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Understanding the Socio-Demographic Influence on the Smart Devices Usage Among Adolescents

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Abstract
The present study aims to examine the influence of socio-demographic variables on the smart device usage among adolescents. In this study data was collected from adolescents residing in Patna town aged 10-19 years of age. The sample was collected from 300 respondents using stratified random sampling techniques. A schedule was developed to collect the data. The collected data was analyzed using frequency, percentage, chi-square test, one way ANNOVA, T-test and Pearson's correlation coefficient. The result of the study found that type and degree of smart device usage among adolescents in Patna are significantly influenced by the socio-demographic variables.

Keywords: Socio-Demographic, Smart Devices, Screen Time, Adolescents.

Introduction

Smart devices are electrically powered device fully equipped with internet connectivity, sensors and processors designed to allow them to link with other devices, helping in responding by voice, touch or through motions. The widespread adoption of smart devices into everyday activities of the adolescents has revolutionized the ways in which they interact with others, their way of acquiring knowledge, and their way of communicating with their friends, family and relatives. The different smart devices such as laptop, computer, Smartphone, tablets, gaming consoles have got the capability of providing remarkable scope for acquiring knowledge, generating new ideas and making connection through communication to the world. With the rapidly expanding availability and accessibility to the internet and smart devices, adolescents are easily been seen their engagement with the social media platforms, online gaming apps and virtual learning.

Socio demographic profile refers to the statistical description of the population/ community in accordance with the broad spectrum of social as well demographic variables. Socio-demographic variable includes age, gender, educational level, income, religion, cultural background, marital status, family type (nuclear family/ joint family), geographic region, etc. The use of smart devices by adolescents may vary from individual to individual according to their need, availability and accessibility. Even the usage and the accessibility of such devices are not uniformly dispersed across the communities. At some instances it may vary and influenced by the socio-demographic factors such as income of the family, education of parents, gender and geographic location (Rideout & Robb, 2021).There has been a significant association between the socio-demographic variables(such as gender, socio-economic status, family background) and adolescents usage of digital devices variable (UNICEF,2021). Apart from this,

studies have found significant association between socio-demographic factors and digital devices adoption and usage habits (Van Deursen & Helsper, 2018).

Adolescents use smart devices as and when required but the question arises here is that what are the factors that may be responsible for its use by adolescents as and when required, is its easy availability or easy accessibility or other factors that are having the influence on smart devices among adolescents. The researcher in this study thus tried to highlight one of the factors that are the socio-demographic factor that may influence the digital device use among adolescents and tried to get some interesting insights from this study.

Objective

1. To investigate the association between gender and screen time.
2. To know the influence of school type (private/government) on screen time.
3. To know the influence of family income on duration of screen time.
4. To know the relationship between family structure and nature of content accessed on smart devices.

Research Methodology

The present study entitled "Understanding the Socio-Demographic Influence on the Smart Devices Usage among adolescents" was carried out in Patna town (Bihar). The sample comprised of 300 adolescents in the age group of 10-19 years, comprising of 150 male respondents and 150 female respondents. The samples were drawn from the Patna town using stratified random sampling techniques. Statistical tools used for descriptive analysis included frequency and percentage method. Inferential statistical tests used for the analysis of data included chi-square tests, one way ANOVA, T-test, and Pearson's correlation coefficient.

Results and Discussion.

Figure 1: Pie Chart Showing the Percentage Distribution of Male and Female Adolescents.

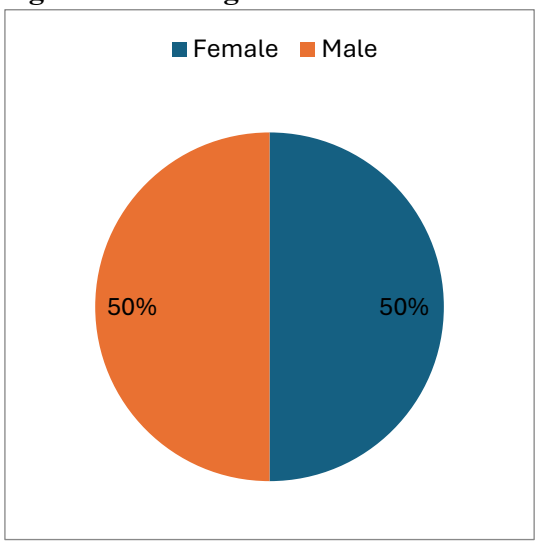

Table 1: Age-wise Distribution of Respondents

Age Group	Frequency	Percentage
10–13	90	30%

14–16	120	40%
17–19	90	30%
Total	**300**	**100%**

The above table shows that 30% of the respondent was in the age group of 10-13 years, 40% in the age group of 14-16 years and 30% in the age group of 17-19 years.

Table 2 : Chi-Square Test – Gender and Screen Time

Variable Pair	Chi-Square Value	df	p-value	Significant
Gender × Screen Time	12.48	2	0.002	Yes

Above table shows chi-square test performed to know the relationship between gender and screen time. The result, $\chi^2 = 12.48$, $p < 0.01$ showed statistically significant association between gender and screen time. Thus the result showed that male respondents spend more time on screen than female respondents.

Table 3: Distribution of Respondents Based on Type of School

Type of school	Frequency (N)	Percentage (%)
Private	180	60
Government	120	40

The above table shows that 180 adolescents belonged to private school and 120 adolescents belonged to government school.

Figure 2 : Bar Chart Showing Distribution of Adolescents Based on Type of School

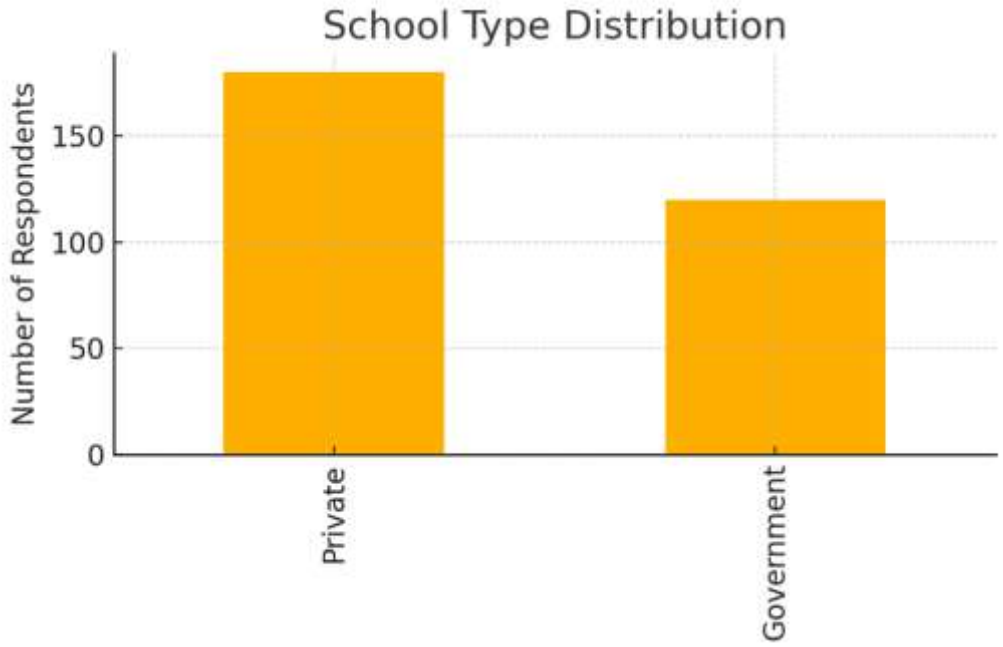

Figure 3 : Bar Chart Showing Average Screen Time by School Type

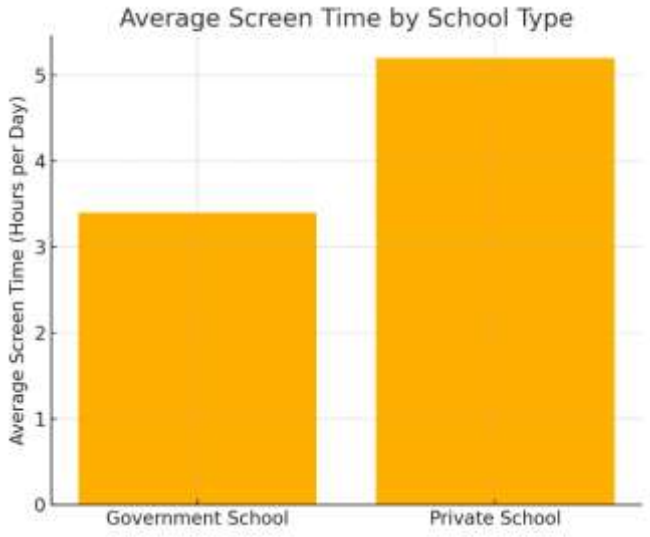

Table 4 : T-test – School Type and Average Screen Time

Group	Mean (Hours)	SD	t-value	df	p-value	Significant
Private School	5.2	1.7	3.85	298	0.0001	Yes
Government School	3.4	1.5				

Above table reveals the result of T-test that was performed to know the influence of type of school on screen time. The result showed significant variation, $t = 3.85$, $p < 0.01$, indicating that adolescents from private school spends greater amount of average daily time on screens as compared to adolescents from government schools.

Table 5 : Monthly Income of Respondent's Family

Income Bracket	Frequency (N)	Percentage (%)
Less than ₹10,000	70	23.3
₹10,000–₹20,000	100	33.3
₹20,000–₹30,000	80	26.7
More than ₹30,000	50	16.7
Total	**300**	**100**

The above table shows the monthly income of the respondent's family. Maximum number of respondents that is 33.3% had monthly family income bracket of ₹10,000–₹20,000. 26.7% of the respondent's family had monthly income bracket of ₹20,000–₹30,000, whereas 23.3% and 16.7% of the respondent's family had an income of less than ₹10,000 and more than ₹30,000 respectively.

Figure 4 : Bar Chart Showing Average Number of Devices Owned by Income Bracket

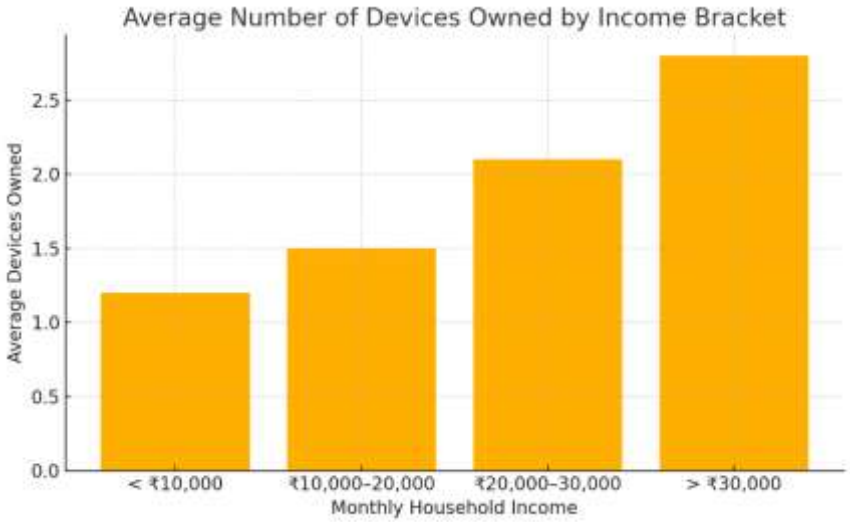

Table 6 : ANOVA – Income and Number of Devices Owned

Source	SS	df	MS	F	p-value	Significant
Between Groups	145.23	3	48.41	6.97	0.001	Yes
Within Groups	1910.87	296	6.46			
Total	2056.10	299				

The above table reveals the result of one way ANOVA that was performed to know the influence of income level of the family on the number of smart devices owned by the adolescents. The finding revealed significant variation ($F = 6.97$, $p < 0.01$) among different income levels adolescents. The result revealed that adolescents belonging from high income family background possessed multiple devices.

Table 7 : Pearson's Correlation – Income and Screen Time

Variable Pair	r-value	p-value	Direction	Strength	Significant
Income × Screen Time	0.39	0.004	Positive	Moderate	Yes

Above table reveals the finding of Pearson's Correlation analysis that was being performed to assess the association between family income of the adolescent and screen time. The result showed positive direction and moderate strength stating a moderate positive correlation with the correlation coefficient, $r = 0.39$, $p < 0.01$, stating that adolescents belonging from high family income group spends higher duration of time on screens.

Table 8 : Distribution of Adolescents Based on Family Structure

Family structure	Frequency (N)	Percentage (%)
Nuclear family	180	60
Joint family	120	40

Above table shows that 180 respondents belonged to nuclear family and 120 respondents belonged to joint family.

Table 9 : Chi-Square – Family Structure and Nature of Content Accessed

χ^2	df	p-value	Significant
10.87	2	0.004	Yes

Above table reveals the result of chi-square test that was performed to know the association that existed between family structure and nature of content accessed on smart device. The result revealed statistically significant relationship ($\chi^2 = 10.87$, $p < 0.01$) between the family structure and nature of content assessed. The result showed that adolescents belonging from nuclear family were more inclined to social media and gaming apps as compared to adolescents belonging from joint family who were more inclined to smart devices for educational and shared entertainment content.

Conclusion

The study found that male adolescents had greater accessibility and control over smart devices in comparison to female adolescents thereby indicating that gender difference do exists in smart device usage. The study found that family income also influences the multiple device ownership, adolescents belonging from wealthy family had more number of smart devices as compared to adolescents from low income family and adolescents belonging from family of high income group were found to spend greater amount of time on screens. The study also concluded that adolescents studying in private schools spend more time on screens as compared to adolescents belonging from government schools. It was also found that nature of content that are accessed by adolescents are influenced by the family structure as adolescents from joint family had greater accessibility and inclination towards educational apps and shared entertainment content but adolescents belonging from nuclear family was found to be more inclined toward social media apps and gaming apps. The study thus concluded that socio-demographic variable that is gender, family income, school type, and family structure influences the smart device usage among adolescents.

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