and anxiety found to be

significant at a 5% level of significance. It shows that increase in electronic media usage will increase in anxiety (Table-3). There is a positive correlation ($r=0.614$) between usage of electronic media and depression found to be significant at a 5% level of significance. It is concluded that electronic media usage has a relation with depression (Table-4). Association calculated through chi-square value of demographic variables Age, occupation of the head of the family, earning member of the family, the income of family are 41.127, 32.931, 64.51, 35.028 which are more than the tabulated value at 0.05 significant level at 24, 16, 42, 22 degree of freedom respectively which implies there is an association between usage of electronic media and Age, occupation of the head of the family, earning member of the family, the income of the family. The calculated chi-square value of gender, standard, types of family, living place were 21.418, 34.741, 29.352, 28.573, 2.532 respectively which is less than the tabulated value at 0.05 significant level which implies there was no association between usage of electronic media and gender, standard, types of family, living place. (Table-5)

DISCUSSION

The present study found adolescents who were using electronic media among them 36% have anxiety disorder. The usage of electronic media has a strong impact ($r=0.751$) on anxiety. These findings are supported by the following studies

Wei Hong, Ru-De Liu, Tian-Po Oei, et.al (2019) conducted a cross-sectional study to assess the effect of problematic mobile use on social anxiety. 1050 adolescents were identified in Beijing. It was found that there is a positive correlation ($r=0.746$) between problematic mobile phone use and social anxiety.⁷ **Laura Stockdale, Sarah M. Coyene, (2018)** conducted a cross-sectional study to assess the effect of video game addiction on various health aspects like physical, mental, and social. 1205 young adults (mean = 20.32, SD = 4.17) video game players were drawn out from two large universities in the USA. Sample was screened and 84 are identified as addicted. It was found that there were increased ADHD symptoms, an increase in anxiety, and poorer mental health. There was no impact on the physical and social aspects.⁸ This study found that only 18% of adolescents are found to be depressed. Electronic media usage has very less impact ($r=0.294$) on depression. The present study is supported by the following studies

Yu B, Gu Y, Bao X, Meng G, Wu H, Zhang Q et.al (2019) conducted a cross-sectional study to find out the association between the use of mobile, tv with depressive symptoms. He was taken 18,994 adult samples in Tianjin. It was found that 16.3% have depressive symptoms. The more time adult use of mobile and tv have more depressive signs and symptoms.⁹ **Hoge, Elizabeth Bickham, David Cantor, Joanne (2017)** carried out a meta-analysis of 161 studies done by shows that most of the adolescence using the internet and social media and the internet are victims of cyberbullying. As a result, they prefer to stay alone rather than face to face talking with others. Gradually they develop social anxiety disorder later after a long time it becomes depression i.e. 20% of the total population.¹⁰

Conclusion

To conclude school going children's electronic media use and psychological health are mutually related over time. So, children need to play physically rather than involving in electronic gadgets. The proper guidance to children, education to parents and encouraging children to involve in playing physically can help to maintain mental health.

Funding: None

Ethical statement: This study was approved by the institutional ethical committee and the prior consent of students and their parents were taken before data collection.

Conflict of interest: The authors declare that there is no conflict of interest.

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Table-1 Distribution of subjects with the socio-demographic variables using electronic media frequency percentage
N=400

Sociodemographic variable	Frequency (F)	Percentage (%)
1. Age		
11-12yrs	179	44%
13-14yrs	102	26%
15-16yrs	119	30%
2. Gender		
Male	278	69%
Female	122	31%
3. Standard		

6 th	172	43%
7 th	102	26%
8 th	126	31%
4. Types of family		
Nuclear family	236	59%
Joint family	160	40%
Single parent family	4	1%
5. Occupation of Head of family		
Govt. employee	93	23%
Pvt. Employee	147	37%
Business	94	24%
Farming	66	16%
6. Earning member of family		
Father	308	77%
Mother	54	14%
Both	38	9%
7. Living Place		
Village	57	14%
Town	223	56%
Slum	120	30%
8. Income of the family (in rupees)		
5000-10000	126	31%
10001-20000	129	32%
>20001	145	37%

Figure-1 Bar diagram showing the percentage distribution of usage of electronic media

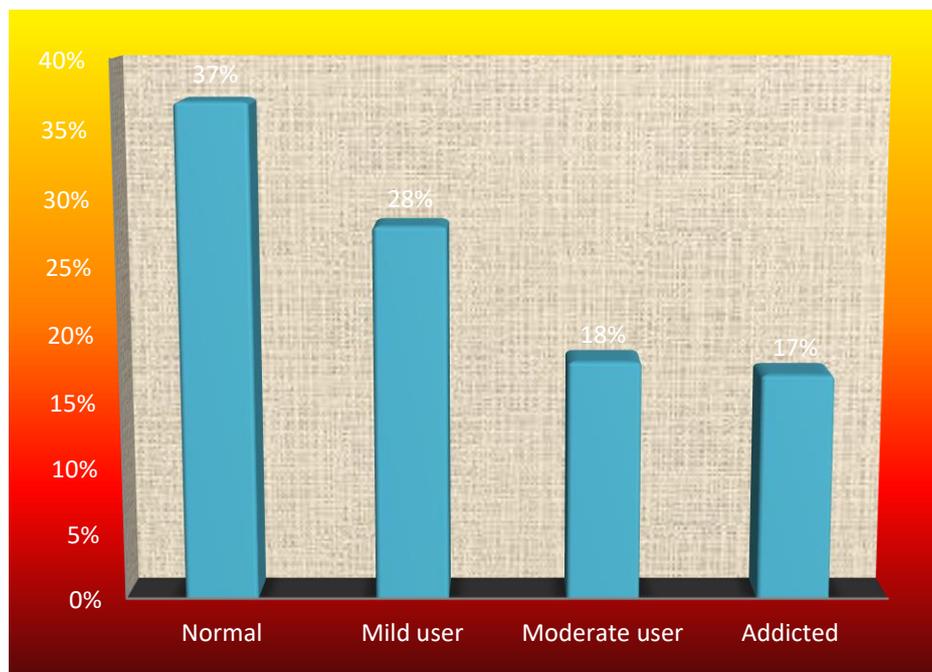


Figure-2 Cone graph showing the percentage distribution of traditional play among adolescents

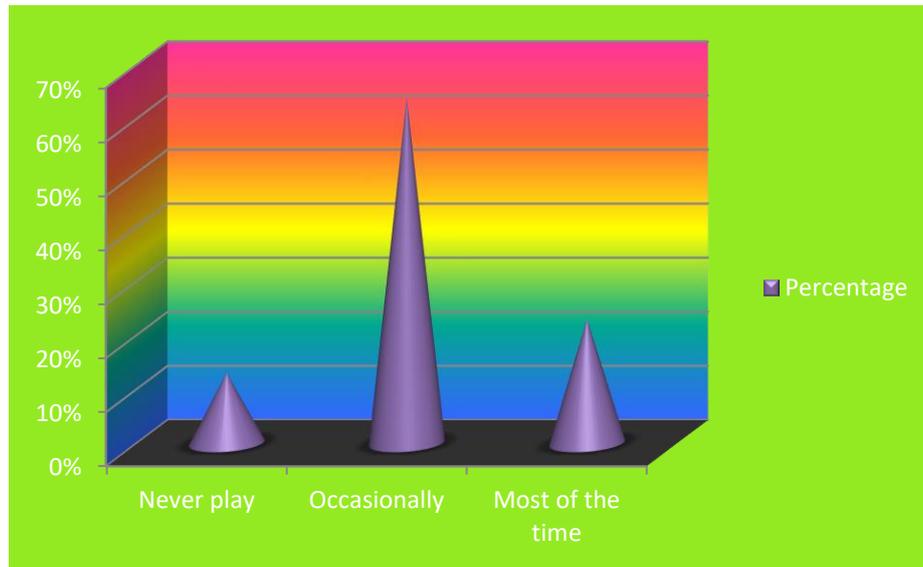


Table. 2 Correlation between usage of electronic media and traditional play.

N=400

Area	Mean	Mean %	SD	CV	Karl Pearson's correlation coefficient	significant
usage of electronic media	178.4	244.13	54.72	81.71	-0.248	$p \leq 0.05$ *
Anxiety	73.5	194.25	36.41	66.55		

$p \leq 0.05$

Table.3 Correlation between usage of electronic media and anxiety

N=400

Area	Mean	Mean %	SD	CV	Karl Pearson's correlation coefficient	Significant
usage of electronic media	178.4	244.13	54.72	81.71	0.751	$p \leq 0.05$ *

Anxiety 84.61 148.29 37.74 65.42

p≤0.05 *

Table-4. Correlation between usage of electronic media and depression

N=400

Area	Mean	Mean %	SD	CV	Karl pearson's correlation coefficient	Inference
usage of electronic media	178.4	244.13	54.72	81.71	0.614	p ≤0.05 *
Depression	154.5	207.69	42.83	61.18		

p≤0.05 *

Table-5 Association between usage of electronic media and demographic variables.

N=400

Socio-demographic variables	Df	Chi-square	Table value	Inference
Age	24	41.127	36.42	Significant
Gender	8	21.41	25.51	Not significant
Standard	32	34.74	46.19	Not significant
Type of family	24	29.35	36.42	Not significant
Occupation of head of family	16	32.93	26.30	Significant
Earning member of the family	42	64.51	58.12	Significant
Living place	32	28.57	46.19	Significant
Income of family	22	35.02	33.92	Not significant

p≤0.05