

PREVALENCE OF DIGITAL ADDICTION AND USE OF DIGITAL DEVICES BY STUDENTS

THENU C.T.*; SANJANA KEERTHI**

*ASSISTANT PROFESSOR,
DEPARTMENT OF PSYCHOLOGY,
AVINASHILINGAM INSTITUTE FOR HOME SCIENCE AND HIGHER EDUCATION FOR WOMEN,
COIMBATORE.

**THIRD YEAR STUDENT,
DEPARTMENT OF PSYCHOLOGY,
AVINASHILINGAM INSTITUTE FOR HOME SCIENCE AND HIGHER EDUCATION FOR WOMEN,
COIMBATORE

ABSTRACT

The youth are currently considered to be India's greatest resource, but a large percentage of them are unemployable and majority of them seem distracted by digital entertainment which may hinder their motivation to acquire new skills that will enhance their chances of employability. The government of Tamil Nadu has been providing free devices, such as the television and laptops for students, so that even the underprivileged are prone to distraction. The study on "Prevalence of Digital Addiction and Use of Digital Devices by Students" was conducted in parts of Tamil Nadu (Coimbatore, Chennai and Vellore) where 275 male and 386 female samples were studied. A questionnaire designed by the investigators was used to provide information on various aspects pertaining to the relation between individuals and their use of digital devices (cell phone, television, computer and video games).

The percentage of the sample in accordance with the various aspects of the study was calculated. Any significant relationship between variables was also analysed. Majority of the student youth find themselves addicted to their television sets followed by their cell phones and finally the computer and video games. Majority of the student youth have joined social networking because of their friends, hence peer pressure seems to play a role in social networking rather than their personal interest. Male student youth are given access to cell phones at a younger age than female students. Of all the behavioural changes that the youth have claimed to experience, health comes first with over half the student population experiencing a decline in health that correlates with the hours they spend in front of the television. There is a negative correlation between age and video gaming. There is a negative correlation between age and cell phone use.

INTRODUCTION

The youth constitute a potential and rich human resource which India is largely dependent on for the transformation of the country into the next superpower. According to the Indian National Youth Policy, the youth include individuals ranging from age 13 to 35 in which there are two broad subgroups: those from 13 to 19 and those from 20 to 35. The current youth are becoming increasingly tech-savvy as various digital devices become both affordable and a

necessity in the lives of the student and working youth population. Digital technology includes devices that are primarily used with new physical communication media (satellites, etc).

There are three main devices that seem to be taking a major toll on the Indian Youth; Television, cell phones, and computers (the internet).

Effects Digital Devices on the Youth

As children are exposed to digital stimulation from a very young age, their brain becomes rewired to react to digital stimulation hence they absorb more information when presented with visual images than when it is offered in straight text (Tapscott, 2006). They learn to become better scanners as they learn to filter what they need on the net when they are presented with a vast amount of data on their screen. The good effects of technology can be included especially since technology depends on the success of an individual in the modern world.

On the flip side, it is found that youngsters are in the habit of multitasking, that is, they can manage e-mails, messages, viewing their favorite program and looking up things for their homework all at the same time. This may sound like a good thing as they can shift their focus to many things in a short span of time, but such heavy taxing of the brain deprives it of its needed downtime. This in turn causes them to become more impatient, impulsive, forgetful and even more narcissistic. Even when such multitasking ends, fractured thinking and lack of focus persists (Richtel, 2010). Also when parents are addicted to digital devices, their children will definitely grow up insecure, as the parent tends to give more importance to the device than the needs of the child (Scelfo, 2010).

Although there are two facets to digital technology, their negatives seem to outweigh the positives. The future shows signs of relenting to a digitally dominated world. A complete stop cannot be put to the use of digital technology, but experts can study the effects that digital technology has on humans and their social interactions. Even more interesting is the effect that digital technology has on the current generation of youngsters who are raised in a digital environment. This effect is what the present study aims at shedding some light on.

REVIEW OF LITERATURE

The review of literature pertaining to the study, ‘Prevalence of Digital Addiction and Use of Digital Devices by Students’ is presented under the following titles:

- The Brain’s Reaction to Technology
- Ill Effects of Technology
- Effects of Various Devices

The Brain’s Reaction to Technology

Greenfield (2010) in her article ‘Modern Technology is Changing the Way Our Brains Work, says Neuroscientist’ discussed about how technology reshapes our interaction with each other. The modern world is seen as a potential threat to our identity as it can completely alter the human brain functions. Many people chose to inhabit a screen-based two dimensional world that is producing changes in behaviour. The result was shorter attention spans, reduced personal communication skills and a marked reduction in the ability to think abstractly.

‘This is Your Brain on Technology’ by Manfield (2009) is an article that puts together the various opinions of neuroscientists on the effects of technology on the brain. There was an idea that computers can give people ADD (Attention Deficit Disorder) like symptoms because of its fast access to multiple information inputs at once. A study conducted at Tokyo’s Nihon University showed that playing video game actually shuts down activity in the brain’s frontal lobe.

The article ‘How Digital Technology Has Changed the Brain’ by Tapscott (2008) discussed the effects of digital immersion on the brain. The author referred to the present generation as the Net Generation and said that by the time they turn 20, they will have spent more than 30,000 hours on the internet and playing video games. This has an effect on their mental reflex habits and the way they learn and absorb information. They also become more sensitive to visual icons than the older generation.

III Effects of Technology

The article, ‘Some Americans Sense a Downside to an Always Plugged in Existence’ by Connelly (2010) discussed the magnitude of adverse effects experienced by Americans due to the extensive use of technology. Almost 30% of those under 45 said the use of digital devices made it harder to focus, while less than 10% of the older users agreed. One- third of those polled said that they couldn’t get along with life without their computers.

Parker-Pope (2010) in her article ‘An Ugly Toll of Technology: Impatience and Forgetfulness’ said that excessive use of Cell phones and internet caused one to become more impatient and impulsive. An individual’s ability to lay down new memories and remember things becomes hindered. Without constant texting and ‘I.M’ing, people tend to feel secluded from their lives.

Aatre (2005) in the article ‘Strive to Remove Ill Effects of Science and Technology’ said that science and technology should be directed towards the wellbeing of society more than maintenance of military and economic superiority. He also stated that technology, despite contributing to society, had adversely affected it. In conclusion, he said that scientists must work harder to remove the ill effects of technology, but there is a need to put a greater emphasis on developing new digital products and technologies.

Effects of Various Devices

Jeffrey (2011) in the article, ‘Cell Phone Use Affects Brain Glucose Metabolism’ referred to a study by Nora D. Volkow from the National Institute of Drug Abuse in Bethesda, Maryland that studied the potential danger our brain was exposed to while on the cell phone. These devices not only affect an individual psychologically, but also physiologically, resulting in changes in glucose levels of the brain. This harmful effect could be reduced by using hands-free devices or speaker-phone mode. This allows the individual to avoid direct contact with their mobiles. Caution was necessary for children and adolescents whose neural tissue were still developing.

The study, ‘Is the Internet Harmful? Perceived Influences on Personal and Social Life of Net Users’ by Saiwach (2006) was taken among 94 Internet users in various Cyber Cafes in Delhi. The study results have shown that 41.3% perceived that the internet had a negative impact on them. About 30% have stated that they prefer to browse inappropriate content while about 22% admit that they prefer chatting with unknown individuals (preferably of the opposite sex). The study concludes that despite the initial state of India in 2006, the internet had already begun

taking its toll on the users' personal and social lives. The impact is concluded to have a more pronounced effect in the suburban than in metro cities.

METHODOLOGY

The study, 'Prevalence of Digital Addiction and Use of Digital Devices by Students', was carried out in the following steps.

- Objective
- Hypothesis
- Area
- Sample
- Tools
- Procedure
- Analysis of Data

Objective

This study was initiated to find:

1. The prevalence of digital addiction and
2. The extent of usage of Digital Devices on the students in the state of Tamil Nadu.

Null Hypotheses

1. The prevalence of digital addiction is low.
2. There is no relationship between age and cell phone use.
3. There is no relationship between age and video game use.

Area

The study was conducted in parts of Tamil Nadu including Chennai (metropolitan city), Coimbatore (tire two city), and Vellore (underdeveloped)

Sample

A sample of 661 students ranging from age 12 to 21 (275 male and 386 female) were taken for the study.

Inclusive criteria

Literates

Age range between 12-21yrs

Both Male and Female

Enrolled in Schools and colleges

Exclusive Criteria

Illiterates

Employed Youth between the age 12-21yrs

Adolescence with no access to Digital Devices

Tools

A questionnaire designed by the investigators was used to provide information on various aspects pertaining to the relation between individuals and their use of digital devices.

Procedure

Students studying in schools and institutions for Higher Education were taken for the study. A questionnaire designed by the investigators was used. The students were asked to read each question carefully and answer the questions with responses that best suited them. The questionnaire consists of one multiple choice question and fifteen open ended questions (eg: “Approximately how long do you spend chatting over the phone in a day?”). The students were given up to half an hour to fill in the questionnaire.

Analysis of Data

SPSS software16.0v was used for analyzing the data.

RESULTS AND DISCUSSION

The study on “Prevalence of Digital Addiction and Use of Digital Devices by Students” was conducted in parts of Tamil Nadu (Coimbatore, Chennai and Vellore) where 275 male and 386 female samples were studied. The difference in usage of digital devices between the two sexes was noted. They were further divided on the basis of their responses to addiction levels to various devices and the nature of use of those devices. The percentage of the sample in accordance with the various aspects of the study was calculated and variables were correlated.

Table I shows that, of all the digital devices, majority of the youth find themselves addicted to their television sets (40%) followed by their cell phones (37%) and finally the computer (19%) and video games (15%). Surprisingly there was a marginal difference between genders when it came to TV, cell phone and computer (internet) addiction. The difference, however, was apparent in video game addiction where 90% of those addicted to video games were male and the rest female. Though there are variations, when it comes to the use of digital devices, between the male and female population, surprisingly no such variation was found when comparing economic backgrounds. This is probably because everyone has access to cell phones owing to their affordable prices. Also, the government of Tamil Nadu has been supplying every household with free television sets and free laptops for college students. Hence the null hypothesis, “The prevalence of digital addiction is low” is rejected.

Table II shows the ages at which majority of the youth have come to own a personal mobile phones. Those who have come to own a cell phone from 10 to 14 years of age are mainly the male students at 40% while only 19% of the female students come to own a cell phone. But when it comes to talking on the phone, the average female spends 1.5 hours while the average male spends only 1 hour. This may be because females like to connect with their friends and contacts on a more emotional basis than do males. Sixty four percent of the male youth population come to own a cell phone when they are 15 to 17 years of age while only 22 % of the female population are allowed the same. From 18 to 20 years of age as many as 93% of the male student population own a cell phone while 75% of their female counterparts own a personal mobile. From around 21 to 25 years of age, majority of the students come to own their own mobile phones of which 98% of them are male and 88% of them are female. Overall, the male

student population is dominating their female counterparts as this proves in a way that despite technological advancements and increased exposure, we still live in a patriarchal society where men are given more freedom than women.

Data shows that a total 38% of the male youth population access social networking sites on a regular basis while only 11% of the female youth population access social networking regularly. As seen in table III, majority of the youth have joined social networking because of their friends (80% for male and 64% for female), hence peer pressure seems to play a role in social networking rather than their personal interest (9% for male and 10% for female). But female students seem more likely to get influenced by their family than male students. The results show that 26% of the female population joined social networking on being influenced by their family members as opposed to only 10% of the male student population.

Table IV shows the various negative effects experienced by the polled youth in relation with television. On an average, males spend 2.5 to 3 hours per day watching television while females spend an average of 2 hours. This is largely due to the difference in program preferences and the duration of those programs between the two genders. Male students rated sports programs as their most favorite while female students rated music related programs to be their most favorite. Of all the behavioural changes that the youth have claimed to experience, health comes first with over half the student population experiencing a decline in health (54% male and 52% female) that correlates with the hours they spend in front of the television. This is followed by the youth experiencing changes in behaviour or having done something since they were influenced by their favorite TV personalities of characters (30% male and 18% female). Only 2% of both male as female students say that long television hours resulted in them becoming anti-social. More or less the same percent of male and female youth (28% male and 29% female) said that it had a negative influence on their thoughts while 16% male and 20% female said that it clashes with their study time.

Table V showing the relationship between age and use of video games indicate a negative correlation with a coefficient of $-.282$ being significant at the 0.01 level. Hence the null hypothesis, "There is no relationship between age and video game use" is rejected. This may be indicative of the fact that there is a higher rate of use at a younger age.

Table VI showing the relationship between age and cell phone use indicate a negative correlation with a coefficient of $-.334$ significant at the 0.01 level. Hence the null hypothesis, "There is no relationship between age and cell phone use" is rejected. This may be due to the fact that there is an initial obsession with the device when it is acquired, but the use declines as the fascination with the device fades.

SUMMARY AND CONCLUSION

The study on "Prevalence of Digital Addiction and Use of Digital Devices by Students" was conducted in parts of Tamil Nadu (Coimbatore, Chennai and Vellore) where 275 male and 386 female samples were studied. The difference in usage of digital devices between the two sexes was noted. They were further divided on the basis of their responses to addiction levels to various devices and the nature of use of those devices. The percentage of the sample in accordance with the various aspects of the study was calculated and variables were correlated. From the studied sample, the following results were obtained:

1. Majority of the student youth find themselves addicted to their television sets (40%) followed by their cell phones (37%) and finally the computer (19%) and video games (15%).

2. Majority of the student youth have joined social networking because of their friends (80% for male and 64% for female), hence peer pressure seems to play a role in social networking rather than their personal interest.
3. Male student youth are given access to cell phones at a younger age than female students.
4. Of all the behavioural changes that the youth have claimed to experience, health comes first with over half the student population experiencing a decline in health (54% male and 52% female) that correlates with the hours they spend in front of the television.
5. There is a negative correlation between age and video gaming.
6. There is a negative correlation between age and cell phone use.

REFERENCES

- Saiwach, S. (2006). Is the Internet Harmful? Perceived Influences on Personal and Social Life of Net Users. *Psychological Studies*. Volume 51, 212-221.
- DC Correspondent. (2011, June 8th). Facebook or Stress Book?. *Deccan Chronicle Coimbatore*.
- Richtel, M. (2010, November 21st). Growing up Digital, Wired for Distraction. *The New York Times*.
- Richtel, M. (2010, August 25th). Digital Devices Deprive Brain of Needed Downtime. *The New York Times*.
- Richtel, M. (2010, August 16th). Outdoors and Out of Reach, Studying the Brain. *The New York Times*.
- Scelfo, J. (2010, June 10th). The Risks of Parenting While Plugged In. *The New York Times*.
- Ritter, M. (2008, December 3rd). Scientists Concerned about Effect of Technology on Brain. *The Press Enterprise*.
- (2006, September 26th). Negative Effects of TV on Kids' Brain. www.odec.ca/projects.
- Jeffrey, S. (2011, February 23rd). Cell phone Use Affects Brain Glucose Metabolism. *Medscape Today*.
- Aartre, V.K. (2005, September 4th). Strive to Remove the Ill Effects of Science and Technology. *The Hindu: Karnataka*.
- Greenfield, S. (2010). Modern Technology is Changing the Way Our Brains Work, says Neuroscientist. www.dailymail.co.uk/sciencetech/article565207.
- Tapscott, D. (2008, November 10th). How Digital Technology Has Changed the Brain. *Bloomberg Businessweek*.
- Manfield, L. (2009, January 26th). This is Your Brain on Technology. *The Backbone Magazine*.
- Parker-Pope, T. (2010, June 6th). An Ugly Toll of Technology: Impatience and Forgetfulness. *The New York Times*.
- Connelly, M. (2010, June 6th). Some Americans Sense a Downside to an Always Plugged in Existence. *The New York Times*.

TABLES

TABLE I

PREVALENCE OF DIGITAL ADDICTION AMONG STUDENTS OF TAMIL NADU

Addiction to Television		Addiction to Cell Phones		Addiction to Computers		Addiction to Video Games		No Addiction (in percent)	
40%		37%		19%		15%		9%	
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
38%	42%	37%	37%	18%	20%	17%	13%	9%	9%

*percentages are rounded off

TABLE II
AGE FOR USING PERSONAL CELL PHONES

Age	Male	Female
10-14	40%	19%
15-17	64%	22%
18-20	93%	75%
21-25	98%	88%

*percentages are rounded off

**TABLE III
MODE OF INTRODUCTION TO SOCIAL NETWORKING**

Mode of Introduction	Male	Female
Family	10%	26%
Friends	80%	64%
Personal Interest	9%	10%

*percentages are rounded off

**TABLE IV
NEGATIVE EFFECTS EXPERIENCED BY STUDENTS BY TELEVISION**

Negative Effect Experienced	Male	Female
Wastes time	16%	14%
Anti-Social behaviour	2%	2%
Bad Influence on Thoughts	28%	29%
Health	54%	52%
Clashes with study time	16%	20%
Obvious Changes in Behaviour	30%	14%

*percentages are rounded off

**TABLE V
COEFFICIENT OF CORRELATION BETWEEN AGE AND VIDEO GAME USE**

VARIABLES	CORRELATION
AGE	-.282*
USE OF VIDEO GAMES	

*Significant at the 0.01 level

**TABLE VI
COEFFICIENT OF CORRELATION BETWEEN AGE AND CELL PHONE USE**

VARIABLES	CORRELATION
AGE	-.334*
USE OF CELL PHONES	

*Significant at the 0.01 level

ANNEXURE I

DEMOGRAPHIC DATA:

Age:

Gender:

QUESTIONNAIRE USED TO ELICIT DATA FROM THE YOUTH:

To which of the following do you feel addicted to and cannot live without? (If two or more, tick those options)

a. Television

b. Cell Phones

c. Computer (Internet)

d. Video Games

e. None of the above

Part 1:

1. Do you own a cell phone?
2. From what age do you own a cell phone?
3. Do you have free messaging or free call service?
4. Approximately how many text messages do you send in a day?
5. Approximately how long do you spend chatting over the phone in a day?
6. Do you have a tendency to keep checking your phone for messages very often?

Part 2:

1. Do you have net connection at home?
2. Do you have an e-mail id?
3. Approximately how many hours do you spend on the net (per day)?
4. Are you a member of any social networking site? (If yes, please specify)
5. How were you first introduced to these sites (perhaps through friends, family or personal interest)?

Part 3:

1. How long do you watch TV in a day?
2. Which programs do you find yourself watching often?
3. Do you feel addicted to serials (soap operas) reality shows or neither?

4. What ill effect of television have you experienced (if any)? How has it affected you?