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An exploratory study to assess the impact of mobile phone use on adolescents studying in selected schools of district Solan, Himachal Pradesh

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ABSTRACT

Technology plays a major role in the life of an individual. In the present scenario, our society is acceptable to all the changes occurring in the field of communication technology. In today's time adolescents are the most active users of these new innovations making them more technology dependent and leading to various health problems. To assess the pattern of mobile phone use among adolescents. To explore the impact of mobile phone use on adolescents. The exploratory research design was adopted to collect the data from 398 adolescents of the selected schools of District Solan (H.P.) using the probability stratified cluster sampling technique. Data was collected by Mobile Phone Use Questionnaire and 4-point Likert scale using the self-report technique. Data analysis was done through descriptive and inferential statistics. The study results showed that the majority of adolescents (73.1%) were using mobile phones with internet access. 70.3 % of adolescents there was a moderate impact of mobile phone use, 23.4% had a mild impact and 6.3% had a severe impact. There was a highly significant association of education, gender, father's education, and father's and mother's occupation; a number of siblings with the impact of mobile phone use at $p > 0.01$ level of significance. There was a strong positive correlation of the impact of the mobile phone use with the academic performance, physical, psychological, social wellbeing and the financial state of adolescents at $p > 0.01$ level of significance. The results of the present study reveal that the negative impact of mobile phone use among adolescents is high so there is a need to put more emphasis on this area and possible strategies should be planned out in order to reduce this harmful effect of technology on youth.

Keywords— Impact, Mobile phone use, Adolescents

1. INTRODUCTION

Technology plays a major role in the life of an individual. In the present scenario, our society is acceptable to all the changes occurring in the field of communication technology. The mobile phone is considered as one of the most important communication device and also a necessary social accessory. Cell phones are one of the advanced devices that are almost used by every adolescent for a maximum period of time.

The young generation is more inclined to mobile phone use as compared to the older generation because in adolescent age people are more flexible and susceptible to the changing trends and styles making them more technology dependent which can lead to various health problems.

2. NEED FOR THE STUDY

A research done by Nokia reveals that on an average a person checks the mobile phone every 6.30 min in a 16 h waking cycle. Out of every 20-25 people, at least 10% of them face Smartphone and computer-related injuries. Due to continuous bending in a forward position while using phones it leads to back stiffening, stoop development and text necks syndrome. Besides constant texting leads to tendon injuries. Carpal tunnel syndrome, radiation related problems, inattention blindness and computer vision syndrome are common problems that arise due to over and reckless use of mobile phones ¹.

A survey conducted by cartoon channel in India showed that 73% of Indian kids use mobile phones and out of this 70% fall in the age group of 7-10 years while 76% in the age range of 11-14 years. Exposure to these smartphones at a very early age discourages them to perform any physical activities, leading to obesity and other physical problems. According to experts handing over digital gadgets at younger ages hinders with the physical and psychological development of the child.

Considering it as the burning issue of the current time and the high rate of smartphone use among adolescents, this area needs to be further explored, with a focus on what roles technology plays on the health and behavior of an individual.

3. RESEARCH METHODOLOGY

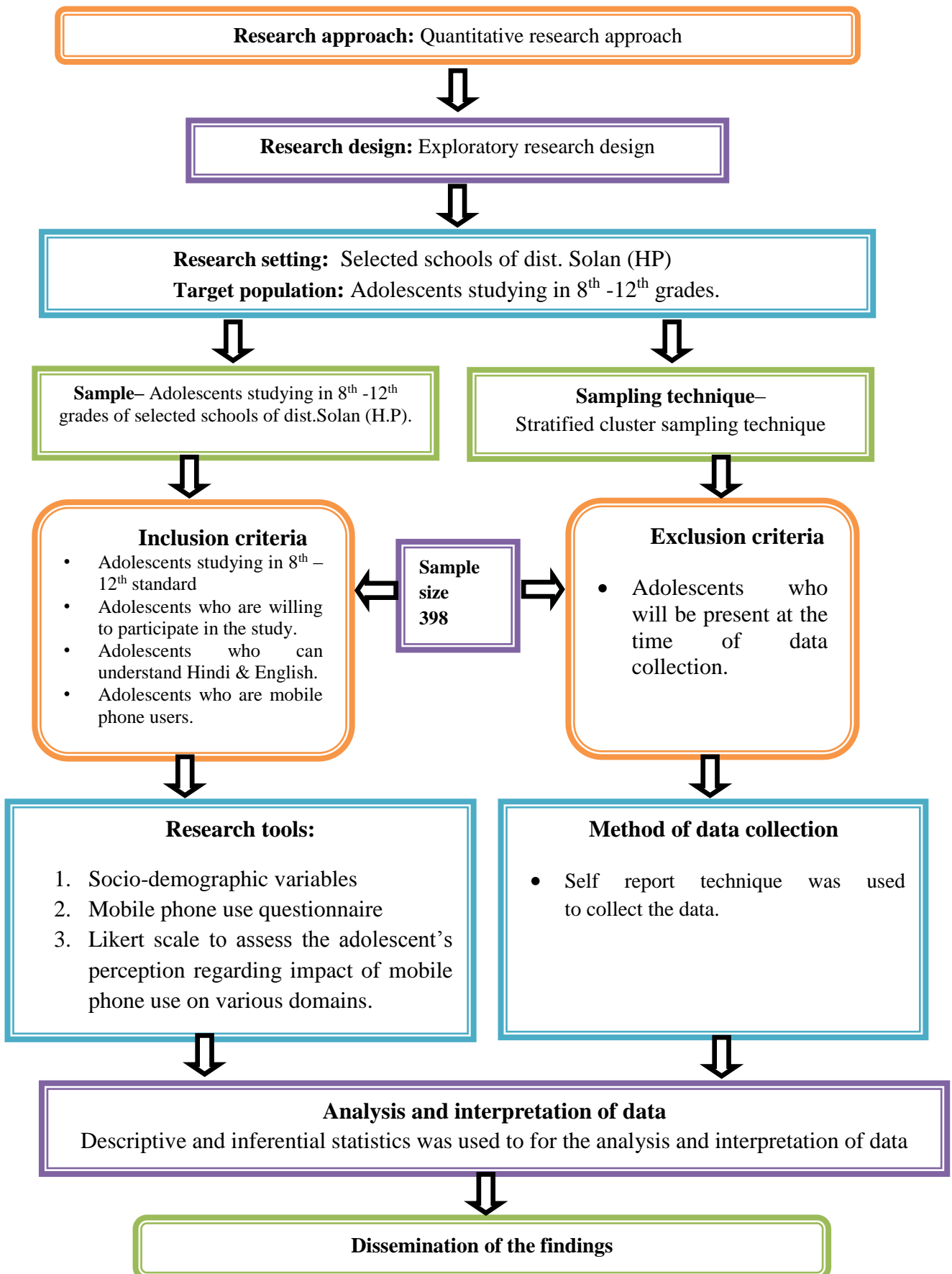


Fig. 1: Schematic diagram of research methodology for assessing adolescent's perception

4. DATA ANALYSIS AND INTERPRETATIONS

In current study data analysis is described under the following sections:

- **Section-A:** Socio-demographic profile & pattern of mobile phone use by adolescents
- **Section-B:** Impact of mobile phone use on adolescents.
- **Section-C:** Association between the impact and pattern of mobile phone use with the selected socio-demographic variables and co-relation of the impact of mobile phone use with its impact on various domains

4.1 Section-A

Socio-demographic profile and pattern of mobile phone use by adolescents

Table 1: Frequency and percentage distribution of adolescents based on their socio demographic variables: N=398

S no.	Socio-demographic variables	f	f %
	Age		
1.	11-12 years	08	02
	13-14 years	148	37.2
	15-16 years	190	47.7
	17-18 years	52	13.1
	Education		
2.	8 th	29	7.3
	9 th	123	30.9
	10 th	145	36.4
	11 th	58	14.6
	12 th	43	10.8
	Type of schooling		
3.	English medium	250	62.8
	Hindi medium	148	37.2
	Sex		
4.	Male	203	51
	Female	195	49
	Father's education		
5.	No formal education	21	5.3
	Primary	55	13.8
	Secondary	183	46
	Higher secondary & above	139	34.9
	Mother's education		
6.	No formal education	21	5.3
	Primary	65	16.3
	Secondary	205	51.5
	Higher secondary & above	107	26.5
	Father's occupation		
7.	Unemployed	10	2.5
	Government employee	110	27.6
	Private employee	147	36.9
	Self employed (e.g. Farming, business etc)	88	22.1
	Working on daily wages	43	10.8
	Mother's occupation	136	
8.	Unemployed	28	34.2
	Government employee	54	7
	Private employee	89	13.6
	Self employed (e.g. Farming, business etc)	90	22.4
	Working on daily wages	90	22.7
	No. of siblings:		
9.	Only child	33	8.3
	Two	224	56.3
	Three	98	24.6
	More than 3	43	10.8
	Family monthly income (In rupees)		
10.	>20,000	228	57.3
	20,001-40,000	112	28.1
	40,001-60,000	41	10.3
	60,001-80,000	09	2.3
	More than 80,001	08	02

Table 1 shows that the majority of the adolescents belonged to the age group 15-16 years i.e. 47.7 %. Majority of the adolescents i.e. 36.4% were studying in 10th grade. 62.8% of the adolescents were studying in the English medium school. 51% of the adolescents were males. Majority of the adolescent's father (46%) were having secondary education and 51.5% of adolescent's

mothers were having secondary education. Majority of the adolescent's fathers i.e (36.9%) were working as private employees whereas for (34.2%) of adolescents mothers were employed.56.3% of adolescents were having two siblings and for the majority of the adolescents (57.3%), the family monthly income was < 20,000.

Table 2: Distribution of adolescents based on their pattern of mobile phone use: N=398

S no.	Mobile Phone Use Questionnaire	Frequency (f)	Frequency (%)
1.	Use mobile phone		
	Yes	398	100
	No	--	---
	Own personal phone		
2.	Yes	156	39.2
	No	242	60.8
3.	Duration of ownership		
	Less than 1 year	239	60.05
	1-5 years	117	29.39
	More than 5years	42	10.6
4.	Type of mobile phone		
	A mobile phone without internet access	117	29.39
	Mobile phones with internet access	287	72.1
5.	Bought the mobile phone		
	Self	73	19.5
	Parents	258	69
	Elder siblings	35	9.4
	Relatives	08	2.1
6.	Frequency of changing mobile phone		
	Once in a year	162	48.1
	Twice in a year	64	19
	More than twice in a year	111	32.9
7.	Reason for owning a mobile phone		
	Convenience for calling	47	11.8
	Makes easily accessible to people	37	9.5
	The best source of entertainment	144	36.18
	Convenience for searching study content	170	43.7
8.	When the phone rings you answer		
	All the calls	192	48.24
	Only selective calls	180	45.2
	Ignore the calls	26	6.9
9.	Time spend daily with mobile phone		
	Less than 30 minutes	196	49.2
	30 minutes - 1 hour	123	31.3
	1 hour -1.5 hours	38	9.7
	More than 1.5 hours	41	10.4
10.	Addicted to mobile phone		
	Yes	180	45.2
	No	218	54.8

Table 2 shows the pattern of mobile phone use by adolescents. All the adolescents 398 (100%) were mobile phone users.60.8% of adolescents were not having personal mobile phones. Majority of adolescents (72.1%) were using mobile phones with internet access. For 69% of adolescents, their parents bought mobile phones. Majority of the adolescents (48.1%) have changed their mobile phones once in a year.49.2% of adolescents spend less than 30 minutes on their mobile phones.45.2 % of adolescents feel that they are addicted to mobile phones.

4.2 Section-B

Impact of mobile phone use on adolescents.

Table 3: Frequency distribution of adolescents based on the impact of mobile phone use: N=398

Domains	Mild impact		Moderate impact		Severe impact	
	f	%	f	%	f	%
Academic performance	141	35.4	205	51.5	49	12.3
Physical wellbeing	117	29.4	237	59.5	41	10.3
Psychological wellbeing	105	26.4	250	62.8	42	10.6
Social wellbeing	86	21.7	273	68.6	36	09
Financial state	140	35.2	181	45.5	49	12.3
Overall impact	93	23.4	279	70.3	25	6.3

Table 3 shows that for 70.3 % of adolescents there was a moderate impact of mobile phone use, 23.4% had a mild impact and 6.3% had a severe impact. Majority of adolescents 51.5% had the moderate impact of mobile phone use on academic performance of adolescents. 59.5% of adolescents had moderate impact of mobile phone use on their physical wellbeing whereas for majority of adolescents (62.8%) there was moderate impact of mobile phone use on their psychological wellbeing.68.6% of adolescents had moderate impact of mobile phone use on their social wellbeing and 45.5% of them had moderate impact of mobile phone use on their financial state.

4.3 Section-C

Association between the impact and pattern of mobile phone use with the selected socio-demographic variables and co-relation of the impact of mobile phone use with its impact on various domains

Table 4: Association of the impact of mobile phone use on adolescents with the selected demographic variables, N= 398

S no.	variables	Chi-square	df	p-value
1.	Age	11.290	6	.080 ^{NS}
2.	Education	27.503	8	.001**
3.	Type of schooling	4.163	2	.125 ^{NS}
4.	Gender	16.299	2	.000**
5.	Father’s education	19.765	6	.003**
6.	Mother’s education	6.671	6	.352 ^{NS}
7.	Father’s occupation	25.948	8	.001**
8.	Mother’s occupation	44.329	8	.000**
9.	No. of siblings	25.968	6	.000**
10.	Family monthly income	17.167	8	.028*

*Indicates association is significant at p < 0.05, **Indicates association is significant at p < 0.01, NS not significant association.*

Table 4 shows that there was a highly significant association of education, gender, father’s education, and father’s and mother’s occupation; the number of siblings with the impact of mobile phone use. There was a significant association between family monthly incomes with the impact of mobile phone use. There was no significant association between age, type of schooling and mother’s education with the impact of mobile phone use.

Table 5: Correlation of the impact of mobile phone use with the academic performance, physical, psychological, social wellbeing and the financial state of adolescents. N =398

		Total impact	Academic performance	Physical wellbeing	Psychological wellbeing	Social wellbeing	Financial state
Total impact	r	1	.600	.652	.872	.819	.783
	p-value	-----	.000(**)	.000(**)	.000(**)	.000(**)	.000(**)
Academic Performance	r	.600	1	.428	.437	.354	.406
	p-value	.000(**)	-----	.000(**)	.000(**)	.000(**)	.000(**)
Physical Wellbeing	r	.652	.428	1	.439	.420	.363
	p-value	.000(**)	.000(**)	-----	.000(**)	.000(**)	.000(**)
Psychological wellbeing	r	.872	.437	.439	1	.602	.560
	p-value	.000(**)	.000(**)	.000(**)	-----	.000(**)	.000(**)
Social wellbeing	R	.819	.354	.420	.602	1	.624
	p-value	.000(**)	.000(**)	.000(**)	.000(**)	-----	.000(**)
Financial State	R	.783	.406	.363	.560	.624	1
	p-value	.000(**)	.000(**)	.000(**)	.000(**)	.000(**)	-----

*** Indicates Correlation is significant at the 0.01 level*

Table 5 shows that there is a strong positive co-relation of the impact of the mobile phone use with the academic performance, physical, psychological, social wellbeing and the financial state of adolescents.

5. DISCUSSION

The findings of the study have been discussed in accordance with the objectives of the study and the previously reviewed literature.

5.1 To assess the pattern of mobile phone use among adolescents

According to the results of the present study 51% of the adolescents were males and 49% females.100% were using mobile phones,39.2% owned their personal mobile phones,73.1% used phones with internet access.43.7% used mobile phones for searching study content followed by 35.5% who used it for entertainment purposes. For 48.6% the average time spend in using mobile phones daily was less than 30 minutes and for 31.3% it was a 30minutes-1 hour.45.2 % of adolescents felt that they are addicted to mobile phones.

A descriptive study was carried out to study the pattern of mobile phone use among college-going youth (18-25 years) in Pune City. The sample size was 410 out of which 59.7% were females and 40.2% were males and data collection was done using incidental sampling technique. The results showed that 97% of students were using mobile phones, 97.5% use internet-enabled

phones Most of the students use mobile for listening to music (20.39%), whereas 6.63% of the users use it for playing games, 52.08% for social networking and 7.61% for just browsing, and 10.31%se for all the above. Regarding the time spent on a mobile phone (41.03%) of the students said that they spend between four to six hours on mobile. 25% of the students responded with between two to four hours and 11.79 responded with six and eight hours. 11.79% responded with more than eight hours. Most of the students felt that they need to use mobile as they feel they are addicted to mobile (28.25% of the students).

5.2 To assess the impact of mobile phone use on adolescents

- According to the present study, 70% of adolescents had a moderate impact of mobile phone use which is significantly associated with gender and the average time spent on the mobile phone daily at $p < 0.01$ level of significance. A similar Cross-sectional, observational study conducted in a secondary section of English-medium schools at Navi Mumbai (India) shows that Mobile Phone Dependence was found in 31.33% of sample students. It was significantly associated with gender average time per day spent using a mobile phone ($p < 0.001$) and years of mobile phone usage.
- The results of the present study show that the majority of adolescents that is 63.3% feel that the use of mobile phones is affecting their academic grades. 53.1% feel that use of mobile phones is leading to sleep disturbances, 45.2% feel that it is causing lightheadedness and blurred vision, 40.9% feel it is causing pain in neck whereas 39.4% feel that it is leading to pain in wrists and finger joints. A cross-sectional analytical study on College Students in Chennai was conducted to assess the impact of smart phone usage. 115 samples (17-25 years) were selected and data were collected using Semi-structured questionnaire related to smart phone usage by using self-report technique. Results is 74 % of the participants were female, more than 3 years 45% were using smart phones, 77% of the subjects were using more than 5 years daily, 66% had a habit of checking the smart phone while sleeping, 72% of the participants have used for the academic purpose, 79% had headache, 54% with eye pain, 43% had neck and arm pain.

6. MAJOR FINDINGS OF THE STUDY

The findings of the study are discussed below in terms of the objectives:

- All the adolescents 398 (100%) were mobile phone users. 60.8% of adolescents were not having personal mobile phones. Majority of adolescents (73.1%) were using mobile phones with internet access.
- For 69% of adolescents, their parents bought mobile phones. Majority of the adolescents (48.1%) have changed their mobile phones once in a year.
- 48.6% of adolescents spend less than 30 minutes on their mobile phones. 45.2 % of adolescents feel that they are addicted to mobile phones.
- 70.3 % of adolescents there was a moderate impact of mobile phone use, 23.4% had a mild impact and 6.3% had a severe impact.
- There was a highly significant association of education, gender, father's education, and father's and mother's occupation; a number of siblings with the impact of mobile phone use at $p > 0.01$ level of significance.
- There was a significant association of family monthly income with the impact of mobile phone use at $p > 0.05$ level of significance.
- There was a strong positive co-relation of the impact of the mobile phone use with the academic performance, physical, psychological, social wellbeing and the financial state of adolescents at $p > 0.01$ level of significance.

6.1 Strength of the study

- Large sample size.
- The strong sampling design was adopted.
- The parental perception was assessed to give a strong base to the findings of the study.

6.2 Limitations of the study

- Convenience sampling was adopted for the selection of parents.
- All parents of the adolescents were not taken as samples.

7. CONCLUSION

The results of the present study reveal that the negative impact of mobile phone use among adolescents is high so there is a need to put more emphasis on this area and possible strategies should be planned out in order to reduce this harmful effect of technology on youth.

- Financial and material support: Self
- Conflicts of interest: None

8. REFERENCES

- [1] Khosla V. From 'BlackBerry thumb' to the carpal tunnel: Smartphone addiction could give you health problems. ET Bureau. [Last accessed on 2017 Sep 11]. Available from: <https://economictimes.indiatimes.com/from-blackberry-thumb-to-carpal-tunnel-smartphone-addiction-could-give-you-health-problems/articleshow/24167300.cms>
- [2] Sawnani S. Is your child a smartphone addict? 2013 Dec 14. Available from: <https://www.gadgetsnow.com/computing/Is-your-child-a-smartphone-addict/articleshow/27351496.cms>