A STUDY ON SMART PHONE ADDICTION AMONG HIGHER SECONDARY STUDENTS IN JAMMU DISTRICT

A

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MASTER OF EDUCATION

Supervisor	**Investigator**
Dr. Sushma Bala	**Surbhi Sharma**
Sr.Asstt. Professor	**Roll No.21051070009**

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CERTIFICATE

This is to certify that **Surbhi Sharma**, student of M.Ed. bearing University Roll No. **21051070009** has completed her Dissertation entitled, " **A STUDY ON SMART PHONE ADDICTION AMONG HIGHER SECONDARY STUDENTS IN JAMMU DISTRICT "** under my supervision and guidance. The dissertation is ready for submission to the Govt. College of Education, Canal Road, Jammu in partial fulfillment of the requirement for the degree of Master of Education.

Supervisor:
Dr. Sushma Bala
Sr. Assistant Professor
Govt. College of Education,
Canal Road, Jammu

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Surbhi Sharma
M.Ed. Student

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CHAPTER – I

INTRODUCTION

Technology came into the existence a very long time, but in the 21st century, it started to expand rapidly. As a result the changes we can see in the world are still the best changes so far. The transformation and development of technology that not only improves our communication system but also makes our lifestyle a lot easier than never anybody can dream of. The unique invention of this technology is the mobile. We cannot think of living life without mobile phones in the present day. In India, approximately every person seems to have one. This mobile can be seen from a rickshaw puller to a high trader. Nowadays mobile phone is not just used for communication, in addition, mobile phones allow people to access different types of content, and for example, weather update, news report, educational information, sports content, music videos and much more. Technological appliances are now very useful for higher education such as a laptop, desktop, mobile, tablet, note etc. As we know that mobile is very much used by students and they also used it for gathering information. Generally, it is easily accessible for everyone, because of the low price than other technological equipment's and it can be easily moved anywhere.

India is young. Nearly half of all Indians are under 30 years of age that is 550 million youth which is equivalent of Western Europe and the USA together. India appears to be in the forefront of the developing market for mobile phone (and data) services to young people. India is the fastest growing mobile subscribed base in the world with 950 million users. 81% of India uses a mobile phone, 10% of India uses a smart phone where as 9% of India use a multimedia phone. Surveys and studies from a number of countries indicate that the use of mobile phones in young people is increasing rapidly and starting at a younger age. Almost half of the mobile internet users are between 18 and 25 years. Studies show varying prevalence of use at different ages in different countries. According to the Wireless World Forum, a research consultancy, the number of young people using mobile voice and data services in the Asia Pacific region will be more than double from 71-million in 2004 to 151-million in 2007. India's mobile youth market will grow 300 present from 2005 through 2007, from 8.3-million to 27.6-million people. This means India will account for 18.3 percent of this large and growing market. India's young people spent US $437-million on mobile telephone services in 2004 and US $856-million in 2005. And by 2007 this expenditure was almost triple to $ 2.5-billion.

In India every household item is social. The Mobile is the only item which qualifies to become the first personal, protected and private item

of possession. It gives a great high to anyone to own such personal and private item. Ease to early adoption is another significant affordability and coverage of mobile telephony services and its increasing importance as a means of two way communication are responsible for the rapid expansion of mobile telephony all over the world. Studies have proven that rampant use of social networking, texting and chatting on mobile phones result in lower grades and poor academic performance of students. While people of various ages find mobile phones convenient and useful, younger generations tend to appreciate them more and be more dependent on them. The researches have proven that some students have the habit of keeping their mobile phones on during classes and studies, even in the library, thereby distracting others. In this context the study focused on finding the influence of mobile phone use on academic performance of students.

1.1 MOBILE PHONE USAGE

Mobile phone designs have evolved with younger users in mind. The trend for miniaturisation of mobile phones has impacted on keypad size which has diminished significantly, resulting in a smaller physical interface. The size of the phone and the size of the key pad all are adaptable for a young person. For the older user there is the question of dexterity and the interface can restrict them, making it difficult to view the keys or move between them easily (Stedmon, 2006). More recent

research confirms that dexterity and text messaging go hand in hand and is hugely popular with the younger generation (Loo, 2012), with Dufau,(2011) also noting that many smart phone users are the younger generation. Although voice calls at present account for about 80% of cell phone revenue, the extraordinary success of the short message service (SMS), particularly among younger mobile phone users has surprised network operators. Lenhart et al., (2010) report that in a survey of 800 American young people between the ages of 12-17, half of the population surveyed send over 50 or more messages a day with older girls sending an average of 100 messages daily. SMS is now expected to dominate mobile messaging in both traffic volume and revenue well into the last quarter of the present decade (Crabtree, 2003).

1.2 IMPACT OF MOBILE PHONE IN EDUCATION

The aim of this research is to assess the impact of mobile phones in learning as they enhance students learning in different ways. Mobile phones easily promote collaborative and different types of learning through their wireless connection to the internet. Their adoption in learning processes by the higher institution management as student-learning and communication device tools is useful. In the classroom mobile phones motivate students to be more engaged to the lesson promoting learner-centered participation. This indicates the dynamic support that the mobile phone has brought to students' learning practice.

According to Barker, Krull, and Mallinson, the impacts of mobile phone technologies on learning are portability, collaboration and motivation enhancing students, parents and teachers' education system. The mobile phone portability enables student learning to be ubiquitous in obtaining or retrieving course information through their mobile phones as they are carried from class to class or wherever. Their portability can improve a wide variety of learning settings, namely a field trip, the classroom, or outside the campus. Collaboration Social networks such as Facebook and Twitter accessed on student's mobile phones allow students to form groups to distribute and add together their knowledge, and share information with ease, and this could result in a more successful collaborative learning.

The use of mobile phones results in increasing parent's involvement in education, and thus their children learning and capabilities. Motivation where mobile phones are incorporated in a large classroom, students appear to be more engaged in learning processes. Mobile phones in education increase students will to learn. They take the initiative in using the device as a learning tool. Teachers report that the use of mobile phones in learning increases group participation in activities done during learning in class.

1.3   SMART PHONE ADDICTION

Smart phone addiction is a type of behavioral addiction marked by an insatiable urge to check and scroll through electronic gadgets, which interferes with other important aspects of life. Smartphone addiction can be described as an addictive condition of non-substances, according to the American Psychiatric Association, although additional research is needed. Having a smartphone addiction has major consequences for an individual's feeling of well-being, thoughts and perceptions, behavior, and emotions. When a student becomes addicted to online/virtual world, they do not want to see their friends outside and are not interested in meeting people in person. They retreat within their shell and begin to isolate themselves. If they are having problems at school, with their friends, or with their family, they do not communicate with them and instead seek an escape by becoming absorbed in their smartphones, finding enjoyment, and isolating themselves from other concerns. Friends and family communication becomes limited. They avoid social events, and even if they do, they will be engrossed in their smartphones. This prevents people from making actual human friends, solving real problems, communicating face to face, and participating in social activities.

1.4   DANGERS OF SMART PHONE ADDICTION

Cellular phones, one of the greatest inventions in the late 20th century, now have become the newest addiction in the world. Since the smart phone is invented, more and more people are addicted to its entertaining system. Even through cell phone is quite important for many different field of professions, entertainment of mobile phone is now overstep its basic needed in daily life.

Mobile entertainment system comprises a range of activates associated with mobile electronics except its basic mobile telecommunication; data transmission and entertainment software, such as games, social networking (e.g. twitter, face book, Skype) and Photo and Video software, Some people even called cell phone ―the newest cigarette‖, the people are willing to give up a week of sex than their cell phone. Of course cell phone is important to some of people because of their job, polices; stockbrokers or doctors might have a great loss if they miss a phone call, cell phone rise their working efficiency obviously, however, is it really important for students that hold a cell phone all day long ? It's reasonable that they would like to contact their family and friends. But if you spend 5 hours staring the screen every day, you must be addicted to your phone. It is believed that cell phone has greater advantages than its disadvantages, and we shouldn't stop to use cell phone as a popular

communication tool. But when cell phone addiction grows stronger and stronger people would eventually realize how serious it is.

1.5   TYPES OF SMART PHONE ADDICTION

Mobile Phone Addiction is a broad term covering a wide- variety of behaviors and impulse-control problems. It is important to understand that there are five specific types of mobile phone addiction:

CYBERSEX ADDICTION: - This refers to uncontrollable use of online pornography, adult fantasy sites and adult chat rooms. Mobile phone addiction involves online porn, adult websites. Sexual fantasy chat rooms, web cams with XXX rating, and other sexual related activities online. When these activities interfere with real world sexual or romantic relationships or they are used excessively then this becomes a problem and treatment is usually needed.

ADDICTION TO CYBER –RELATIONSHIPS: - This is the unmanageable use of chat rooms, social networking, & messaging, which makes real friends & family members appear less important. With this type of mobile phone addiction the relationships formed online may not be sexual in nature but they can still be destructive and have negative consequences on our life.

NET COMPULSIONS: - Net compulsions are the addictive use of the internet with an aim of financial gain. This includes excessive use of online auction, stock trading & online gambling. Online gambling that is

a problem, trading stocks, or even buying things from websites and auction sites like eBay can point to online compulsions that need to be addressed. Many people find that compulsive shopping is a big issue and it may be hard to resist the impulse to make a purchase or place a bet.

INFORMATION OVERLOAD: - This is the obsessive database searching or web surfing. This type of addiction means that one can do need online addiction help. We may find individual surfing the web and looking up information constantly, and this can cause informational overloaded.

1.6   EFFECTS OF THE SMART PHONE ADDICTION

Although the Mobile Phone is a very useful tool that can make people lives in modern society much more convenient, it also has negative effects. For people who want to be productive, the mobile offers various opportunities to pursue this goal. But there are also malicious individuals who want to exploit the mobile for their selfish motives. The development of information technology particularly the internet has brought with it both positive and negative effects to society. These effects are enumerated below:

1.6.1 POSITIVE EFFECT OF SMART PHONE ADDICTION

HELP IN EDUCATION: - The mobile has been proven to be useful in education Children can access the web & get the detailed knowledge

about any topic. The education games help them to perform well in academics.

COMPETITION SKILLS: - All children like to play video games. When playing such games with their friends/ relatives, they earn the competition skills that children learn from the video games help them compete with others in the real world.

EXPANDED KNOWLEDGE BASE: - The Internet enables to access information sources from around the world, giving the ability to conduct research and business transactions. Mobile users can access international libraries, museums and schools for a wide range of information. Many use the Mobile Internet to explore their surroundings and make vacation plans, car, hotel and airline reservations. On-line banking gives ability to track your finances on a daily basis and to pay bills without the use of paper. Schools have built Mobile use into the curriculum, to improve their students vocabulary and study habits and to help the students feel they are part of the wider world. Children research school projects and often use the mobile for fun, games and email. According to the authors of "Mobile Internet Applications of Type II Uses of Technology in Education," Mobile use in schools empowers students to use technology to create their own learning environments "filled with enthusiasm and self-motivation."

EASE OF COMMUNICATION: - Email, blogs, discussion forums and chat rooms give mobile users the ability to communicate with family and friends faster and more easily than at any time in previous history. The ease of sharing photos with others, the convenience of email, even the use of the Internet to make phone calls is all benefits of the Internet. Working from home via the Internet has changed the way many businesses operate, allowing them to work with people in far-flung areas. It even has the benefit of reducing rush hour traffic and reducing the costs of going to work, such as the cost of commuting and the cost of a wardrobe for the office.

RELATIONSHIPS: - While mobile phone addiction can harm personal relationships if mobile use takes the place of doing things with our family and friends, the mobile can also make relationships stronger because of the ability to communicate easily. Another amazing aspect of the mobile phone is the possibility of creating new friendships with people around the world that we can meet through chat rooms and discussion forums. We can find a group that shares your interests, whether we are interested in literature, travel, cooking, religion, health problems or anything else. Mobile phone users share ideas and collaborate with others on line. We have the potential to develop a network of friends around the world who share your interests and ideas.

THERE IS A GREAT POSSIBILITY TO EARN WHILE WORKING FROM HOME: - It is now possible to earn online through writing, filling up forms, or even just clicking away on advertisement in the internet. Information is a valuable thing that people are willing to pay. Through advertisements posted online, manufactures and sellers are able to increase the possibility of having their products purchased.

IT IS EASIER TO DO RESEARCH: - Before electronic means of gathering information, student or researchers need to pay a visit to libraries to access materials relevant to their research topics. Nowadays, it will take just a subscription to a journal online or just browsing online to search for literature required to develop one's conceptual framework. Preparing the review of literature is easier and faster. Thus, more research gets published and knowledge generation is greatly facilitated.

1.6.2 NEGATIVE EFFECT OF SMART PHONE ADDICTION

HEALTH PROBLEMS: - The technology is causing many health issues in children. The surveys conducted from time to time tell that due to increasing use of gadgets children are suffering from health problems like back pain, weak eyesight etc. Due to less physical activities the fatness is common to see in today's children.

CYBER CRIMES: - Since anyone can use mobile internet, so the huge user base of this virtual world contains some naughty minds as well. Such people's whole purpose of using the web is to disturb others or to

test money from others. The online frauds, crimes are very common to see in daily news.

NEGATIVE EFFECT ON CHARACTER: - Mobile Internet is working as curse for children's character. Rather than using mobile internet in productive manner, children use it as source of adult content.

NEGATIVE EFFECT ON WRITING SKILL: - Writing is an art which every person must own Standard English is not used in the text messaging, chatting. While writing text messages, no one cares about the spelling, punctuations & grammars. This is resulting in poor writing skills of children.

LOSS OF THE HUMAN TOUCH: - People absorbed in their activities online tend to forget that there are real people in their surrounding who need their attention or have socialization needs. Social networking gives more importance to virtual friends than real ones.

ABANDONMENT OF FAMILY: - In one instance, a couple in Korea was preoccupied with their virtual baby forgetting to feed their real baby who died of hunger. People become insensitive as they are absorbed by the hidden hand of the internet into its lair.

CHILDREN, YOUNG ADULTS AND EVN ADULTS GET ADDICTED TO GAMES ONLINE: - Online game can be addictive to children, young adults and even adults. This can rob away precious time which otherwise should have been used for something more productive.

1.7 SIGN AND SYMPTOMS OF SMART PHONE ADDICTION DISORDER

Sign and symptoms of Mobile Phone Addiction disorder may present themselves in both physical and emotional manifestations.

1.7.1 Some of the emotional symptoms of mobile phone addiction disorder may include:

- Feelings of Depression, restless, moodiness, fear or irritability when attempting to cut down use of the mobile phone.

- Dishonesty

- Feeling of guilt

- Anxiety

- Feeling of Euphoria when using the computer

- Inability to prioritize or keep schedules

- Isolation

- Use of the internet in increasing amounts of time in order to achieve satisfaction.

- Lies to family members, therapists, or others to conceal the extent of involvement with the internet.

- Avoidance of work

- Agitation

- Procrastination

1.7.2 Physical symptoms of mobile phone addiction disorder may include:

- Carpal Tunnel Syndrome(associated with repetitive motions such as excessive keyboard use)

- Headaches, back pain, and neck pain

- Insomnia

- Poor nutrition(falling to eat or eating in excessively to avoid being away from the computer)

- Poor Personal Hygiene(e.g., not bathing to stay online)

- Dry eyes and other vision problems

- Weight loss or gain

Individual suffering from this condition may be isolating themselves from others, spending a longtime in social isolation and negatively impacting their personal relationships. Distrust and dishonesty issues may also arise due to mobile phone addicts trying to hide or deny the amount of time they spend online. In addition, these individuals may create alternate person as online in an attempt to mask their online shopping, online gambling, or online gambling or online gaming. Mobile phone addicts may also have trouble developing new relationships and socially withdraw- as they feel more at ease in an online environment than a physical one.

1.8 NEED AND SIGNIFICANCE OF THE STUDY

Today smart phone has occupied the place like our daily necessities. It is essential for different types of works. In this context, it can be said that the efficiency of the mobile phone has increased due to fast internet connectivity. As its being small for that it can be taken anywhere, and easily collects a lot of information. Our education system has a specific time and it is not possible to answers all the questions of the students within this time period.

Additionally, other journals and books issued by commercial organizations do not have a control unit including editors and referees. Many of the sites on the Internet enable anybody to submit any kind of information without being controlled, and many of the sites known as reliable are restricted to open access for commercial purposes or security requirements (IP restriction, membership). This limits the accessibility for students and deprives them of these sites. Frequent mobile use affects human physiology and socialization; researching smart phone addiction explores how these changes affect the person and society as a whole. Not all researchers agree that there is such a thing as smart phone addiction, and others think "addiction" is an inappropriate term to describe the disordered behaviors associated with excessive smart phone use. While the condition is characterized more by the addictive behaviors, such as replacing friends with social networking, addicted individuals might

spend an average of 38 hours a week online for personal use. Addiction refers to irrepressible urge which is often accompanied by loss of control. Hence, smart phone addiction imparts that peoples develop problems from their uncontrollable abuse of smart phone usage which is associated with other pathologies such as depression, loneliness and social anxiety. As a result, it is difficult to determine the causality of smart phone addictedness. Indeed, the impact of mobile phone addiction recognized as the bundle of dilemma such as; psychological aspects, interpersonal, physical, work and behavioral problems. Realizing the importance of this area the investigator decided to take this topic at M.Ed level.

1.9   STATEMENT OF THE PROBLEM

A STUDY ON SMART PHONE ADDICTION AMONG HIGHER SECONDARY STUDENTS IN JAMMU DISTRICT.

1.10   OPERATIONAL DEFINITIONS OF THE TERM USED

A few terms have been used in the present study at different stage. These are given as follows:-

Mobile Phone Addiction: Mobile phone addiction sometimes colloquially known as "nomophobia" (fear of being without a mobile

phone), is often fuelled by an internet overuse problem or internet addiction disorder.

Higher Secondary school : Higher Secondary Schools include class 11th and 12th where the students have the opportunity for selecting subjects according to their interest. In the present study investigator has taken 11th class students.

1.11 OBJECTIVES OF THE PRESENT STUDY

The following are the objectives of the study undertaken by the investigator:-

1. To find the difference in smart phone addiction among higher secondary school students with respect to their gender i.e. boys and girls.

2. To find the difference in smart phone addiction among higher secondary school students with respect to their type of institutions i.e. govt. and private.

3. To find the difference in the smart phone addiction of higher secondary school students in interactional effect of gender (boy and girl) and type of institutions (govt. and private) when smart phone addiction scores are taken as dependent variable.

1.12 HYPOTHESES OF THE PRESENT STUDY

Keeping in view the aims of the present study, following hypotheses were formulated : -

1. There is no significant difference in smart phone addiction among higher secondary school students with respect to their gender i.e. boys and girls.

2. There is no significant difference in smart phone addiction among higher secondary school students with respect to their type of institutions i.e. govt. and private.

3. There is no significant difference in the smart phone addiction of higher secondary school students in interactional effect of gender (boy and girl) and type of institutions (govt. and private) when smart phone addiction scores are taken as dependent variable.

1.13 DELIMITATIONS OF THE PRESENT STUDY

1. The study has been restricted to Jammu district only.

2. The study has been carried on a sample of 200 students only.

3. The present study is confined to the 11th and 12th class students only.

4. In the present study 100 boys and 100 girls students are selected.

5. The study is confined to 5 govt. schools and 5 private higher secondary school students of Jammu only.

CHAPTER – II

REVIEW OF RELATED LITERATURE

The Review of related literature is an essential aspect of a research project and the time spent on such a survey helps the investigator in avoiding excess of work. A wise investigation always finds it worthwhile to have an exhaustive survey of what has already been done on the problem. The orientation provided of the survey of the related literature is helpful in making a straight forward statement of need for investigation and avoiding extreme claims. It is only through related studies that the researcher examines the areas left untouched. It not only helps the investigator in avoiding the duplication of work but also helps the researcher with regard to methods followed; devices of data collection, analysis of data and conclusion arrived at in similar type of studies. It helps the researcher to know about the tools and instruments which proved to be useful and promising in the previous studies. The advantage of the related literature is also to provide insight into statistical methods through which validity of results is to be established.

Every good research starts from what is already known about a problem. The knowledge of the area already concerned helps a researcher in having a sound foundation and thereby add something new to the existing quantum of knowledge. It stimulates and encourages the

investigator to drive deep into the problems and conclusions of the problems. In addition to this, it also keeps the investigator in an environment which is free from unnecessary duplication, difficulties and various pit falls. This literature is in the form of best, Government Publications, educational indexes, educational abstracts, journals etc.

According to **Carter V. Good (1941),** "The review of related literature is a most pre-requisite which is a necessity before conducting any research what is already known, what others have attempted to find out, what methods to attack have been promising and disappointing and what problems remain to be solved."

The competent physician must keep constantly abreast with the latest discoveries in the field of medicine. The successful lawyer must be able to readily locate informers pertinent to the case in hands. Obviously, the careful students, the research worker and investigator should become familiar with location and use of the source of educational information.

In the words of **Borg** and **Gall (1983)**, " The literature in any field forms the foundation upon which all in future work will be built".

In the field of education as in the other field too, the research worker needs to be acquired upto date information of what has been thought and done in particular area from which he/she tends to take up a problem for research. Practically all human knowledge can be found in

books and libraries unlike other animals that must start a new generation, man builds upon the accumulated and recorded knowledge of past.

Ahmed, Qazi, and Perji (2011) conducted a research among 500 students in Pakistan to study the pattern of mobile phone usage among youngsters to explore the extent of addictive behavior towards its usage. The result of the study indicated that majority respondents were able to draw a line of priorities between the responsibilities and commitments and the cell phone usage. Very few always showed extreme addictive behavior while rests of the respondents were not frequently involved in addictive usage patterns. Youngsters use their cell phones logically and controllably within a limit and do not tend towards extreme behaviors which are capable to lead towards addictive cell phone usage.

Lane and Manner (2011), in their study of impact of personality traits on smart phone ownership and use with 312 participants ranging from 18 to 77 years, it was revealed that extroverts reported greater importance on the texting function whereas the agreeable individuals placed greater importance on making calls and less importance on texting. Neuroticism was positively associated with the e-mail function. The study also found that the age was negatively associated with texting, browsing the internet and playing music. Higher education was positively related to using smart phone for calling but negatively to gaming function. The

extraverted individuals were more likely to own a smart phone. Females placed great importance on texting function.

Lu, Shono and Kitamura (2011), conducted the study on internet and mobile phone text messaging dependency in which 92 men and 54 women participated. Ages ranged between 22 to 59 years. The study suggested that psychological dependency on internet and mobile phone text messaging in Japar was not limited to students but also affects adults. The study showed that 34% of men and 25% of women showed mild internet addiction and 6.1% of men and 1.8% of women showed pathological use of internet. The study found no gender difference in internet dependency and mobile phone text messaging dependency whereas anxiety was associated negatively with text message dependency.

Patel and Rathod (2011) studied the mobile phone use habits of students coming from rural area to the town and found that the most used features of mobile phone use was SMS because it was cheaper and the students with limited financial resources could communicate effectively. The study also showed that the male students sent more SMS than female student.

Yang and Lay (2011) in a study ' Factors affecting college student's mobile phone dependence and anxiety' found that usage rate has a positive influence on mobile communication anxiety, which indicates

that the higher the usage rate is, the higher the communication anxiety is. A person with higher communication usage rate in mobile phone and suddenly reducing the usage rate, his/her motion will become extremely anxious. According to the study anxiety is a vague, uncomfortable, and anxious feeling accompanying with headache, sweaty, palpitations, chest tightness, heartburn and restless situation.

Casey (2012) A study conducted to examine the relationship between psychological attributes to smart phone addiction, face to face communication, present absence and social capital involving 414 university students aged below 30, it was found that the level of loneliness, shyness and present absence was positively related to excessive smart phone use. The greater smart phone use predicted lower level of face to face communication.

Choliz (2012) conducted a study titled 'Mobile-phone addiction in adolescence: The Test of Mobile Phone Dependence (TMD'). The sample of the study consisted of 2,833 adolescents between 12 and 18 years of age. The study indicates that girls had a higher degree of dependence on mobile phones than boys did. That is, compared with their male counterparts, adolescent girls had higher levels of tolerance and experienced more interference with other activities, were more likely to use mobile phones to avoid uncomfortable mood states, were more likely to feel bad if they could not use mobile phones, and had greater

economic and family problems as a result of these cost associated with mobile phones.

Nehra, et al., (2012) conducted a study titled ' Does the excessive use of mobile phones in young adults reflect an emerging behavioural addiction?' A total of 212 young adult with a mean age of 21.6 years participated in the study. Findings of the study suggest that on an average young adults use their mobile phone for 3 hours/day for making and receiving calls, sending messages and playing games. The study suggests that excessive mobile phone use also should be looked from behavioural addiction point of view and specific criteria should be formulated for the same. The study also indicates that the mobile phone use pattern, especially in those fulfilling addiction patterns has many harmful consequences.

Shambare, Rugimbana, and Zhowa (2012) conducted a study with a prime research question that is, *what types of behaviour are associated with mobile phone usage?* As such, a 33-item questionnaire was prepared to measure the addictive and habitual behaviour and was administered to subjects. The researchers found that mobile phone usage is not habit-forming and addictive. The result also suggests that possibly mobile phone is the biggest non-drug addiction of the 21st century.

Kahari (2013) studied the effects of cell phone use on the study habits of 200 1st year Faculty of Arts students of University of Zimbabwe. This

study used Questionnaires on demographic information about the subjects, cell phone type preferences, uses of cell phones during study, predominant usage during study and information about challenges facing students in using mobile phones. The study reports significant gender differences in some aspects of the usage of cell phone. Also it was found the negative and positive effects of the usage of cell phone on the study habits depending on usage patterns of the subjects.

Hayat, Arshad, and Hussain (2014) conducted a study on the impact of mobile phone on academic achievement. The sample size of the study was 120, i.e. 60 male and 60 female. The samples were drawn from two departments, Sociology and Chemistry Department of Government College, Faisalabad by using Simple random sampling technique. An interviewing schedule was prepared to get the required information. In this study, the subjects revealed that usage of mobile phone was satisfactory technology as mobile phone gave more information regarding their study and duration of exams. Majority of the subjects also stated that the usage of mobile phone did not affect much on the academic performance as they turned off their mobile phone during the examination period.

Bhardwaj and Ashok (2015) studied mobile phone addiction & loneliness among 100 teenagers (N=100, 50 boys, 50 girls) of Mumbai, India. The ages of the subjects were ranged between 13 to 17 years and

were recruited for the study through random sampling method. This study used survey method and data were collected by using personal information form, Mobile phone addiction scale by Dr. A. Velayudhan& Dr. S. Srividya andLoneliness Inventory by Uma, Meenakshi R. & Prof. K. Krishnan. This study has treated the data through statistical method, like, correlation, t test. The study found high level of mobile phone addiction among teenagers, but no gender difference is found to be existed on mobile phone addiction. Besides, the result also highlighted that in terms of loneliness, though high level of loneliness is found among teenagers, but no gender differences is found there. Finally, it was indicated that mobile phone addiction was significantly associated with loneliness (r=.456).

Kibona and Mgaya (2015) had undertaken a study a study in Ruaha Catholic University – Iringa, Tanzania with an aim to find out the impact of smart phones on academic performance of higher learning students. The study was carried out on 100 students who were having smart phones. The result of the study concluded that the smart phone bring negative results or progression on students" performance academically in Tanzania.

Bhutia and Tariang (2016) studied Mobile phone addiction among 159 college students. The aim of the study was to find out the mobile phone addiction based on gender and the stream students are enrolled in. The

data for the study were collected from Shillong, Meghalaya by using a psychological scale titled as, Mobile Phone Addiction Scale (MPAS) developed by A. Velayudhan and S. Srividya. Statistical techniques Mean, SD, t-test and Pearson"s Product-moment Correlations were the used and found that was found that students moderately addicted to mobile phone. The researchers were found no gender and stream impact on the mobile phone addiction. This study also highlighted that the availability of pocket money is not significantly related to mobile phone addiction.

Kumari (2016) studied the relationship between mobile phone addiction and mental health among 100 adolescent students of Rewari district. To collect data, two psychological scales titled Mobile addiction scale developed by Dr. A.Velayudhan and Dr. Srividya and Mental health scale by Pramodkumar were used. The data were collected by using random sampling technique. In this study, Mean and Correlation valued was calculated and was found that mobile addiction puts no or very little effect on mental health.

Fawareh & Jusoh (2017) study is to investigate the use and effects of smartphones on academic staffs at a university level, especially in the Kingdom of Saudi Arabia. We conducted a survey study using questionnaires. The questionnaires were randomly distributed to 66 academic staffs who own a smartphone at the Northern Border

University. This study discovers the smartphone had replaced a computer, and an email application was mostly used. The academic staffs also had utilized smartphone as a means for knowledge sharing. Social media applications were greatly used in teaching and learning. Despite the benefits of smartphone use, academic staffs had been negatively affected. This study also reveals that having a smartphone diverted academic staffs' focus at work, created "check habits", and an artificial relationship; more than 90% of the respondents admitted that they put their smartphone besides their bed before sleep, and 61.41% of them claimed that they had the feelings of incompleteness whenever smartphones were not with them.

Cha and Seo (2018) examine smartphone use patterns, smartphone addiction characteristics, and the predictive factors of the smartphone addiction in middle school students in South Korea. According to the Smartphone Addiction Proneness Scale scores, 563 (30.9%) were classified as a risk group for smartphone addiction and 1261 (69.1%) were identified as a normal user group. The adolescents used mobile messengers for the longest, followed by Internet surfing, gaming, and social networking service use. The two groups showed significant differences in smartphone use duration, awareness of game overuse, and purposes of playing games. The predictive factors of smartphone

addiction were daily smartphone and social networking service use duration, and the awareness of game overuse.

Sethuraman, et al., (2018) results of the present study provide an initial insight into smart phone usage among medical college students in Andaman and Nicobar Islands and suggest that they are more vulnerable for smart phone addiction. Therefore it is the requirement of the hour for planning of intervention programs at college settings involving the parents, psychiatrists, counselors, and other mental health professionals emphasizing the addictive potential of smart phones and finding remedies like involving them in sports, dance drama, book reading in library etc. during their free hours to wean them off from these technological addiction.

Onyeka, et al., (2019) Concluded that spending a lot of time connected to smartphone only becomes a problem when it absorbs so much of time. It causes an individual to neglect face-to-face relationships, work, school activities, hobbies, or other important things in life. A vivid indicator of addiction is when an individual you find him/herself ignoring friends to read facebook updates or compulsively checking smartphone while driving or during school lectures, then it is time to reassess smartphone use and strike a healthier balance in your life. The finding from this research suggests there is need for regular counselling against the smartphone overuse among students in secondary schools in Lagos state.

Also, counselling services are expected to be included in the curriculum of primary schools. With this in place, the problem of smartphone abuse would be reduced when they get to secondary schools. There is also the need for counsellors to create awareness on both print and non-print media on the dangers of smartphone addiction on young people. Further, counsellors can also organise jamboree and seminar on the dangers of smartphone addiction.

Mahrooqi, et al., (2020) study showed a high level of smartphone addiction based on SAS-SV scores and found a significant positive correlation between smartphone addiction scores and depression scores. This high prevalence is alarming, and action should be considered to address this. Authors suggest the following in order to raise awareness about smartphone addiction. First, as most of the participants have had smartphones since school age, education programmes about the risk of smartphone addiction should be introduced early to school children and their caregivers. Media can play a major role in educating people about the risk of smartphone addiction and its negative consequences. For university students, further research is warranted to understand whether smartphone addiction is a possible cause of depression or depression is a possible cause of smartphone addiction.

Raza, et al., (2020) findings conclude that smartphone addiction decreases academic performance of students as students lower their focus

on academic learning and get addicted to smartphones for cyber loafing. Therefore, the universities should make policy regulations for students regarding the use of smartphones in the classroom. Also, students should be provided awareness about the negative impact of smartphone addiction on their personal and academic life, and also on their health through a variety of awareness seminars.

Afshan, et al., (2022) indicate that smartphone addiction and mental health have a positive relationship. There is a need for more public awareness campaigns concerning smartphone addiction and its effects on mental health. To justify the effects of smartphone addiction, more research, particularly randomized controlled trials, is required.

CHAPTER-III

METHODS AND PROCEDURE

To explain the procedure for the study the investigator described the technique used for collection of data. The methods adopted in drawing out the sample and the procedure employing is tabulating and organizing the data. This chapter gives an idea about the sample which is the basis of research In addition to this it is also provides a pictures of the instruments used, collection of data and statistical techniques employed for the analysis of the data .The order of discussion of these aspects is given as under.

1.   Variable to be studied

2.   Population

3.   Sampling

4.   Tool used

5.   Administration of the tool

6   Scoring procedure

7   Statistical techniques

3.1 VARIABLES TO BE STUDIED

 The following variables are studied in present investigation:-

A) INDEPENDENT VARIABLE

i)   Gender : Male and Female

ii)   Type of Institutions : Govt. and Private

B)   DEPENDENT VARIABLE

Smartphone addiction scale scores

3.2   POPULATION

The term population in the research work generally refers to the group of people of which the research is conducted collecting the data and on which the finding of the research are to be implemented. In the present study comprised of all the boys and girls studying in Govt. and Private Schools of Jammu District.

3.3   SELECTION OF THE SAMPLE

Sampling is the fundamental and basic vital essence of research. Sampling generally refers to the process of selecting a small part or specimen of something in order to determine some qualities or characteristics of the whole. It is very easy to understand that the investigator can never collect the data about the whole population in any investigation. One has to take selected group of individuals who could present the whole population and form the basis for making reference for certain population facts. This is known as sampling. The sampling has great utility in research. The size of the sample varies from study to study, methods to methods and nature of population. It is easier, less time

consuming and economical to deal with a sample than the whole population.

Sampling methods are classified as either probability or non-probability. In probability samples, each member of the population has known non-zero probability of being selected. Probability methods includes random sampling, non-probability sampling members are selected from the population in some non-random manner. These include convenient sampling, judgement sampling, quota sampling and snowball sampling. The advantage of probability sampling is that sampling error can be calculated.

There are many techniques for obtaining a sample, which may be the representative of the whole population. In the present study the sample was randomly selected. For this purpose Investigator made a complete list of school. Each school was allotted a serial number and by lottery method 10 schools of Jammu were selected for the data collection. A sample amount of 200 students including boys and girls.

In the present study, the sample comprised students of studying different govt.and private schools of Jammu. The researcher distributed mobile phone addiction scale to all the students but cooperation could be sought from the number shown in the given table:

Table 3.1   Showing the details of sample selected.

S.No.	Name of School	Boys	Girls	Total
1.	Playway House Hr. Sec. School Pounichak, Jammu	10	10	20
2.	Shakti Shiksha Kender Hr. Sec. School Marh, Jammu	10	10	20
3.	Shiv Public Hr. Sec. School Sari Rakwalan, Jammu	10	10	20
4.	Indira Memorial Hr. Sec. School Guwdaychak, Jammu	10	10	20
5.	Abhay Hr. Sec. School, Muthi, Jammu	10	10	20
6.	Govt. Model Hr. Sec. School, Marh, Jammu	10	10	20
7.	Govt. Girls Hr. Sec. School, Muthi, Jammu	-	10	10
8.	Govt. Hr. Sec. School, Gajansoo, Jammu	15	10	25
9.	Govt. Hr. Sec. School, Ghao Manhasan, Jammu	15	10	25
10	Govt. Model Hr. Sec. School, Domana, Jammu	10	10	20
	Total	**100**	**100**	**200**

3.4 TOOL USED

One may use various devices or tools for the collection of data to study any problem but these tools must be in accordance to the need of the study as the selection and construction of suitable tools or instrument is of vital importance for successful research. For the present investigation, following tools were used for the collection of the data.

SMART PHONE ADDICTION SCALE SAS-VAMBY VIJAYSHRI AND MASAUD ANSARI

The smart phone addiction scale has been developed for assessing different levels of smartphone addiction among students, the age range is 14 to 24 years. The present scale was developed on the Likert method, in which statements are followed by several levels of agreements which are useful and practical means for determining one's opinion and attitude. The present 'Smartphone Addiction Scale' is a five-point Likert scale and these points are as follows: Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree.

3.5   ADMINISTRATION OF TOOL

Before administering the scale the investigator made everything clear to the students by explaining them how they should tick (√) mark about the statements related to Smart Phone Addiction. No time was set. All precautions was taken to prevent discussions between students. Precaution was also taken to prevent coping. The sheets was collected, scoring was done on the basis prescribed procedure and raw scores were obtained.

3.6 SCORING PROCEDURE

Scoring system of Smart Phone Addiction Scale:

The scoring has positively worded statement and the response was sought on the five points. The weights given against the responses are shown in table 2.

TABLE NO: 2: SHOWING SCORING PROCEDURE SAS

Strongly agree	Agree	Undecided	Disagree	Strongly Disagree
5	4	3	2	1

The responses of the corresponding items were added to generate dimension scores and summed up all 23 items to generate overall Smartphone Addiction score. The higher score indicates high level of Smartphone Addiction and lower score indicates low level of Smartphone Addiction.

1. RELIABILITY

Reliability provides reasons for believing the score to be stable and trustworthy. Thus it predicts the accuracy or the precision of the measurement. The reliability of the present scale was computed through Cronbach's Alpha method. One of the most commonly used reliability coefficient i.e. Cronbach's Alpha was calculated and found 0.857, significant at 0.01 levels. The internal consistency of the scale is high and this gives a support that the scale is highly reliable.

2.VALIDITY

The correlation coefficients of all the dimensions are high and statistically far beyond the 0.01 level of significance which indicates that all the dimensions are related to the Smartphone addiction. Here the correlation of each dimension with the total score verifies that each dimension is measuring the same characteristics individually than the scale as a whole measure i.e., Smartphone addiction, which predicts that the scale has good construct validity.

3.7   STATISTICAL TECHNIQUES USED

In present study, the investigator was concerned with following techniques:

Two-way Analysis of variance with 2x2 factorial design was applied in order to study the higher secondary school students towards Smart phone addiction belonging to different gender and type of institutions.

CHAPTER – IV

ANALYSIS AND INTERPRETATION OF DATA

One of the most important steps in any research project is the organization of analysis and interpretation of data. The tabulated data has no meaning unless it is analysed and interpreted by some suitable statistical technique so as to arrive at significant conclusion.

Analysis of data means studying the tabulated data in order to determine inherent facts or meanings. It involves the breaking up of the complex factors into simpler parts and putting them together for the purpose of interpretation. The interpretation of data helps the investigator to analyses the same problem or the related problem with appropriate statistical techniques without wasting their labour. After the collection of data, it must be analyzed properly so as to draw proper inferences. It must be carefully edited, systematically analyzed, intelligently interpreted and rationally concluded.

The purpose of interpretation is essentially to know – what do the results show? What do they mean? What is their significance etc. So the interpretation is considered to be the most important step in the total procedure of research.

IV.1 ASSUMPTIONS OF ANALYSIS OF VARIANCE

Analysis of variance (ANOVA) is a powerful statistical technique or tool used to test the homogeneity of several means. It was developed by R.A. Fisher, an English Statistician in 1920's who is also considered to be the father of modern statistics. It is an economical method of testing significant difference between the means of two groups. It is simplest form, the analysis of variance is used to test the significance of the differences between two or more groups. According to Fisher, "Analysis of variance (ANOVA) is the separation of variance ascribable to our group of causes from variance ascribable to other groups."

Following are the important assumptions of Analysis of variance : -

1) **Independence of Groups:-** It is assumed that the groups selected should be made up of randomly selected subjects and are independent.

2) **Homogeneity of variance :-** It is assumed that the population from which groups have been selected have equal variances. In symbols, it is presented as,

$$\sigma^2 1 \; = \; \sigma^2 2 \; \ldots\ldots\ldots \; \sigma^2 k$$

3) **Normality of Distribution :-** The sample selected from the population should have normal distribution.

4) **Addivity : -** It has been stated that the total variance is obtained due to sum of two or other sources of variances i.e. variations.

IV.2 ADVANTAGES OF ANALYSIS OF VARIANCE

Following are the advantages of ANOVA :-

1) Analysis of variance helps to compare all the groups or any number of comparison in a single test.

2) It is time saving and also involves less risk of errors i.e. when we reject the null hypothesis at small variance to be significant at .05 level.

3) The results obtained through analysis of variance is understandable and interpretable.

4) It is a powerful statistical technique for testing significance of mean difference.

5) The analysis of variance is useful when there are more than two groups to be compared for testing significance of mean difference.

IV.3 SELECTION OF THE STATISTICAL TECHNIQUE OF ANALYSIS

In the present investigation the investigator selected one statistical technique i.e. ANOVA. In AVOVA investigator studied the main effect of independent variables over dependent variable

In view of these consideration, the technique of one and two way ANOVA was used to realize the objectives of the study. The use of ANOVA was considered most appropriate technique.

IV.4 ANALYSIS OF VARIANCE

In the present study, the two – way analysis of variance technique is applied to the data of smart phone addiction scores with the factorial design as 2x2 factorial matrices with smart phone in the school as criterion, which was studied in relation to gender and type of institutions.

IV.5 GENERAL COMPUTATIONAL STEPS FOR COMPUTATION OF TWO WAY ANOVA

Following are the general computational steps employed in two way ANOVA

Step I. Correction or $C = \dfrac{(\Sigma X_T)^2}{N_T}$

Step II. Sum of squares for total (SS_T)

$$SS_T = \Sigma X^2_T - C$$

Step III. Sum of squares for A (SS_A)

$$SS_A = \frac{(\Sigma A_1)^2}{NA_1} + \frac{(\Sigma A_2)^2}{NA_2} - C$$

Step IV. Sum of squares for B (SS_B)

$$SS_B = \frac{(\Sigma B_1)^2}{NB_1} + \frac{(\Sigma B_2)^2}{NB_2} - C$$

Step V. Sum of squares for Between cells ($SS_{Bet.\ cells}$)

$$SS_{Bet.cells} = \frac{(\Sigma A_1 B_1)^2}{N_1} + \frac{(\Sigma A_1 B_2)^2}{N_2} + \frac{(\Sigma A_2 B_1)^2}{N_3} + \frac{(\Sigma A_2 B_2)^2}{N_4} - C$$

Step VI.   Sum of squares for Interaction (SS_{AxB})

$$SS_{AxB} = SS_{Bet} - (SS_A + SS_B)$$

Step VII.   Sum of squares for within (SS_W)

$$SS_W = SS_T - SS_{Bet. cells}$$

Summary of two – way ANOVA

Sources of variance	SS	DF	MS	F	Level of Significance
A (Columns)					
B (Rows)					
AxB (Columns & Rows)					
Within					

COMPUTATION OF TWO WAY ANOVA

In this study, the researcher was interested to study the differences in the higher secondary school students towards smart phone addiction.

Table 4.1 Showing scores of smart phone addiction in relation to Gender and Type of institutions

		GENDER (A)		
		Male (A₁)	Female (A₂)	
Type of institutions (B)		114	94	
		92	101	
		99	99	
		100	99	
		82	101	

		72	98	
Govt. (B₁)		84	103	
		81	93	
		90	90	
		112	89	
		$\Sigma A_1B_1 = 926$	$\Sigma A_2B_1 = 967$	$\Sigma B_1 = 1893$
		$N_1 = 10$	$N_3 = 10$	$NB_1 = 20$
		94	85	
		92	95	
		123	88	
Private (B₂)		91	86	
		98	107	
		90	101	
		94	90	
		100	116	
		92	101	
		87	103	
		$\Sigma A_1B_2 = 961$	$\Sigma A_2B_2 = 972$	$\Sigma B_2 = 1933$
		$N_2 = 10$	$N_4 = 10$	$NB_2 = 20$
		$\Sigma A_1 = 1887$	$\Sigma A_2 = 1939$	$\Sigma X_T = 3826$
		$NA_1 = 20$	$NA_3 = 20$	$N_T = 40$

Step I. Correction or $C = \dfrac{\left(\Sigma X_T\right)^2}{N_T}$

$$= \frac{(3826)^2}{40} = \frac{14638276}{40}$$

$$= 365956.9$$

Table 4.2 Showing squares of the scores.

Type of institutions (B)	**GENDER (A)**		
	Male (A₁)	**Female (A₂)**	
	12996	8836	
	8464	10201	

	9801	9801	
Govt. (B₁)	10000	9801	
	6724	10201	
	5184	9604	
	7056	10609	
	6561	8649	
	8100	8100	
	12544	7921	
	$\Sigma A_1{}^2 B_1{}^2 = 87430$	$\Sigma A_2{}^2 B_1{}^2 = 93723$	
Private (B₂)	8836	7225	
	8464	9025	
	15129	7744	
	8281	7396	
	9604	11449	
	8100	10201	
	8336	8100	
	10000	13456	
	8464	10201	
	7569	10609	
	$\Sigma A_1{}^2 B_2 = 92783$	$\Sigma A_2{}^2 B_1 = 95406$	
X^2	$\Sigma A_1 = 180713$	$\Sigma A_2 = 189129$	$\Sigma X_T{}^2 = 369842$

Step II. Sum of squares for Total (SS$_T$)

$$SS_T \quad = \quad \Sigma X_T{}^2 \; - \; C$$

$$SS_T \quad = \quad 369842 \; - \; 365956.9$$

$$SS_T \quad = \quad 3885.1$$

Step III. Sum of squares for A (SS$_A$)

$$SS_A \; = \; \frac{(\Sigma A_1)^2}{NA_1} \quad + \quad \frac{(\Sigma A_2)^2}{NA_2} \quad - \quad C$$

$$= \frac{(1887)^2}{20} + \frac{(1939)^2}{20} - 365956.9$$

$$= \frac{3560769}{20} + \frac{3759721}{20} - 365956.9$$

$$= 178038.45 + 187986.05 - 365956.9$$

$$= 366024.5 - 365956.9$$

$$SS_A = 67.6$$

Step IV. Sum of squares for $B(SS_B)$

$$SS_B = \frac{(\Sigma B_1)^2}{NB_1} + \frac{(\Sigma B_2)^2}{NB_2} - C$$

$$= \frac{(1893)^2}{20} + \frac{(1933)^2}{20} - 365956.9$$

$$= \frac{3583449}{20} + \frac{3736489}{20} - 365956.9$$

$$= 179172.45 + 186824.45 - 365956.9$$

$$= 365996.9 - 365956.9$$

$$SS_B = 40$$

Step V. Sum of squares for Between cells $(SS_{Bet.cells})$

$$SS_{Bet.cells} = \frac{(\Sigma A_1 B_1)^2}{N_1} + \frac{(\Sigma A_1 B_2)^2}{N_2} + \frac{(\Sigma A_2 B_1)^2}{N_3} + \frac{(\Sigma A_2 B_2)^2}{N_4} - C$$

$$= \frac{(926)^2}{10} + \frac{(961)^2}{10} + \frac{(967)^2}{10} + \frac{(972)^2}{10} - 365956.9$$

$$= \frac{857476}{10} + \frac{923521}{10} + \frac{935089}{10} + \frac{944784}{10} - 365956.9$$

$$= 85747.6 + 92352.1 + 93508.9 + 94478.4 - 365956.9$$

$$= 366087 - 365956.9$$

$SS_{Bet.. cells} = 130.1$

Step VI. Sum of squares for interaction (SS_{AxB})

SS_{AxB} = $SS_{Bet.cells} - (SS_A + SS_B)$

= $130.1 - (67.6 + 0)$

= $130.1 - 107.6$

SS_{AxB}=   22.5

Step VII. Sum of square for within (SS_W)

SS_W = $SS_T - SS_{Bet.cells}$

= $3885.1 - 130.1$

=   3755

Table 4.3 : Showing the summary of ANOVA for 2x2 Factorial Design

Source of variance	SS	Df	MS	F	Level of Significance

A (Gender)	67.6	1	67.6	0.64	Not significant
B (Type of Institutions)	40	1	40	0.38	Not significant
AxB	22.5	1	22.5	0.21	Not significant
Within	3755	36	104.30		

Interpretation

The f-ratio for the factor A Gender (boys and girls) out to be 0.64 and the table value for the significance are 4.11 and 7.39 at 0.05 and 0.01 level of significance against df 1 and 36. It means that there is no significant difference in smart phone addiction of higher secondary school students belonging to different gender (boys and girls). Hence hypothesis 1 stating that there is no significant difference in smart phone addiction of higher secondary school students belonging to different gender (boys and girls) is accepted.

The F-ratio for the factor B locality (rural and urban) came out to be 0.38 and the table values for the significant are 4.11 and 7.39 at 0.05 and 0.01 level of significance against df 1 and 36. It means that there is no significant difference in the smart phone addiction of higher secondary school students belonging to different type of institutions (govt. and private). Hence hypothesis 2 stating that there is no significant difference

in the smart phone addiction of higher secondary school students belonging to different type of institutions (govt. and private) is accepted. The F-ratio for interaction (AxB) has been found to be 0.21 which is less than the table value 4.11 and 7.39 against degree of freedom 1 and 36 level of significance. It indicates that under joint influence there is no difference in the smart phone addiction of higher secondary school students. Hence hypothesis 3 stating that there is no significant difference in the smart phone addiction of higher secondary under joint influence of gender (boys and girls) and type of institutions (govt. and private) is accepted.

CHAPTER - V

CONCLUSIONS, EDUCATIONAL

IMPLICATIONS AND SUGGESTIONS

FOR FURTHER RESEARCH

V.1 CONCLUSIONS

In the light of the interpretation of the results discussed in the present investigations, as already discussed in the previous chapter, the investigator lays down the following conclusion:

1. No significant difference in smart phone addiction among higher secondary school students with respect to their gender i.e. boys and girls.

2. There is no significant difference in smart phone addiction among higher secondary school students with respect to their type of institutions i.e. govt. and private.

3. No significant difference in the smart phone addiction of higher secondary school students in interactional effect of gender (boy and girl) and type of institutions (govt. and private).

V.2   EDUCATIONAL IMPLICATIONS

Smart phone has gained immeasurable ground in the lives of students all over the world. Smart phone is a common sight today in our educational institutions as you see students going to school/college/ university class with some of the most expensive and sophisticated Smart phones, tablets and ipads that has all the applications, facilities and software that can connect them to the internet and all forms of social media platforms, other web sites and so on, where they chat, access, stream, download, upload, exchange and play different kinds of media contents, which most often, are pornographic in nature. The portability and memory capacity of some of these gadgets made it easier for them to keep materials for

viewing whenever and where ever it seems conducive for them. The use of security PINs and Passwords on these Smart phones makes these contents secured from the scrutiny and prying eyes of parents and teachers.

It is true that Smartphone has a sizeable impact on society and other aspects of life. Clearly the enormous usage of these devices by consumers demonstrates the volume of this impact. Consumers are in process of traversing away from the use of conventional cell phone as the Smartphone's are beginning the norm of the society.

The consumption of mobile media grows, it is important that educators address the subject and educate children and young people regarding the use of smart phone. As smart phones are being integrated with micro-blogging services such as Twitter, the information communicated through them is available to the larger public. There are both up and down sides to the use of mobile media for public communication.

V.3   SUGGESTIONS FOR FURTHER STUDY

The present study has answered few questions but also led to some other questions. In the present study, the investigator came across a number of issues on which work could be carried out in future. Further research can be conducted on the lines suggested below : -

1. The present study cannot be called comprehensive, more work can be done on different samples of different areas.

2. The sample of 200 was taken in the present study. The study can be conducted on large sample.

3. The study can also be undertaken for other districts since it was confined to Jammu district only.

4. The present study is conducted on higher secondary school students; similar study can be conducted at college and university level.

5. In order to locality, marital status and other variables could also be considered.

SUMMARY

Supervisor

Dr. Sushma Bala

Sr.Asstt. Professor

Investigator

Surbhi Sharma

M.Ed. Student

TOPIC : A STUDY ON SMART PHONE ADDICTION AMONG HIGHER SECONDARY STUDENTS IN JAMMU DISTRICT

A) INTRODUCTION

Technology came into the existence a very long time, but in the 21st century, it started to expand rapidly. As a result the changes we can see in the world are still the best changes so far. The transformation and development of technology that not only improves our communication system but also makes our lifestyle a lot easier than never anybody can dream of. The unique invention of this technology is the mobile. We cannot think of living life without mobile phones in the present day. In India, approximately every person seems to have one. This mobile can be seen from a rickshaw puller to a high trader. Nowadays mobile phone is not just used for communication, in addition, mobile phones allow people to access different types of content, and for example, weather update, news report, educational information, sports content, music

videos and much more. Technological appliances are now very useful for higher education such as a laptop, desktop, mobile, tablet, note etc. As we know that mobile is very much used by students and they also used it for gathering information. Generally, it is easily accessible for everyone, because of the low price than other technological equipment's and it can be easily moved anywhere.

India is young. Nearly half of all Indians are under 30 years of age that is 550 million youth which is equivalent of Western Europe and the USA together. India appears to be in the forefront of the developing market for mobile phone (and data) services to young people. India is the fastest growing mobile subscribed base in the world with 950 million users. 81% of India uses a mobile phone, 10% of India uses a smart phone where as 9% of India use a multimedia phone. Surveys and studies from a number of countries indicate that the use of mobile phones in young people is increasing rapidly and starting at a younger age. Almost half of the mobile internet users are between 18 and 25 years. Studies show varying prevalence of use at different ages in different countries. According to the Wireless World Forum, a research consultancy, the number of young people using mobile voice and data services in the Asia Pacific region will be more than double from 71-million in 2004 to 151-million in 2007. India's mobile youth market will grow 300 present from 2005 through 2007, from 8.3-million to 27.6-million people. This means

India will account for 18.3 percent of this large and growing market. India's young people spent US $437-million on mobile telephone services in 2004 and US $856-million in 2005. And by 2007 this expenditure was almost triple to $ 2.5-billion.

In India every household item is social. The Mobile is the only item which qualifies to become the first personal, protected and private item of possession. It gives a great high to anyone to own such personal and private item. Ease to early adoption is another significant affordability and coverage of mobile telephony services and its increasing importance as a means of two way communication are responsible for the rapid expansion of mobile telephony all over the world. Studies have proven that rampant use of social networking, texting and chatting on mobile phones result in lower grades and poor academic performance of students. While people of various ages find mobile phones convenient and useful, younger generations tend to appreciate them more and be more dependent on them. The researches have proven that some students have the habit of keeping their mobile phones on during classes and studies, even in the library, thereby distracting others. In this context the study focused on finding the influence of mobile phone use on academic performance of students.

B) SMART PHONE ADDICTION

Smart phone addiction is a type of behavioral addiction marked by an insatiable urge to check and scroll through electronic gadgets, which interferes with other important aspects of life. Smartphone addiction can be described as an addictive condition of non-substances, according to the American Psychiatric Association, although additional research is needed. Having a smartphone addiction has major consequences for an individual's feeling of well-being, thoughts and perceptions, behavior, and emotions. When a student becomes addicted to online/virtual world, they do not want to see their friends outside and are not interested in meeting people in person. They retreat within their shell and begin to isolate themselves. If they are having problems at school, with their friends, or with their family, they do not communicate with them and instead seek an escape by becoming absorbed in their smartphones, finding enjoyment, and isolating themselves from other concerns. Friends and family communication becomes limited. They avoid social events, and even if they do, they will be engrossed in their smartphones. This prevents people from making actual human friends, solving real problems, communicating face to face, and participating in social activities.

C) NEED AND SIGNIFICANCE OF THE STUDY

Today smart phone has occupied the place like our daily necessities. It is essential for different types of works. In this context, it can be said that the efficiency of the mobile phone has increased due to fast internet connectivity. As its being small for that it can be taken anywhere, and easily collects a lot of information. Our education system has a specific time and it is not possible to answers all the questions of the students within this time period.

Additionally, other journals and books issued by commercial organizations do not have a control unit including editors and referees. Many of the sites on the Internet enable anybody to submit any kind of information without being controlled, and many of the sites known as reliable are restricted to open access for commercial purposes or security requirements (IP restriction, membership). This limits the accessibility for students and deprives them of these sites. Frequent mobile use affects human physiology and socialization; researching smart phone addiction explores how these changes affect the person and society as a whole. Not all researchers agree that there is such a thing as smart phone addiction, and others think "addiction" is an inappropriate term to describe the disordered behaviors associated with excessive smart phone use. While the condition is characterized more by the addictive behaviors, such as replacing friends with social networking, addicted individuals might

spend an average of 38 hours a week online for personal use. Addiction refers to irrepressible urge which is often accompanied by loss of control. Hence, smart phone addiction imparts that peoples develop problems from their uncontrollable abuse of smart phone usage which is associated with other pathologies such as depression, loneliness and social anxiety. As a result, it is difficult to determine the causality of smart phone addictedness. Indeed, the impact of mobile phone addiction recognized as the bundle of dilemma such as; psychological aspects, interpersonal, physical, work and behavioral problems. Realizing the importance of this area the investigator decided to take this topic at M.Ed level.

D) STATEMENT OF THE PROBLEM

A STUDY ON SMART PHONE ADDICTION AMONG HIGHER SECONDARY STUDENTS IN JAMMU DISTRICT.

E) OPERATIONAL DEFINITIONS OF THE TERM USED

A few terms have been used in the present study at different stage. These are given as follows:-

Mobile Phone Addiction: Mobile phone addiction sometimes colloquially known as "nomophobia" (fear of being without a mobile

phone), is often fuelled by an internet overuse problem or internet addiction disorder.

Higher Secondary school : Higher Secondary Schools include class 11th and 12th where the students have the opportunity for selecting subjects according to their interest. In the present study investigator has taken 11th class students.

F) OBJECTIVES OF THE PRESENT STUDY

The following are the objectives of the study undertaken by the investigator:-

1. To find the difference in smart phone addiction among higher secondary school students with respect to their gender i.e. boys and girls.

2. To find the difference in smart phone addiction among higher secondary school students with respect to their type of institutions i.e. govt. and private.

3. To find the difference in the smart phone addiction of higher secondary school students in interactional effect of gender (boy and girl) and type of institutions (govt. and private) when smart phone addiction scores are taken as dependent variable.

G) HYPOTHESES OF THE PRESENT STUDY

Keeping in view the aims of the present study, following hypotheses were formulated : -

1. There is no significant difference in smart phone addiction among higher secondary school students with respect to their gender i.e. boys and girls.

2. There is no significant difference in smart phone addiction among higher secondary school students with respect to their type of institutions i.e. govt. and private.

3. There is no significant difference in the smart phone addiction of higher secondary school students in interactional effect of gender (boy and girl) and type of institutions (govt. and private) when smart phone addiction scores are taken as dependent variable.

H) DELIMITATIONS OF THE PRESENT STUDY

1. The study has been restricted to Jammu district only.

2. The study has been carried on a sample of 200 students only.

3. The present study is confined to the 11th and 12th class students only.

4. In the present study 100 boys and 100 girls students are selected.

5. The study is confined to 5 govt. schools and 5 private higher secondary school students of Jammu only.

I) VARIABLES TO BE STUDIED

The following variables are studied in present investigation:-

C) INDEPENDENT VARIABLE

i)   **Gender :** Male and Female

ii)   **Type of Institutions :** Govt. and Private

D) DEPENDENT VARIABLE

Smartphone addiction scale scores

J)   POPULATION

The term population in the research work generally refers to the group of people of which the research is conducted collecting the data and on which the finding of the research are to be implemented. In the present study comprised of all the boys and girls studying in Govt. and Private Schools of Jammu District.

K)   SELECTION OF THE SAMPLE

Sampling is the fundamental and basic vital essence of research. Sampling generally refers to the process of selecting a small part or specimen of something in order to determine some qualities or characteristics of the whole. It is very easy to understand that the investigator can never collect the data about the whole population in any investigation. One has to take selected group of individuals who could present the whole population and form the basis for making reference for

certain population facts. This is known as sampling. The sampling has great utility in research. The size of the sample varies from study to study, methods to methods and nature of population. It is easier, less time consuming and economical to deal with a sample than the whole population.

Sampling methods are classified as either probability or non-probability. In probability samples, each member of the population has known non-zero probability of being selected. Probability methods includes random sampling, non-probability sampling members are selected from the population in some non-random manner. These include convenient sampling, judgement sampling, quota sampling and snowball sampling. The advantage of probability sampling is that sampling error can be calculated.

There are many techniques for obtaining a sample, which may be the representative of the whole population. In the present study the sample was randomly selected. For this purpose Investigator made a complete list of school. Each school was allotted a serial number and by lottery method 10 schools of Jammu were selected for the data collection. A sample amount of 200 students including boys and girls.

L) TOOL USED

One may use various devices or tools for the collection of data to study any problem but these tools must be in accordance to the need of the

study as the selection and construction of suitable tools or instrument is of vital importance for successful research. For the present investigation, following tools were used for the collection of the data.

SMART PHONE ADDICTION SCALE SAS-VAMBY VIJAYSHRI AND MASAUD ANSARI

The smart phone addiction scale has been developed for assessing different levels of smartphone addiction among students, the age range is 14 to 24 years. The present scale was developed on the Likert method, in which statements are followed by several levels of agreements which are useful and practical means for determining one's opinion and attitude. The present 'Smartphone Addiction Scale' is a five-point Likert scale and these points are as follows: Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree.

M)   ADMINISTRATION OF TOOL

Before administering the scale the investigator made everything clear to the students by explaining them how they should tick (√) mark about the statements related to Smart Phone Addiction. No time was set. All precautions was taken to prevent discussions between students. Precaution was also taken to prevent coping. The sheets was collected, scoring was done on the basis prescribed procedure and raw scores were obtained.

N) SCORING PROCEDURE

Scoring system of Smart Phone Addiction Scale:

The scoring has positively worded statement and the response was sought on the five points. The weights given against the responses are shown in table 2.

TABLE NO: 2: SHOWING SCORING PROCEDURE SAS

Strongly agree	Agree	Undecided	Disagree	Strongly Disagree
5	4	3	2	1

The responses of the corresponding items were added to generate dimension scores and summed up all 23 items to generate overall Smartphone Addiction score. The higher score indicates high level of Smartphone Addiction and lower score indicates low level of Smartphone Addiction.

1. RELIABILITY

Reliability provides reasons for believing the score to be stable and trustworthy. Thus it predicts the accuracy or the precision of the measurement. The reliability of the present scale was computed through Cronbach's Alpha method. One of the most commonly used reliability coefficient i.e. Cronbach's Alpha was calculated and found 0.857, significant at 0.01 levels. The internal consistency of the scale is high and this gives a support that the scale is highly reliable.

2.VALIDITY

The correlation coefficients of all the dimensions are high and statistically far beyond the 0.01 level of significance which indicates that all the dimensions are related to the Smartphone addiction. Here the correlation of each dimension with the total score verifies that each dimension is measuring the same characteristics individually than the scale as a whole measure i.e., Smartphone addiction, which predicts that the scale has good construct validity.

O)   STATISTICAL TECHNIQUES USED

In present study, the investigator was concerned with following techniques:

Two-way Analysis of variance with 2x2 factorial design was applied in order to study the higher secondary school students towards Smart phone addiction belonging to different gender and type of institutions.

P)   ANALYSIS AND INTERPRETATION OF DATA

Table A : Showing the summary of ANOVA for 2x2 Factorial Design

Source of variance	SS	Df	MS	F	Level of Significance
A (Gender)	67.6	1	67.6	0.64	Not significant
B (Type of Institutions)	40	1	40	0.38	Not significant
AxB	22.5	1	22.5	0.21	Not significant
Within	3755	36	104.30		

Interpretation

The f-ratio for the factor A Gender (boys and girls) out to be 0.64 and the table value for the significance are 4.11 and 7.39 at 0.05 and 0.01 level of significance against df 1 and 36. It means that there is no significant difference in smart phone addiction of higher secondary school students belonging to different gender (boys and girls). Hence hypothesis 1 stating that there is no significant difference in smart phone addiction of higher secondary school students belonging to different gender (boys and girls) is accepted.

The F-ratio for the factor B locality (rural and urban) came out to be 0.38 and the table values for the significant are 4.11 and 7.39 at 0.05 and 0.01 level of significance against df 1 and 36. It means that there is no significant difference in the smart phone addiction of higher secondary school students belonging to different type of institutions (govt. and private). Hence hypothesis 2 stating that there is no significant difference in the smart phone addiction of higher secondary school students belonging to different type of institutions (govt. and private) is accepted.

The F-ratio for interaction (AxB) has been found to be 0.21 which is less than the table value 4.11 and 7.39 against degree of freedom 1 and 36 level of significance. It indicates that under joint influence there is no difference in the smart phone addiction of higher secondary school students. Hence hypothesis 3 stating that there is no significant

difference in the smart phone addiction of higher secondary under joint influence of gender (boys and girls) and type of institutions (govt. and private) is accepted.

Q) CONCLUSIONS

In the light of the interpretation of the results discussed in the present investigations, as already discussed in the previous chapter, the investigator lays down the following conclusion:

1. No significant difference in smart phone addiction among higher secondary school students with respect to their gender i.e. boys and girls.

2. There is no significant difference in smart phone addiction among higher secondary school students with respect to their type of institutions i.e. govt. and private.

3. No significant difference in the smart phone addiction of higher secondary school students in interactional effect of gender (boy and girl) and type of institutions (govt. and private).

R) EDUCATIONAL IMPLICATIONS

Smart phone has gained immeasurable ground in the lives of students all over the world. Smart phone is a common sight today in our educational institutions as you see students going to school/college/ university class with some of the most expensive and sophisticated Smart phones, tablets

and ipads that has all the applications, facilities and software that can connect them to the internet and all forms of social media platforms, other web sites and so on, where they chat, access, stream, download, upload, exchange and play different kinds of media contents, which most often, are pornographic in nature. The portability and memory capacity of some of these gadgets made it easier for them to keep materials for viewing whenever and where ever it seems conducive for them. The use of security PINs and Passwords on these Smart phones makes these contents secured from the scrutiny and prying eyes of parents and teachers.

It is true that Smartphone has a sizeable impact on society and other aspects of life. Clearly the enormous usage of these devices by consumers demonstrates the volume of this impact. Consumers are in process of traversing away from the use of conventional cell phone as the Smartphone's are beginning the norm of the society.

The consumption of mobile media grows, it is important that educators address the subject and educate children and young people regarding the use of smart phone. As smart phones are being integrated with micro-blogging services such as Twitter, the information communicated through them is available to the larger public. There are both up and down sides to the use of mobile media for public communication.

S)   SUGGESTIONS FOR FURTHER STUDY

The present study has answered few questions but also led to some other questions. In the present study, the investigator came across a number of issues on which work could be carried out in future. Further research can be conducted on the lines suggested below : -

1.   The present study cannot be called comprehensive, more work can be done on different samples of different areas.

2.   The sample of 200 was taken in the present study. The study can be conducted on large sample.

3.   The study can also be undertaken for other districts since it was confined to Jammu district only.

4.   The present study is conducted on higher secondary school students; similar study can be conducted at college and university level.

5.   In order to locality, marital status and other variables could also be considered.

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