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Original Article

Internet Use Among Adolescents

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ABSTRACT

Background: There has been an explosive growth in the internet usage across the world over the past decade. The internet has been a facilitating medium of communication and socializing with people all over the world. It has specifically been transforming the adolescent world by giving them opportunity to acquire knowledge, express their feelings freely and to let them know what has been happening in the peer group. **Aim:** The present study aims to find out the prevalence and the nature of the internet use among adolescents studying in Vadodara district. **Method:** A total of 1331 participants between the age group 13 and 19 years, studying in Grades 9 to 12, filled out the self-report Internet Addiction Test. **Results:** Results indicate that 24.2% of the total sample were classified as the potential high users of the internet. Results also indicated differences in the internet usage patterns of adolescents in following dimensions: between gender, in urban and rural areas of Vadodara, English and Gujarati medium schools and among different grades. **Conclusion:** Internet use among adolescents is prevalent and the nature of the usage of internet is affected by the place, availability of new technology, medium of instruction and by the gender of the respondents.

Keywords: Internet Use, Internet Addiction, Gender, Adolescents.

INTRODUCTION

Internet has been a very facilitating medium and making lives easier for many of us. Internet is increasingly becoming a channel through which people, and especially adolescents, socialize and be in constant contact with their family, relatives and friends. Among adolescents, the Internet has become indispensable for instrumental purposes such as school work and information gathering, as well as for communication purposes. The communication applications of the Internet, such as e-mail, instant messaging, blogs, and chat rooms have entrenched themselves in the lives of adolescents [1,2,3,4] and the Internet has become an important social context in the lives of adolescents today. In fact a national survey of adolescents (10- 17 years of age) revealed that in the year before they were surveyed, 25% of Internet users had formed casual online friendships and 14% had formed close friendships or even romantic relationships [5].

Nature of Internet Use

Established only a few decades ago, the Internet is a system of enormous technical and social complexity. It comprises a gigantic but almost invisible universe that includes thousands of networks, millions of computers, and billions of users across the world [6]. Computer access and use among people, especially adolescents and youth, have grown exponentially over the past decade. More than 80% of American teenagers, ages 12 to 17, use the Internet, and nearly half log on daily [7]. Internet is a very fine medium which people as means to connect with other people, sharing files, entertainment and lots of other activities that are useful and beneficial to them. It has allowed people to

have an easy access to any information. As a proficient and organized storage of data, the internet provides the finest information retrieval systems. A very simple search inquiry to a search engine will give thousands of results in milliseconds.

Research suggests that adolescents use a variety of Internet applications such as instant messaging, bulletin boards, chat rooms, and blogs to connect with their peers [1, 3] and to explore typical adolescent issues such as sexuality, identity, and partner selection [8, 9].

Numerous commercial surveys chart children's favourite websites, showing that children value this new medium of information and entertainment for relieving boredom and, their preferred activity, for communication (chatting, email, instant messaging). British Market Research Bureau's Youth Target Group Index (TGI) (2001) showed that the most common uses are studying/homework (73%), email (59%), playing games (38%) and chat sites (32%) and hobbies and interests (31%) [10]. Few use it for shopping [11], while many seek out "Americanized"- i.e., commercial, global, branded websites [12].

According to the survey done by the Digital Strategy consulting (2012) [13], 2% of the total rural population of India use the internet. The report also suggests that in the past 12 months, there has been over 25% growth in the Indian internet users. It is also reported that 53% of the total population access the internet only via mobile. The Telecom Regulatory Authority of India (TRAI) estimates that there will be an additional 200 million new mobile subscribers in the year 2014. According to the research

aggregated by wearesocial.net, there are more than 898 million mobile subscribers in India, 292 million of which are living in rural areas.

The internet provides the unique opportunity and social setting for people to interact and share ideas and opinions with individuals across the globe at the click of a button, therefore enhancing the circle of influence beyond all physical boundaries without actually having to move from the comfort of one's home. While the internet has become an integral part of our lives today, many studies have shown that there are differences based on age group and gender in terms of uses of internet and the amount of usage.

Differences in Internet Usage Based on Gender:

Some studies regarding gender differences in internet use have shown that more men are likely to use internet for multiple purposes as compared to women. It has also been observed that the results seem to vary depending on the demographics of the sample on which the research was performed. For example, a research [14] indicated a bias towards male use of the Internet amongst Israeli school children. Similar results were also found amongst Romanian university students [15]. Furthermore, [16] made analogous findings with a sample of American undergraduate college students.

Many studies have also shown that men are more likely to use the internet for many other purposes such as research purchases and engage in online shopping [17,18,19]. Other authors have indicated that males may be more likely play or download games [14, 17, 18, 19], listen to or copy music [18] and also use the Internet to find out about their subject of interest [17, 20].

Differences in Internet Usage Based on Age Group:

It has been observed that adolescents and people in the age group of 20 to 35 years are the major users of internet. Prevalence of excessive internet use among adolescents have been reported as 6.7% in Hong Kong [21], 12% in Asia [22] and 10.7% in South Korea [23]. Based on the criteria for addiction in DSM-IV that psychologists often use, online surveys estimate the incidence of addictive patterns of behavior among heavy Internet users ranges from 6% [24] to as high as 80% [25].

Most common uses of the internet:

Information seeking: The most common use of the internet is to seek or search for any type of information. Any information related to any field of study can be found on the internet. People use various search engines like the Google and the Yahoo to know about news, weather, current affairs, education policies, government policies, laws, science and technology, law and politics, economy etc.

Social networking: The Internet and social networking sites are a component of many adolescents' development and life. There are a vast number of social networking sites available for individuals to choose from with multiple factors influencing the decision to use a particular site. While individuals may state many reasons for using a social networking site, adolescents more often use such sites as a realm for identity exploration. With the extensive resources on the Internet, adolescents can create personal pages, provide personal information, and communicate with other people through numerous websites. One of the most popular social networking sites is Facebook. On sites such as this, users are able to provide personal information, continually update information, and

even chat with friends.

Communication: Since the internet is an effective means of communication, the world has become smaller. People from different parts of the world are able to interact. Thanks to email, instant messages and video calling, people who are far from their loved ones can still talk. Because of blogging and social networking websites and online discussion forums, there are platforms that allow people to express themselves.

Entertainment: There is a very close relation of internet to entertainment. Whether it is watching videos in YouTube, playing live games, watching live sports, TV shows, or downloading movies; internet proves its domination everywhere.

Online games: Children are more interested in using the technology for their free play. They engage in various video games and also download various games through the internet so that they can play whenever they get free time. Playing online games does not require necessarily having a partner unlike playing with other kind of games and free play games that children play at their homes.

Online education: This medium benefits both teachers and students. There are thousands of online courses to choose from, which cater to various fields. Aside from being an abundant portal of information, the internet provides up to the minute news on a certain subject being tackled. It also reduces barriers for people with physical impairment, who may have problems getting to the library.

Current affairs: The internet helps people to be up to date regarding the current affairs and news. Any event or incident which has taken place few minutes ago is on the internet. It gives recent and up to date knowledge about the happenings around the world.

Gambling: The Internet is now commonly available in the home and the workplace, making it easier to partake in gambling. With an increase in access to an activity there is an increase in that behaviour. Thus, with more gambling opportunities online comes an increase in gamblers as well as an increase in problem gamblers. As the Internet is more accessible, it is becoming cheaper for people to obtain Internet services.

Factors that lead adolescents to use the internet

Identity experimentation and exploration - Adolescents are grappling with who they are. Actually, we all are, but for adolescents on the verge of leaving home and establishing their own life, it's particularly an intense issue. There is lot of emphasis given on the self-identity and self-worth of these adolescents.

Intimacy and belonging - During adolescence, humans experiment intensely with new intimate relationships, especially opposite sex relationships. They look for comrades and new groups where they can feel a sense of belonging. All these relationships become a big part of exploring one's own identity. On the Internet, there is an unlimited range of people and groups to interact with - all kinds of people and groups with all kinds of personalities, backgrounds, values, and interests.

Separation from parents and family - The adolescents' search for their own identity, relationships, and groups goes hand-in-hand with their drive to separate from their parents. They want to be independent, to do their own thing, to have an identity of their own self. It's an exciting process, and cyberspace is an exciting place to fulfill those needs of a growing, exploratory spirit. On the other hand, adolescents also are a bit anxious about the separation/individuation process. The captivating thing about the

Internet - and perhaps one of the reasons why it is so tempting to some adolescents - is that it neatly takes care of this ambivalence.

Venting frustrations - Adolescence is a period of "storm and stress." This phase certainly can be a difficult and frustrating period of life. Expectations from school, family, and friends can feel overwhelming. What does one do with all those frustrations, including the sexual and aggressive ones? These need a vent out somewhere and the internet is the place.

Although the internet has been a very facilitating medium and making lives easier for many of us on the one hand, it is also impairing the adolescent lives in different ways. Easy and free access to the internet provides them with numerous gambling opportunities. Studies on internet addiction have also revealed that adolescents who spend long hours on the internet are more violent and aggressive. It has also resulted in decreased interpersonal skills among adolescents and has also affected the communication styles within the family. Too much internet use has also made adolescents more impulsive and unable to delay their gratification of being online.

Rationale

The Internet is transforming the social world of adolescents by influencing how they communicate, establish and maintain relationships, and find social support. There has been large number of researches done in the field of internet across the world. In India, in particular, there has been scanty research work done. These researches have been localized to a particular area or institutions and have been conducted by the local NGOs. For example, Ahaan Foundation in association with the cyber cell and Economic

Offenses Wing (EOW) of Thane & Mumbai Police launched a movement called "RESPONSIBLE NETIZENS" in 2012 within Maharashtra. Through this movement they reach out to educational institutions, Government and private firms, banks, residential complexes and empower them to live a cyber-safe life. This movement was aimed at enabling youth and people to understand the pros and cons of the real and the virtual world; thus take responsibility of their actions while on the World Wide Web and prevent them from internet abuse or harassment. But, as we see, it is limited to a particular city of India, more research needs to be done to study the prevalence and nature of internet use among adolescents in India on a larger scale. It also, therefore, becomes necessary to gain awareness of both the potential benefits and risks of teen Internet use, and to provide reasons behind adolescents engaging in such over use of the technology.

Objectives

- To study the nature of internet use among adolescents in grades 9-12.
- To study the difference between adolescent males and females in terms of internet use.
- To study the difference between use of internet in English medium and Gujarati medium students.
- To study the difference among adolescents studying in different grades in terms of internet use.
- To study the difference in internet use by adolescents residing in urban and rural areas of Vadodara district.

METHOD

Sample

The following study was aimed to find out the internet usage pattern among school going adolescents in the age group of 13-19 years in Vadodara district. The population included adolescents, having internet access, from English medium schools and Gujarati medium schools affiliated to the Gujarat State Education Board (GSEB). For the sample selection, the Vadodara District Education Office was contacted and a list of all the English and Gujarati medium schools was sought. Of all the English and Gujarati medium schools affiliated to the Gujarat State Education Board (GSEB), seven schools were randomly selected through lottery method from the Vadodara city. Similarly, three schools were randomly selected through lottery method from the nearby towns in Vadodara district, viz., Padra, Dabhoi and Sinor. Out of these 10 schools, all the students of grades 9-12 were taken as the participants for the study. Therefore, a total of 1331 participants were the part of the study. Among them 762 (57%) were male and 569 (43%) were female. Their age ranged between 13 to 19 years with the mean age being 15.23. There were total of 398 participants (30%) studying in English medium schools and 933 participants (70%) studying in the Gujarati medium schools. Out of the total sample, 483 participants were from grade 9; 376 from grade 10; 301 from grade 11 and 171 from grade 12.

Tools

Internet Addiction Test by Dr. Kimberly Young (1996), is a 20 item questionnaire on which respondents are asked to rate items on a five point Likert scale, covering the

degree to which their internet use affects their daily routine, social life, productivity, sleeping patterns and feelings. The minimum score is 20 and the maximum is 100; the higher the score, the greater the problem Internet use causes. Young suggests that a score of 20-39 points in an average user of the Internet who has complete control over his/her usage; a score of 40-69 signifies frequent problems due to Internet usage; and a score of 70-100 means that the Internet usage is causing significant problems.

Frangos, Frangos and Sotiropoulos (2012) [26] have established the reliability of the tool and they have observed this tool to be a frequently used tool to measure Internet Addiction. Mean differences show that it is more reliable in college students and probably in Asia.

Procedure

School principals from the 10 selected schools were approached and permission was sought to collect the data. On an assigned day, questionnaire was administered to the students of each grade in a classroom set up of a particular school. The questionnaire was given to the students who were present on the assigned day of grades 9 to 12. Similarly, data was collected from all the 10 schools.

RESULTS

The major finding of the survey was that of all the 1331 participants between the ages 13 to 19, 91.58% of the participants used the internet. A quarter of the adolescent sample (25.7%) reported a very low score (below 20) on the internet addiction test, while 24.2% of the adolescent participants reported a high use of the internet (score above 70).

Table 1: *Differences in Internet usage patterns in adolescent male and females*

STATEMENTS	MALES	FEMALES
How often do you find that you stay online longer than you intended?	6.96%	4.39%
How often do you become defensive or secretive when anyone asks you what you do online?	12.23%	6.5%
How often do you fear that life without the internet would be boring, empty or joyless?	22.83%	15.99%

Table 1 shows the major differences in the Internet usage pattern among adolescent males and females on Internet Addiction Test developed by Dr. Kimberly Young. These differences are irrespective of their grade, medium of instruction and their area of residence. The above table shows that 6.96% of the male participants stayed online longer than they actually intended in comparison to female participants (4.39%). 22.83% male participants felt that their life would be boring, empty and joyless without the internet, while only 15.99% of the female participants felt so. Also, we see that 12.23% of the male participants become defensive when someone asks them about their online activities, whereas only 6.5% of the female participants become defensive.

Table 2: *Differences in the usage of internet in English and Gujarati medium participants*

STATEMENTS	ENGLISH	GUJARATI
How often do you find that you stay online longer than you intended?	14.32%	2.25%
How often do you prefer excitement of the Internet to intimacy with your family?	9.54%	3.75%
How often do you choose to spend more time online over going out with friends?	17.08%	6.64%

Table 2 shows the differences in the internet usage pattern among adolescents of English and Gujarati medium schools in Vadodara district of Gujarat. From Table 2, we observe that 14.32% of the English medium participants stayed online longer than they intended, where as only 2.25% of the Gujarati medium participants did so. English medium participants (9.54%) preferred excitement of the internet more over intimacy with their families, while very few Gujarati medium participants (3.75%) preferred internet excitement over being intimate with their family. With respect to spending more time online than spending time with friends, English medium participants were far more than their Gujarati medium counterparts, with their scores being 17.08% and 6.64% respectively.

Table 3: *Differences in internet usage pattern in adolescents in urban and rural areas.*

STATEMENTS	URBAN	RURAL
How often do your grades or school work suffer because of the amount of time you spend online?	4%	8.12%
How often do you find yourself saying “just a few more minutes” when online?	18.67%	4.36%
How often do you choose to spend more time online over going out with friends?	11.74%	6.53%

Table 3 shows the differences in the internet usage patterns among adolescents of urban and rural areas living in the Vadodara district. The results obtained show that 8.12% of rural area participants agreed to the fact that their school work and grades suffered because of the time they spent online, than the participants of urban area (4%). 11.74% of the urban areas participants choose to spend time online rather than going out with friends, while only 6.53% of the participants of the rural areas prefer spending time online than going out with friends.

Table 4: *Difference in the use of Internet among different Grades*

STATEMENTS	9th	10th	11th	12th
How often do your family members complain to you about the time you spend online?	15.94%	12.5%	15.62%	9.94%
How often do your grades or school work suffer because of the time you spend online?	9.11%	3.72%	3.99%	2.34%
How often do you choose to spend more time online over going out with friends?	10.97%	7.45%	11.63%	8.19%

Table 4 shows the differences in the Internet usage patterns among adolescents of different grades. We observe from the results that parents of participants of grades 9 and 11 (15.94% and 15.62% respectively) complained more about their internet use than the parents of participants of grades 10 and 12 (12.5% and 9.94% respectively). Also, 10.97% participants from grade 9, 7.54% participants from grade 10, 11.63% of participants from grade 11 and 8.19% of the participants from grade 12 chose to spend more time online than spending time with their friends. We also observe that grade 9 participants are the most whose school work and grades suffer due to the amount of time they spend online, their percentage being 9.11%, while grade 12 participants are the least with their percentage being only 2.34%.

DISCUSSION

The results from Table 1 seem to highlight the gender gap in internet use between males and females. Despite the fact that both males and females used the internet and considered it to be an important part of their lives, more male participants felt that their life would be boring, empty and joyless without the internet than their female counterparts. .

Furthermore, it was also observed that (6.96%) more male participants prefer to be online rather than spending time with their families; whereas, only 3.51%, female participants preferred the excitement of the internet over spending time with their families. From the results, it was also observed that male participants became defensive or secretive about their use of the internet than the female participants. On all occasions, it was seen that the males' scores were higher than those of females.

Cone (2001) [27] has discussed a number of reasons why a gender gap in the use of computer technology may exist and these issues may also relate to Internet use. For example, Cone suggests that schools and society encourage boys to experience with computers more than girls, contributing to the latter group's lack of confidence and lower usage of this technology. Furthermore, Cone discusses how many children's first encounter with computers is via video games. These often involve themes of competition, power and violence which might appeal to males more than females. Therefore, girls might become disinterested by computers at an early age contributing to a gender gap in later use of this technology.

Above reasoning may also apply to the Indian context since it is primarily a male dominant culture. Boys are exposed and encouraged to play the games which requires energy, aggression, and competition at a very young age. The themes of video games also involves fighting, violence, overpowering, etc., which appeals more to males than to the females. In India, girls are, from a very young age, taught to behave nicely and be friendly to all, to follow what elders tell and to be of a compromising nature. These values may discourage females in playing such violent video games. Therefore, in India too, we see that more males are likely to use the internet than females.

Considering the use of internet between English and Gujarati medium schools (Table 2), it was seen that almost 14.32% of the English medium participants stayed online longer than they intended whereas this number in Gujarati medium participants was only 2.25%. Such differences in the usage of internet in English and Gujarati medium children may be attributed to the fact that Gujarati medium children face language barrier when it comes to browsing the net or researching on a particular topic. Not all information available on the internet can be translated to the vernacular language. Whereas, English medium children are more aware of the internet and use the internet regularly and more comfortably than their Gujarati medium counterparts.

It was further observed that as much as 9.45% of the English medium participants preferred the excitement of the internet over spending time with their family, while only 3.75% of the Gujarati medium participants preferred excitement of the internet over spending time with their family. Also, 17.08% of the English medium participants chose

to spend more time online than with their friends, whereas only 6.64% of the Gujarati medium participants chose to spend more time online rather than with friends.

Results also show differences in the usage patterns of adolescents in urban and rural areas of Vadodara district (Table 3). While adolescents in the urban area are high users of internet, there are indeed some of the adolescents in rural areas of Vadodara equally using the internet. On almost all the statements of the questionnaire, it was noticed that participants from the urban area had scored more than their rural counterparts. However, it was surprising to note that around 8.12% of the participants residing in rural area accepted the fact that their school work and grades suffered more due to the use of internet, while this number in the urban participants was only 4 %. This may be because there is less parental control over what children do in rural areas. It may also be due to the fact that parents in rural areas are not much aware about the internet and the various mediums through which it is available to their children.

There may be several reasons for the urban population using the internet more than their rural counterparts. One of them is the easy availability of the new and advanced technology that offers more and easy access to the urban adolescent population than the rural population. There are many facilities and tutorials that run around in the urban area which help adolescents to learn more on the internet. With the latest technology taking it time to reach the rural parts, the rural adolescent population is a bit regressed when it comes to using the internet. They do not have such facilities where they have the opportunity to learn new and advanced things on the internet. Also true is the fact that not all children in rural areas have access to computers/laptops at home. The only way to

access the internet is through mobile phones. With mobile networks having better speed and connectivity in the urban areas, more and more people have 3G or 4G networks on their mobiles which give them quick access to anything and everything from researching a particular topic, navigating to a place or playing games. With the poor connectivity and availability of the mobile network, rural adolescents may not be able to do things as quickly and easily as the adolescents living in urban areas can. Also, it is also seen that more adolescents in urban areas have their personal mobile phones, while this is not true in rural areas. Children in rural areas usually use their parents' mobile phones and may not have access to the mobile phone always. Therefore, they may be handicapped in using the internet for over longer periods of time.

From the results in Table 4, we observe that on most of the dimensions, grades 9 and 11 participants' scores are higher than those of Grades 10 and 12. Parents of grades 9 and 11 participants complained more about their internet use than the parents of grades 10 and 12 participants. This may be because of the fact that grades 10 and 12 participants have to be more serious with regard to their Board exams. Also, they may face a lot of parental pressure in terms of studying hard and performing their best in the Board exams.

To conclude, it should be stressed that internet use among adolescents is affected by the place, availability of new technology, medium of instruction and by the gender of the respondents. Results seem to indicate that most children are aware of and use the Internet regularly and are comfortable with and enthusiastic about it. These differences, however, need to be investigated in more detail before they can be explicitly acknowledged.

Implications of the study

The present study gives us an insight into the difference in the nature of internet use among adolescents in and around Vadodara. The study opens up avenues for further research on similar lines across various other parts of the country.

Though the internet facilities are equally available in urban as well as rural schools, academic performance of the rural adolescents is observed to be more affected due to the use of the internet. Therefore, more exploration is needed in this field.

While observing the current scenario of the adolescents' behaviour on the internet it will be beneficial to study how it affects adolescents' physical and mental health.

More studies may also be conducted to find out the uses and misuses of the technology and how much should be available to an adolescent at a particular age.

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