SMARTPHONE ADDICTION OF HIGHER SECONDARY SCHOOL STUDENTS IN RELATION TO THEIR ACADEMIC ACHIEVEMENT

A

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SUPERVISOR

Dr. Bindu Dua
Assistant Professor

INVESTIGATOR

Gunjan Bharti
M.Ed. Sem. IV
Roll No.2101020

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This is to certify that **Mrs. Gunjan Bharti** student of M.Ed. Semester IV, Session 2021-2023, bearing Roll No. 2101020 has worked under my supervision for her dissertation entitled:

"STUDY OF SMARTPHONE ADDICTION OF HIGHER SECONDARY SCHOOL STUDENTS IN RELATION TO THEIR ACADEMIC ACHIEVEMENT"

Her dissertation is fit for submission in partial fulfillment of the requirement for the award of the Degree of Master of Education.

DATE:

(Dr. Bindu Dua)
SUPERVISOR

श्रेष्ठ
B.C. Road Jammu
180 001
Ph.: 0191-2546078,2565098
Fax:0191-2548239
Email:principal@miercollege.in
Website: www.miercollege.in

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Appendix-A Smartphone Addiction scale by Vijayshri and Ansari (2020)

LIST OF ABBREVIATIONS

AAMT	The Academic Achievement Measurement Tool
ANOVA	Analysis of Variance
BAI	Beck Anxiety Inventory
BDI	Beck Depression Inventory
CBCS	Choice Based Credit System
COS	The Cell Phone Overuse Scale
FOMO	Fear of Missing Out
GPS	Global Poisoning System
HRQoL	Health Related Quality of Life
KYRBS	Korea Youth Risk Behavior
MPAS	The Mobile Phone Addiction Scale
MPIQ	The Mobile Phone Involvement Questionnaire
MPPUS	The Problematic Mobile Phone Use Scale
PDA	Personal Digital Assistant
PIU	Problematic Indian Adolescents
SAS	Smartphone Addiction Scale
SASAL	The School Alienation in Switzerland and Luxembourg
SD	Standard Deviation
SPSS	Statistical Packages for Social Sciences
WHOQoL	World Health Organization Quality of Life Scale

ABSTRACT

Technological advancement and globalization have changed life, and this boom in technologies has changed our orientation towards these electronic gadgets. Among all electronic gadgets, smartphone usage became popular to young generation because of its educational and entertaining options by using the numerous applications. One of the typical examples is the overuse of smart phone. Among the young people, students are increasingly using Smartphone. But excessive Smartphone usage usually makes the students addicted to it and that impacts on student's academic achievement. In addition, smart phone use is a dominant and defining characteristic of this generation of higher secondary students and often occurs during class time, while completing homework, and studying. Although young individuals use smart phones and tablet computers mostly for accessing the Internet, social networking, listening to music and watching videos, mobile technologies have started to be used formally and informally in educational activities. This study aims to assess the level of Smartphone addiction to the higher secondary school students in relation to their academic achievement. The present study "Smartphone addiction of higher secondary schools' students in relation to their academic achievement." In this study, the sample of 200 students were selected from different Higher Secondary Schools of Jammu district using simple random sampling technique. The standardized tool called Smartphone Addiction Scale by Vijayshri and Ansari based on Likert scale used. The objectives of the study are to assess the levels of smartphone addiction among higher secondary school students, to study the difference in smartphone addiction of higher secondary school students with respect to their gender (Male and Female), to study the difference in smartphone addiction of higher secondary school students with respect to their type of school (Government and Private),to study the difference in smartphone addiction of higher secondary school students with respect to their residential area (Rural and Urban), to study the difference in academic achievement of higher secondary school students with respect to their gender (Male and Female), to study the difference in academic achievement of higher secondary school students with respect to their type of school (Government and Private), to study the difference in academic achievement of higher secondary school students with respect to their residential area (Rural and Urban) and to establish the relationship between smartphone addiction and academic achievement of higher secondary school students. In the present study mean, standard deviation,

Pearson Coefficient of Correlation, standard error of mean and t-value were calculated to achieve the objectives of study. The findings of the study revealed that higher secondary school students have an average level of smartphone addiction in relation to their academic achievement. There is no significant difference in smartphone addiction of higher secondary school students with respect to their gender (Male and Female). However**,** significant difference in smartphone addiction of higher secondary school students with respect to their type of school (Government and Private) and residential area (Rural and Urban) was found. Also, no significant difference in academic achievement of higher secondary school students with respect to their gender (Male and Female) and residential area (Rural and Urban). The result also revealed that significant difference in academic achievement of higher secondary school students with respect to their type of school (Government and Private) was found. The result also revealed that no significant relationship between smartphone addiction and academic achievement of higher secondary school students.

Keywords: Smartphone Addiction, Higher Secondary School Students, Academic Achievement etc

CHAPTER-I

INTRODUCTION

1.1 INTRODUCTION

Technological advancement and globalization have changed life, and this boom in technologies has changed our orientation towards these electronic gadgets. Among all electronic gadgets, a smart-phone is the most accepted and widely used device and is comparatively easy to afford. In today's time, there are 5 billion people who own smart-phones, and this number is increasing rapidly. The smart-phone has become the most integral and intimate part of our lives. On an average, 56% of children between the ages of 8-12 get their first smart-phone and the population falling under the age group of 18-29 has 100% ownership of smart-phone, and 79% of them can't be without their devices for more than an hour. In this technologically advanced 21st century, people of every walk of life use mobile phones (also known as cell phones) and young adults are that group which uses mobile phones to a large extent. The use of mobile phones is not limited to communication only, people use it for entertainment, accessing the internet for seeking information, passing time, playing games, photo and video recording, listening to music, a way of showing status and finding an identity etc. So, some users feel insecure to have a life without it and slowly and gradually they develop an addiction to it. The transformative technology of mobile phone usage heads to addiction. Life without a mobile phone is not easier for some people, there is a scope for belief that the use of mobile phone may possibly and subsequently lead to an addiction and addiction of mobile phone can substantially influence on academic achievement of a student. Education has become a pressing issue, because of the importance of it and eventually its impact on social life. Academic achievement has become a matter of great concern among the masses and especially among teachers, parents and guardians as they think that depending upon academic achievement; students get selected for a better course of study and eventually for a decent job with handsome salary

1.2 SMARTPHONE ADDICTION:

“Addiction is an adaptation. It is not you; it Is the cage you live in”

- Johann Hari

According to the American Psychiatric Association “Addiction is a complex condition, a brain disease that is manifested by compulsive substance use despite harmful consequences.” The two properties that characterize all addictive stimuli are that they are reinforcing (they increase the likelihood that a person will seek repeated exposure to them) and intrinsically rewarding (they are perceived as being inherently positive, desirable and pleasurable). Over time people with addiction build up a tolerance, meaning they need larger amounts to feel the effects. People become addicted to something for a variety of reasons like, feeling of pleasure, relieve stress, improvement of performance, curiosity, peer pressure, sometimes symbol of status and fashion, loneliness, breakups, job loss and much more. Reason for addiction depends upon persons’ circumstances and their mental health. In simple words, addiction is when the body and mind badly want or need something it is called being addicted or being an addict. People do not have to be addicted only to alcohol or gambling, here some other examples of well-known addictions are: Tobacco, Nicotine and Caffeine Shopping Workaholic Illegal and Prescription Drug Sexual in Nature Eating Disorders Exercise Relationship Perfectionism Thriller Seeking Types of Addiction Watching Television and Playing Video Games, Internet Surfing Social Networking Sites Line.

Smartphone overuse/ addiction (or problematic mobile phone use) is a dependence syndrome which can be seen among certain mobile phone users. Smartphone addiction, also referred to as problematic mobile phone use, is a type of behavioral addiction which is somewhat considered as similar to that of Internet addiction, tv addiction, shopping, or video game addiction leading to serious health hazard or danger to one’s psychological health and wellbeing. Terms such as "Smartphone addiction" (Ahmed, Qazi &Perji, 2011) "mobile phone addiction". A Smartphone addict uses the cell phone for an long span of time in order to achieve pleasure and satisfaction; repeated unsuccessful attempts to control or stop using the cell phone; feels lost and blank , impatient, apprehensive, irritable, low, or prickly when attempting to curb the use of cell phone; engaged in the cell phone longer than usual ; conceal from family and

friends etc. to disguise or deceive the extent of engagement with the cell phone; and using the cell phone as a means of breaking away and ignoring the existing problems or to get temporary relieve from the feeling of seclusion, nervousness, solitude, and dejection

Mobile phone or smart-phone addiction leads to an unhealthy life and can result from poor academic performance. Like every other addiction, this behavioral addiction does not only hamper an individual's cognition but other core areas like education, career, relations, and self, thus, need dire attention and research.

A. Compulsion: It is an uncontrolled and irresistible urge to perform certain behavior. These behaviors are persistent and repetitive which may or may not lead to pleasure.

B. Forgetfulness: It is a state of mind where the person is unable to store/ recall the information or he faces difficulty to input new information.

C. Lack of attention: It is a state where a person is unable to concentrate, fails to be attentive and feels hard to listen to others and conversation.

D. Depression and anxiety: It is lowering the mood for a longer period of time, lacking interest in daily activities, numbness towards emotions, disturbed routine and pessimistic attitude towards society and the self while anxiety is the persistent fear and worry towards any situations or behavior.

E. Disturbed hunger and sleep: when the regular pattern of hunger and sleep is disturbed; the person feels no hunger forget to take a meal, unable to sleep, waking up again and again at night are the disturbed patterns of hunger and sleep.

F. Social withdrawal: any person who avoids social gatherings; doesn't want to communicate with family members, fans and relatives; wants to be alone facing social withdrawal.

1.2.1 Characteristics of Smartphone Addiction

Based on increasing No. Reports from around the globe completed on this particular topic is an interpersonal phenomenon about addiction to one's cell phone & that usually impacts folks that are younger. Regular & daily use of smartphones causes it to be difficult to draw a line in among abnormal behavior & normal behavior. Because of this, when determining this particular issue, it's essential to look at qualitative & quantitative facets of connection one has with his/her cell phone. Originating from quantitative point of view, we usually discuss cell telephone mania, when individual can make as well as gets total of about 300 calls or messages one day. Nevertheless, quantitative problems may also be shown in conditions of long conversation with some people, or maybe too much use might be associated with abuse of various other functions in cell phone.

In addition, besides measures of correspondence or perhaps time spent on PDA, we can speculate dependence on phones when individuals show few of accompanying side effects.

- Dedicating a great deal of your opportunity to exercises in regards to phone (calls, instant messages, computer games, interviews, utilization of camcorder for video cuts just as pictures, etcetera) finished exclusively or maybe related alongside different exercises.

- The target encounters sensation of dizziness, migraine, dizziness eye or perhaps ear hurt or whatever other real actual issues which could be in regards to not dealing with advanced cell.

- Extreme love appeared towards mobile cell phones that is fundamentally seen through not wanting to move miles from the phone, perhaps for little amounts of time.

- The target tends to be apprehensive, alarms or possibly experiences unsavory sentiments in like manner if the phone's electric battery is dead or regardless of whether the phone doesn't work.

- The target is slanted to utilize PDA as instrument of order in loving & wistful connections.

- Tendency to utilize mobile cell phone to keep up weaknesses & stresses in line (dread of isolation, particular fears, mental breakdowns).

- Tendency to take more noteworthy than only one phone, oftentimes working with singular lines for different utilizations (work/companions).

- The objective is in act of keep the phone on around evening time to emerge at check just as night for calls or correspondences.

- The casualty spends considerably more money on embellishments than phone costs.

- The target has no force battery every day.

- The target answer call just as text while driving.

1.2.2 Signs and symptoms of smartphone addiction

James & Drennan (2004) finished exploration on Australian school understudies' advanced mobile cell phone use & tracked down immense use speed of 1.5-5 hours consistently. Their revelations demonstrated the extent of characteristics related with habit-forming use. These were absence of alert, mounting pressure going before with gadget, frustration of control frameworks & withdrawal signs. Results also perceived a couple of components that related with buyer responsibility in habit-forming or hasty lead. Situational factors impacting over top use included uncommon events, alcohol abuse & troublesome conditions. Wide range of other adverse results from advanced mobile cell phone propensity among buyers included cash related issues, hurt associations, passionate pressing factor & falling training. When advanced mobile cell phones were difficult to reach for a period, customers ended up being importantly tense & disturbed. This led continued regardless of the way that these were disturbing signs of obsession. There's no sure time span spent on a mobile cell phone of yours, or possibly recurrence you search for refreshes, or perhaps number of messages you convey or possibly get that proposes dependence or maybe misuse issue. Investing lot of energy associated with telephone of yours simply turns into issue when it assimilates great deal of hour of yours it prompts you to disregard eye to eye connections of yours, interests, school, your work, & some other important issue in closet of yours. In the

event that you are disregarding pals over lunch to peruse Facebook updates or impulsively checking telephone of yours while driving & during school addresses, at that point time has come to rethink Smartphone utilization of yours & hit superior congruence in day-by-day life of yours.

Weighty Smartphone use can regularly be suggestive of other basic issues, like pressure, tension, discouragement, or dejection. Simultaneously, it can likewise worsen these issues. On the off chance that you utilize your Smartphone as "familiar object" to soothe sensations of nervousness, depression, or clumsiness in friendly circumstances, for instance, you'll succeed just in cutting yourself off further from individuals around you. Gazing at your telephone will deny you up close & personal associations that can serve to seriously interface you to other people, lighten nervousness, & lift your mind-set. At the end of day, the cure you're deciding for your tension (drawing in with your Smartphone), is really aggravating. Smartphone or Web dependence can likewise adversely affect your life by:

- **Increasing sadness just as forlornness:** In spite of the fact that it may give idea that losing yourself on web will briefly make affections for instance weariness, despondency, & dejection vanish into air that is meagre, it can genuinely cause you to feel substantially more horrendous. Recent report creates a relationship amongst higher informal communication utilization just as uneasiness & wretchedness. Proprietors, especially teenagers, will in general assess themselves horribly with friends of theirs on long range interpersonal communication, advancing sensations of sorrow just as depression.

- **Feeling anxiety:** One analyst creates a simple presence of wireless at work place is probably going to make people considerably more restless & do inadequately on given undertakings. Heavier person's phone use, the higher the uneasiness they felt.

- **Increasing stress:** Utilizing Smartphones for work typically implies work seeps to home of yours just as private life. You figure strain to routinely be on, don't distant from work. This specific need to continually check just as react to email can add to more elevated points of pressure just as burnout.

- **Exacerbating consideration deficiency issues:** constant stream of information & interchanges from Smartphone can overpower brain & make it impractical to totally zero in consideration on any one point for two or three min. with no inclination committed to go on to something else.

- **Diminishing capacity of yours to focus just as think inventively or procreate:** Constant buzz, signal or ping of Smartphone of yours can derail from vital positions, decline work of yours, and alongside interfere with that calm min. which is vital to creative mind & critical thinking. Maybe than really being distant from everyone else with considerations of our own, we are presently consistently on the web & associated.

- **Disturbing sleep of yours:** Strange Smartphone use can upset the rest of yours, which could affect in general emotional well-being of yours. It can impact memory of yours, influence the capacity of yours to think unmistakably, & furthermore bring down your intellectual & learning capacities.

- **Encouraging self-ingestion:** UK study creates that people that contribute extensive time via online media will in general be more able to show adverse character attributes like narcissism. Snapping boundless selfish, distributing every one of your subtleties or perspectives about existence of yours can make unfortunate narcissism, separating you from genuine connections & which makes it harder to manage pressure

1.3 ACADEMIC ACHIEVEMENT

Educational achievement is one of the important elements of the whole educational system. It is considered as a major benchmark of education. Educational Achievement is the product of the teaching cum learning context provided to the students in educational institutions which will determine by the grads or marks obtained in this specific examination. In general, it shows the learning outcome of learners' which is essential for a series of planned activities.

Academic achievement is the process of judging the performance of the students' ability. It is useful information granting decision alternatives. Academic achievement is both a quantitative and qualitative aspect. It is not just a testing programme, but it is the

process where the researcher arrives at a value judgment. Therefore, it provides better scope and flexibility. The gradation system, the rating system, in place of percentage, the choice-based credit system (CBCS) etc. are very useful and support concepts of academic achievement. Therefore, the role and significance of academic achievement have a greater impact on the education system. Students' academic achievement should reflect their abilities, performance, knowledge, understanding, belief etc.

A students' academic performance or academic achievement related with educational Achievement of the student at the end of an institutional scheme as well as competent or confidence level showing in the school subjects. Generally, achievement is the progressive manner or calibre in the performance of the student relating to the subjective and objective skill. Therefore, academic achievement comprises cognitive domain. The term academic achievement has been explained by different persons in different ways.

Stagner (1962) defined achievement "as a degree of proficiency or progress made by pupils in the mastery of school subjects".

According to Crow and Crow (1969) "achievements refer to the extent to which a learner gets profit from instructions in a given area of learning i.e., achievement is reflected by the extent to which knowledge or skill has been acquired by a person from the training imparted to him".

Generally, In India academic achievement depends on the concept of proving marks or greed's by their respective subject teacher. The general parameter shows academic achievement through the reflection of grade, 20 percent shows academic achievement through the reflection of grade, percentage or marks on a student's report card. The level of academic achievement considers students' subjective knowledge depends on academic achievement. The quality of teaching, the modification of behavior considers academic achievement. Academic achievement helps in bringing desirable changes in behavior. It also assists in the achievement of teaching-learning objectives. It also assists in the proper development and growth. Academic achievement involves reconstruction of experiences. It is stored in our learning experience, stored in the form of past experience. It also helps to promote, or promotion of the next class depends on educational achievement that means educational achievement is the benchmark or

indexes of the further success. As Singh (1976) stated that "academic achievement is a very complex variable, a resultant of diverse factors of different kinds intellectual and non-intellectual, acting and interacting in a variety of ways. Intelligence, personality factors and socio-economic background are some of the factors which are considered to be having an influence on academic achievement". The level of performance is the key factor for personal development. Generally, expectations, parents, family members, friends and peer members desire that the person seems to be in the highest position achieved in his life. Students' cognitive domain, affective domain and psychomotor domain are directly associated with educational achievement. For this reason, the cognitive achievement comprises that means intelligence, knowledge, inductive thinking capacity, deductive thinking capacity, problem solving capacity, application skill, analysis skill, comparison skill, interaction skill, learning ability, acquisition of skill, convergent thinking, divergent thinking, transformation, implication skill, analysing skill, vocabulary skill etc. The effective domain also comprises receiving skill, skill of value judgment, conceptualization capacity, characterization, organization etc. at last the psychomotor domain consists of imitation, manipulation, precession, articulation, and naturalization. These factors can be summarized as below- students' physical growth that means physical factors, tendency, behavior, self-actualization, personality, environment, heredity, motivation, attention, transfer of learning, remembering, intelligence, maturity, emotional development, emotional maturity, emotional intelligence, thinking capacity, reasoning ability, problem solving ability, adjustment capacity, realistic perception, flexibility of behavior, awareness of one's own strength and limitation. Satisfaction of the basic need, physical and mental development, growth and development with internal organ, satisfaction of the physiological needs, satisfaction of material need, home and family adjustment, the choice of work, co-curricular activities, peer group interaction, approach towards life, mental health, social environment, knowing the self, outlook of life, rational thinking, transformation etc. Academic achievement may be a ranking system where students' performance compares with other students' performance on a numerical basis. Where with the help of percentage or academic score the researcher can say one student performs outstanding than another. In a general situation in a standardized classroom few students will be outstanding or genius. On the other hand, few students may be called as slow learners and the remaining students will be average achievers. It is always a shocking incident where teachers provide a unique curriculum, unique teaching

method instead of a significant difference from one student to other students. It is noticeable that out of several reasons the psychological factors play a significant role for this difference. In today's competitive world academic 23 achievement will be an important benchmark where opportunity will provide those students who got the highest percentage in his academic achievement. Considering all aspect i.e., physical, mental, emotional and social only institution gives priority only to the academic achievement

1.3.1 Factors of Academic Achievement:

Various experts have explained numerous factors for academic achievement of an individual like his personality, intellectual ability, environment etc. such factors seem to come under two generals.

- Intellectual Factor
- Non-Intellectual Factor.

Intellectual factor: An individual is said to be intelligent in proportion to his success in general life situations. The term intelligence is used to denote power or capacity of an individual. The nature of intelligence was first introduced by Sir Francis Galton in his book "Hereditary Genius" intelligence was reflected by hereditary traits.

According to Thorndike (1914), "intelligence may be defined as the power of good responses from the point of view of truth or fact"

Jean Piaget (1952), defined "intelligence is the ability to adapt to one's surroundings".

Intelligence should be understood because the mentality or psychic energy offered with a private person at a specific time in a very particular state of affairs. Keeping of those basic factors in mind the distinctive definition as a form of motive, among the kind of mental skills or psychological feature skills, offered with a personal that enables him to handle his setting in terms of adaptation to face a noble state of affairs or a different challenge as effectively as potential

Non- intellectual factor: It can be found that the lack of intellectual skill it is impossible to achieve high scholastic performance but at the same situation the superior intelligent

person cannot ensure always high academic achievement. In the past many studies and scientific investigation have given explicit reports that even students with greater intelligence are underachievers while few students with average intelligence achieve more than that of an intelligent person. That's why researchers who have tried to build the association between intellectual ability and scholastic attainment have found only a moderate correlation. That's why the importance of non-intellectual factor is considerable. For a satisfactory performance a minimum level of intelligence is necessary for academic achievement side by side some favourable non-intellectual Here, therefore an attempt has been made to discuss some of the following non-intellectual factors, which are likely to affect academic achievement.

(A) Personality Factor.

(B) Socio-Economic Background Factor.

(A) Personality Factor:

According to Rawat, Chaudhary and Negi (2012), "Personality is a collection of emotional, thought and behavioral patterns that are unique to each person and relatively stable over time. How and why people differ from each other is a question that has been asked for centuries with various theories, hypotheses, and 26 answers. Personality has intrigued scholars, researchers, and the general population alike. It has been studied in many contexts, many cultures and many different disciplines for years. An abundance of academic journals, books, college courses, programs, and tests have been created in order to assess and describe personality". Personality factors have their own impact on the outcome of a person's educational level and academic success. An individual with a healthy and well-balanced personality is proven to be successful in their academic career and other areas of life as well. Dhaliwal (1971) found that personality factors like emotional stability, obedience and sobriety are linked with a pupil's achievement. Personality is a forceful determinant of human activities and hence also of achievement. The amount and quality of achievement in the different walks of life are certainly the output of distinct organization of different traits of personality. Our unique composite of temperament, traits, needs, interest, values, problems, adjustment, aptitudes and talents decide our achievement not only in the academic 27 field but in every field. The present study is concerned only with the academic field. The basic assumption

underlying this study is that academic achievement is a form of behavior which is influenced by personality factors.

(B) Socio-Economic Background: Socio-economic background appearance to influence a student's attitudes, values, motivation etc. so his tutorial action. Economic background of the parent additionally plays a vital role as a result of swish continuation of study becomes troublesome beneath economic deprivation.

Pandey and Maikhuri (2003) that "there could be an important distinction 28 between tutorial achievements of adolescents' happiness to high and low socioeconomic background". It is so apparent that socio- economic background is absolutely related to the educational action of the scholars.

Zora (2008) reveals that "socio-economic standing has either significant positive relationship with students' tutorial action or a big impact on achievement".

This means that a life of socio-economic background of a private includes each a measure of social aspects and economic aspects. In the case of students, since they are individually dependent on parents it is accepted to consider the social and economic components of the parents to represent the socio-economic background These parental expectations indirectly push the children to put in more effort in the academic studies, the success in which will be a major factor in fulfilling these expectations. The economic component of the parents can also be expected to add to the academic attainments of pupils. In the present world today a home which provides better opportunities for students offers better learning provision for them. Providing such opportunities to children depends mostly on the economic position of their parents. O'Connor Although conscientiousness was the strongest predictor of exam grades, a combination of fluid intelligence, conscientiousness, openness, and deep learning approach explained the highest percentage of variance".

1.4 NEED AND SIGNIFICANCE OF THE STUDY

Keeping in contact through multimedia and mobile phones in social life starts in childhood in most parts of the world (Karaaslan & Budak, 2012). Smartphones as a new

mobile technology that change the patterns of social life eliminate social boundaries and existing forms. Technology age has brought mobile phones into a state of significance and it has a great effect on the social and emotional development of adolescents. During the transition stages from childhood to adolescence, the use of media increases (Rideout et al., 2010). Most teenagers spend their time on electronic media platforms (Willemse et al., 2012). These technological devices, which are extremely popular among teenagers, also cause them to change their lifestyles and differ their way of establishing social relations; as a result, they restrict their lives within the borders of this technological world. However, teenagers think that the use of technology, especially mobile phones, improves their social status. It is well known that mobile phones are also receiving worldwide attention leaving no stages of human development untouched in the present time. Young adults are one of those groups who use it to the large. They are the future of a nation. As such, mobile phones are also taking a prime place while discussing their academic achievement, either good or bad. Researchers have also given attention to cell phone use and its impact on academic achievement, but they have not given much attention to cell phone addiction, which is a complex issue and it has an interaction with academic achievement. Therefore, they feel more attached to them (Yilmaz, Sar & Civan, 2015). Kim et al. (2012) reported that adolescents have the tendency to concentrate while using media and can develop more habitual usage problems than adults when they are introduced to a new type of media. Besides, teenagers are more prone to smartphone addiction compared to adults (Kwon, & Yang, 2013). In addition, smart phone use is a dominant and defining characteristic of this generation of higher secondary students and often occurs during class time, while completing homework, and studying. Although young individuals use smart phones and tablet computers mostly for accessing the Internet, social networking, listening to music and watching videos, mobile technologies have started to be used formally and informally in educational activities. Mobile devices are particularly preferred for data storage, course materials, e-books, timetables and reaching information (Sarrab, 2015). This research will be helpful for students, teachers and parents in prevention and care of students affected with overuse of social networking and smartphones due to which their academic achievement is affected. This research will also be helpful in monitoring and managing children's time limit, visiting sites, conversations etc.

1.5 STATEMENT OF THE PROBLEM

A STUDY OF SMARTPHONE ADDICTION OF HIGHER SECONDARY SCHOOL STUDENTS IN RELATION TO THEIR ACADEMIC ACHIEVEMENT.

1.6 OPERATIONAL DEFINITIONS OF THE KEY TERMS USED

Smartphone Addiction

Smartphone overuse/ addiction (or problematic mobile phone use) is a dependence syndrome which can be seen among certain mobile phone users. Smartphone addiction, also referred to as problematic mobile phone use. In the present study, Smartphone Addiction has been by assessed by tool Smartphone Addiction scale by Vijayshri and Ansari (2020)

Academic Achievement

In the present study academic achievement refers to the marks obtained by the students in the 10^{th} class.

Higher Secondary Students

In the present study, it refers to students studying in 11^{th} class in government and private schools of Jammu district.

1.7 OBJECTIVES OF THE STUDY

1. To assess the levels of smartphone addiction among higher secondary school students.
2. To study the difference in smartphone addiction of higher secondary school students with respect to their gender (Male and Female).
3. To study the difference in smartphone addiction of higher secondary school students with respect to their type of school (Government and Private).
4. To study the difference in smartphone addiction of higher secondary school students with respect to their residential area (Rural and Urban).
5. To study the difference in academic achievement of higher secondary school students with respect to their gender (Male and Female).

6. To study the difference in academic achievement of higher secondary school students with respect to their type of school (Government and Private).

7. To study the difference in academic achievement of higher secondary school students with respect to their residential area (Rural and Urban).

8. To establish the relationship between smartphone addiction and academic achievement of higher secondary school students.

1.8 HYPOTHESES

1. There is no significant difference in smartphone addiction of higher secondary school students with respect to their gender (Male and Female).

2. There is no significant difference in smartphone addiction of higher secondary school students with respect to their type of school (Government and Private).

3. There is no significant difference in smartphone addiction of higher secondary school students with respect to their residential area (Rural and Urban).

4. There is no significant difference in academic achievement of higher secondary school students with respect to their gender (Male and Female).

5. There is no significant difference in academic achievement of higher secondary school students with respect to their type of school (Government and Private).

6. There is no significant difference in academic achievement of higher secondary school students with respect to their residential area (Rural and Urban).

7. There is no significant relationship between smartphone addiction and academic achievement of higher secondary school students.

1.9 DELIMITATIONS OF THE STUDY

- The present study has been delimited to the 200 higher secondary students from 4 government and 4 private school studying in 11^{th} class of Jammu district only.

- The present study has been confined to standardized tool namely:

Smartphone Addiction Scale by Vijayshri and Ansari (2020)

CHAPTER-II

REVIEW OF RELATED LITERATURE

2.1 INTRODUCTION

"A familiarity with literature in any problem area helps the students to discover what is already known what others have attempted to find out, what methods of attack have been promising and disappointing and what problems remain to be solved" (Best & Kahn).

The phrase 'Review of Related Literature' comprised of two different words, which are, Review and Literature. The term 'Review' means to "Re-Look" or to look again or to collect the knowledge of particular area of research in a systematic way, to involve

a collection of knowledge to show that the study would be an addition of knowledge to the field. The term "Literature" refers to the knowledge of a particular field of study of a stream which includes theory, practical and its research or literature as the mirror that reflects the past view and presents the future perspective.

Review of related literature means, "to locate, to read and to evaluate the past as well as current literature of the research concerned with the planned investigation". Such literature provides the researcher with the footprints of earlier travellers gone ahead on the same route. The time spent in survey of related literature is invariably a wise investment. It is a crucial step which minimizes the risk of dead ends, wasted efforts, rejected topics and even more important errorless findings based on a faulty research design.

Review of literature also makes a researcher aware of the nature, kind and magnitude of the work done in the field and indicates the direction of further studies on the subject. Sometime, from such reviews of the relevant literature, the probable and possible topics of research may also emerge. To conceptualize the research problem explicitly and meaningfully, there lies the significance of review of related literature gone through by the investigator. Keeping in mind the stated arguments, the researcher has reviewed the relevant literature, followed by a systematic analysis of studies, ideas, concepts and views of different researcher. Many survey type studies have been conducted in the field of Smartphone addiction and Academic achievement of among school going children. Some of the important researches are offered by the researchers which are related with Smartphone addiction and Academic achievement of school students.

2.2 REVIEW OF RELATED STUDIES

2.2.1 Studies related to Smart-Phone Addiction

Dos (2014) conducted a study on the relationship between mobile phone usage, meta-cognitive awareness and academic achievement. A sample consisted of 250 students of a private university in the southeast region of Turkey. The tools used for data collection were called as *Meta –Cognitive Awareness, Academic Achievement Mobile Phone Usage, Meta cognitive awareness inventory*. The result of the study revealed that the

usage of mobile phones among the university students were very frequent. The results also showed that a positive relationship found to exist between mobile phone usage, academic achievement and meta-cognitive

Deshpande (2015) conducted a study on the empirical research available on the impact of mobile phone addiction and associated factors among youth. The researcher revealed the findings of studies revealed that the problems associated with mobile addiction, like financial issues, poor social skills, relationship issues, car accidents, job loss, academic difficulties, low self-esteem, physical health issues like nervous system disorder and adverse proactive effects, and mental health issues like sadness, restlessness, insomnia, and anxiety. Thus, highlighting the ill effects of smartphone addiction among youth.

Bisen and Deshpande (2016) conducted a study on an analytical study of smartphone addiction among engineering students: gender differences. The sample of the study consisted of 100 students (50 males and 50 females) from various engineering colleges to measure gender differences. The study included engineering students with an age range of 18 to 22 years, selected through random and purposive sampling. The study used a questionnaire to collect data and t-test to analyze the data. The findings of study revealed that male engineering students are more dependent on smartphones than female students in using mobile for health, communication, and shopping applications. On the other hand, female students are more dependent on smartphones in terms of entertainment and educational applications

Bhutia and Tariang (2016) conducted a study on mobile phone addiction among college going students in Shillong. The objective of the study was to determine the level of mobile phone addiction based on gender and the stream of study the students were enrolled in. The sample of the study consisted of 159 college students from Shillong. The tool used for data collection was called *The Mobile Phone Addiction Scale (MPAS), developed by A. Velayudhan and S. Srividya.* They used statistical techniques such as mean, standard deviation, t-test, and Pearson's Product-moment Correlations to analyze the data. The findings of the study revealed that the students were moderately addicted to the mobile phones. However, the researchers found that no significant impact was seen on gender and stream of study on mobile phone addiction.

Davey, Davey and Singh (2016) conducted a multi-method study on emergence of problematic internet use (PIU) among Indian adolescents. The sample of the study consisted of 371 adolescents from various schools of India. The study used a combination of qualitative and quantitative methods to participants' patterns, and a semi-structured interview, which explored the participants' experiences with internet use collect data. The tool used for data collection was a Self-Reported Questionnaire, which assessed the PIU. The study found that excessive use of the internet is taking the shape of a health problem among Indian adolescents and is not limited to a particular state or city but is a national health issue that needs government regulation and policies to control. The study also found that PIU is associated with negative outcomes such as poor academic performance, low self-esteem, and depression. The study suggests that there is a need to create awareness among adolescents and parents about the potential risks associated with excessive internet use and to develop interventions to prevent and treat PIU

Khurana and Dikshit (2016) conducted a study on the mobile phone addiction among girls and boys. The sample of the study consisted of 60 students (30 boys and 30 girls) by stratified random sampling. method. The tool used for data collection was called *Mobile Phone Addiction Scale, developed by Dr A. Velayudhan and Dr S. Shrividya*. The subjected were drawn from undergraduate classes of the Industrial Training Institute, Gularbhoj, Udham Singh Nagar, Uttarakhand. The data were statistically analyzed by frequency, percentage, mean, SD and t-test. The findings of the study revealed that living environmental conditions of the subjects have an effect on their level of mobile phone addiction. The boys reported significantly high mobile phone Addiction compared to their female counterparts.

Kim and Kang's (2016) investigated the effect of young children's smartphone use experience on their parents' perceptions and needs, as well as their self-regulation. The sample consisted of 346 English-speaking parents and guardians of children aged 3 to 5 years to take part in a prospective cohort study of child media use. The researchers used a survey method to collect data from parents of young children who use smartphones. To analyze the data, independent t-test and one-way ANOVA was used to evaluate the general characteristics of the data, while multiple regression was used to evaluate the effects with the help of SPSS. The findings of the study suggested that the

demerits of smartphone use have an 11.2% explanatory power, while emotional control shows a 4% variance. These results indicate that parents should be cautious about allowing their young children to use smartphones, as it can negatively impact their emotional and cognitive development. The study highlights the importance of parents being aware of the potential hazards of smartphone use during early childhood and taking steps to limit their children's exposure to smartphones.

Rupani and Mihir (2016) conducted a cross-sectional study on mobile phone involvement among medical students of a tertiary care teaching hospital of western India. The sample of the study consisted of 150 medical students in their 2nd and 3rd year. The tool used for data collection was called *The Mobile Phone Involvement Questionnaire (MPIQ)* consisting of eight questions. The researchers applied t-test and chi-square for analysing the data. The results of the study revealed that 92.7% of the medical students were highly involved with their mobile phone, to the extent that they miss or think about their phone when not using it. The level of mobile phone involvement was directly correlated with the frequency of mobile phone use. Additionally, 39.3% of the students couldn't keep track of time while using their smartphone, often delaying the work at hand and procrastinating it for later. Overall, the study highlights the high level of mobile phone involvement among medical students and its potential impact on their productivity and time management.

Zhitomirsky and Blau (2016) conducted study on Cross-generational analysis of predictive factors of addictive behavior in smartphone usage. The sample of study consisted of 209 participants from Israel. The tool used for data collection was google forms. The study employed several statistical techniques for data analysis, including Pearson correlation, ANOVA, and multivariate linear regression. The Findings of study revealed that Generation Y (born between the early 1980s and early 2000s) exhibited a significantly higher level of addictive behavior in smartphone usage compared to Generation X and Generation Z smartphone addiction were social pressure and emotional gain. For Generation Z (born after the early 2000s), the predictive factors for smartphone addiction were negative emotions, psychological state, neuroticism, and time spent on social networking sites. The study also revealed that WhatsApp usage increased addictive smartphone behavior for Generation Z.

Ithnain, Ghazali, and Jaafar (2018) conducted a study on relationship between smartphone addiction with anxiety and depression among undergraduate students in Malaysia. The sample of the study consisted of 435 undergraduate students from a local university in Malaysia. The tools used for data collection was called *Smartphone Addiction Scale (SAS-M), Beck Anxiety Inventory (BAI-M),* and *Beck Depression Inventory (BDI-M)*. The statistical techniques were used Pearson correlation and simple linear regression to analyze the data. The results of the study revealed that a statistically significant positive relationship between smartphone addiction with anxiety and depression. The use of social networking sites was found to be inversely related to the psychological wellbeing of students.

Jamir , Duggal , Nehra , Singh and Grover (2019) conducted a cross-sectional study on technology addiction among school students in rural India. The sample of the study consisted of 885 school students in rural India. The tool of the study was used a self-administered questionnaire to assess technology addiction and its correlates among school students in rural India. The study revealed that30.3% of the participants had the dependence criteria for substance dependence in ICD-10, and 33% of the students reported that their grades had gone down due to gadget use. Technology addiction was higher in male students, those having a personal mobile phone, using a smartphone, using one additional gadget, and those who were depressed. The study also suggested that technology addiction possibly contributes to poor academic performance and depression, and interventions for judicious use of gadgets are needed.

Jameel, Shahnawaz and Griffiths (2019) conducted a study on Smartphone Addiction in Students: A qualitative examination of the components model of addiction using face-to-face interviews. The Sample of the study consisted of 34 participants who did not own smartphones were given iPhones installed with a program to monitor their usage over the course of a yearlong study. The tool used for data collection was Face-to-face interviews which were conducted with both "addicted" and "non-addicted" users to examine Measurement Instrument and the Internet Addiction Test were used to assess the level of addiction to smartphones. The findings of study revealed that the non-addicted group had much greater control over their smartphone usage than the addicted group on four (of six) aforementioned dimensions of behavioral addiction.

Consequently, the main findings of this study provided good support for the components model of behavioral addiction.

Tangmunkongvorakul et al., (2019) conducted a study on Association of excessive smartphone use with psychological well-being among university students in Chiang Mai, Thailand. The sample of the study consisted of 800 university students in Chiang Mai, Thailand. The study was used categorical independent variables and employed statistical tests such as Student's *t*-test, ANOVA, Kruskal-Wallis H test, and Multiple Linear Regression to analyze the data. The findings of study revealed that a negative relationship between excessive smartphone use and psychological well-being among university students in Chiang Mai, Thailand. The study also found that the measurements of social-psychological well-being and excessive smartphone use have not yet been validated within the context of Thailand, which is a significant limitation of the study.

Vally (2019) conducted a study on problematic mobile phone use in the United Arab Emirates. The sample of the study consisted of 350 college-aged young adults in the United Arab Emirates. The tool used for data collection was called *The Problematic Mobile Phone Use Scale (MPPUS-10)* to assess their level of problematic mobile phone use. The MPPUS-10 demonstrated acceptable reliability and validity in this sample. The Findings of study revealed that the prevalence of problematic mobile phone use was considerable in the sample of college-aged young adults in the United Arab Emirates. These factors included being female, increased time spent using smartphones, and elevated symptoms of depression. Predictors of problematic mobile phone use: The study also found that higher scores on the MPPUS-10, indicating more problematic mobile phone use, were predictive of increased depression symptoms.

Buctot, Kim, and Kim (2020) conducted a cross-sectional study to investigate the factors associated with smartphone addiction prevalence and its predictive capacity for health-related quality of life among Filipino adolescents. The objective of the study was to determine the prevalence of smartphone addiction among Filipino adolescents and to investigate the relationship between smartphone addiction and health-related quality of life (HRQoL). The sample of the study consisted of 1,447 Filipino junior and senior high school students (males, $n = 580$; females, $n = 867$) through a Google forms online survey. The researchers employed hierarchical linear multiple regression analyses to

analyze the data obtained from the participants. The study revealed that 62.2% of the participants were addicted to smartphones, and there was a negative correlation between smartphone addiction and health-related quality of life, including physical and psychological health and school environment.

Shahrestanaki (2020) conducted a study on the relationship between smartphone addiction and quality of life among students at Tehran university of medical sciences. The sample of the study consisted of 320 students at Tehran University of medical sciences. The tools used for data collection were called *The Cell phone Overuse Scale (COS)* and *World Health Organization Quality of Life Scale (WHOQOL-BREF).* The data was analyzed using t-test, ANOVA, Pearson's correlation coefficient, and multiple regression. The Findings of study revealed that a significant inverse relationship between smartphone addiction scores and the quality-of-life scores for physical, mental, and social aspects.

Woo, Bong, Choi and Kim (2021) conducted a study on mental health, smartphone usage type and screen time among adolescents in South Korea. The sample of the study consisted of 54,243 teens who participated in the 2017 Korea Youth Risk Behavior Web-based Survey (KYRBS). The Method was used to collect data through the KYRBS, which included questions on smartphone use, stress, sleep, depression, and suicide risk. They categorized smartphone usage based on purpose (social interaction and non-social interaction) and daily screen time (< 2 hours, ≥ 2 hours but < 4 hours, ≥ 4 hours per day). The Tool used for data collection was 2017 KYRBS questionnaire on smartphone use, stress, sleep dissatisfaction, depressive symptoms, and suicide-related indicators. The results of the study revealed that smartphone use increased stress, sleep dissatisfaction, depressive symptoms, and suicide risk factors in both groups. Mental health outcomes differed based on the amount of smartphone usage. Two hours of weekend smartphone usage did not affect sleep satisfaction, but four hours decreased suicide-related feelings in both groups. Mental health improved with 2-4 hours of everyday smartphone use, but worsened with 4-8 hours on weekends. The study also suggested that smartphone guidelines should emphasize unrestrained usage over screen time.

Gangadharan N, Borle A L, Basu S (2022) conducted a study on Mobile Phone Addiction as an Emerging Behavioral Form of Addiction Among Adolescents in India

The sample of study consisted of 264 adolescents (10-19 years) of low-income urban areas of Delhi. The tool used for data collection was a questionnaire to assess mobile phone addiction among the participants. The Findings of study revealed that the prevalence of mobile phone addiction among the participants was 33.0% (95% CI: 27.2-38.6) Gender differences: The addiction was higher among boys (33.6%) than girls (32.3%), but the difference was not statistically significant (p=0.835). Factors associated with mobile phone addiction: The study found that mobile phone addiction was significantly higher among adolescents who had ≥3 siblings, those belonging to nuclear families, and among late-onset users (≥16 years) Independent predictors of mobile phone addiction: Late-onset users (adjusted odds ratio {aOR}: 3.398; 95% CI: 1.307-8.833) and ≥3 siblings (aOR: 1.980; 95% CI: 1.141-3.437) were identified as independent predictors of mobile phone addiction Time spent on mobile phones: The mean time spent on mobile phones was significantly higher among those with addiction, but no significant gender difference was found between time spent on phones and addiction.

2.2.2 Studies related to Academic Achievement

Grissom (2005) conducted a study on the connection between academic achievement and physical fitness. The sample of study consisted of 884,715 students of elementary school. The study assessed the connection between academic achievement and physical fitness by taking the score on the Fitness gram, a physical fitness test, and evaluating mathematics and reading scores on the achievement test (standardized).The researchers used statistical methodologies to analyze the data. The findings of study suggested that a consistent positive association between overall fitness and academic achievement. Females appear to have a higher link between fitness and achievement than males.

Gupta and Mili (2013) conducted a study on the impact of academic motivation and academic achievement: A study on high schools' students. The sample of the study comprised 200 students randomly selected from 10th schools in selected blocks situated in Rewari and Gurgaon district of Haryana. The participants were between 14 to 16 years old and were equally distributed among boys and girls. The tool used for data collection was called *The Academic Achievement Measurement Tool (AAMT) prepared by Dr. T.R. Sharma*. The study used a correlational research design to analyze the data. The findings of the study suggested a positive association between academic motivation

and academic achievement. The study also found that students who had higher academic motivation tended to have higher academic achievement. The study also found that girls had higher academic motivation and academic achievement than boys. The study also recommended that teachers and parents should focus on enhancing students' academic motivation to improve their academic achievement.

Raju (2013) conducted a study on the impact of locality and gender on the academic achievement of secondary school students in social studies. The sample of study consisted of 60 girls and 60 boys from urban and rural schools in and around Puttur Mandal in the Chittoor district of Andhra Pradesh in the 12- 13 years by simple random sample technique. The gathered data was statistically examined, with the *t*-test being used for this purpose. The results of study revealed that gender and locality had a substantial effect on the academic performance of 7th-grade pupils in social studies.

Dhall (2014) conducted a study on academic achievement among adolescents in relation to achievement motivation and home environment. The objective of the study was to examine the association between academic achievement, achievement motivation, and home environment among secondary school students The sample of study consisted of 200in which 100males and 100 females ninth- grade from government and government- aided schools in Ludhiana. The tool used for data collection were surveys and questionnaires on academic achievement, achievement motivation, and home environment. The study employed statistical analysis to analyse the data and determine the associations. The findings of the study showed a positive and substantial association between achievement motivation, home environment, and academic achievement, with sex having no bearing on academic achievement or home environment.

Hayat, Arshad, and Hussain (2014) conducted a study on the impact of mobile phone on academic achievement. The sample of study consisted of 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. The study 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.

Noshahr, Talebi, and Mojallal (2014) conducted a study on the relationship between cell-phone use and academic achievement among female students in Tabriz city, Iran. The sample of study consisted of 467 female students by stratified random sampling in district 3 of Tabriz city, Iran in the school year of 2012-2013. The tool used for data collection was questionnaire method to determine the relationship between cell phone use and academic achievement. The statistical techniques Pearson coefficient correlation was used. The study revealed that a significant, but negative relationship between cell-phone use and academic achievement of female students.

Kumar and Yadav (2015**)** compared the analysis of academic achievement motivation of senior secondary pupils. The sample of the study consisted of 100 students (50 students from private schools, 25 girls and 25 boys, and 50 students from govt schools, 25 girls and 25 boys) were selected through random sampling. The tool used for data collection was called *The AAMT technique developed by Dr. T.R. Sharma*. The data was analyzed using the mean, SD, and *t*-test. At the senior secondary level,". The study was found that girls had more academic success motivation than boys and that private school students had higher academic performance motivation than government school students.

Kumari and Chamundeswari (2015) conducted a study on the connection between achievement motivation, academic achievement, and study habits at the secondary level. The sample of study consisted of 457 secondary school pupils was chosen using a survey approach. The tools used for data collection were called *The Achievement Motivation Scale (Beena, 1986) and The Study Habits Inventory* (Gopal Rao, 1974) was used to assess students' study habits, and *the Academic Achievement Test scores* were used to assess the students' academic achievement. Based on the results, a correlation between academic achievement and achievement motivation and study habits" was found. The findings of study revealed that significant variation was observed between girls and boys and the difference was based on the types of school management.

Gustavsen and Margareth (2019) conducted a study on gender differences in academic achievement: A matter of contextual classroom influence. The sample of study

consisted of 2,266 students in grades one through ten, with cultural background, prior academic accomplishment, age and social skills, as well as class size, taken into account. In the autumns of 2012 and 2014, data was collected from 153 classrooms from 27 Norwegian schools. The study's findings revealed that previous academic accomplishment in the classroom has a difference in individual academic outcomes in boys and girls. Social skills seemed to explain the variance in mathematics and Norwegian but not English, when controlling for previous academic achievement.

Morinaj, Hadjar and Hascher (2019) alienation and academic achievement in Switzerland and Luxembourg: A longitudinal perspective. The sample of study consisted of 403 participants from the Swiss canton of Bern and 387 participants from Luxembourg. The participants of secondary school students in grades 7 to 9. The study used a longitudinal design to investigate the relationship between school alienation and academic achievement. The tool used for data collection was called *The School Alienation in Switzerland and Luxembourg (SASAL)* research project. The findings of study showed that the pattern of relationships is defined by the school alienation domain and the cultural context, pointing to the complex interplay between the multidimensional construct of school alienation and academic outcomes of secondary school students.

Maria and Stephanie (2020) conducted a study on association among school ethos, academic achievement, aggressive behavior & psychological distress among Swedish pupils. The analyses were based on two separate data sets in Stockholm, one among coaches (n = 2089) and the other among students aged 15-16 (n = 9776; 49.7% females). The relationships between instructors' descriptions of schooling ethos and students' reports of success, aggressive behaviour, and psychological distress were investigated using multilevel structural equation modelling. Analyses revealed a beneficial relationship between a school's ethos and regular academic achievement.” Low emotional anguish among students was linked to increased academic success. Individually, students who performed well in school reported less mental anguish and more intense conduct. These findings showed that school-based values promote kids' mental health and academic progress.

Cheema & Bhardwaj (2021) conducted a study of self-esteem and academic achievement in relation to home environment among adolescents. The objective of

study was to explore the relationship between self-esteem and academic achievement and their home environment among adolescents. The sample of study consisted of 200 adolescents, and a random sampling method was used to collect the sample. The study found that higher home environment scores were associated with higher self-esteem and higher academic achievement. Additionally, higher self-esteem scores were associated with higher academic achievement. The study concluded that the home environment plays a crucial role in the development of adolescents' personality and academic achievement.

Alharbi, Alshammari and Mohammed (2022) conducted an observational cross-sectional study on addiction of smartphones and its relationship to academic achievement of medical students in Saudi Arabia. The study was conducted among students of the college of medicine at King Saudi University, Kingdom of Saudi Arabia. A total of 330 participants answered the study questionnaire. The most common age range of study participants was 18-28 years, representing 64.2% of the sample. Male participants accounted for 63% of the sample. The majority of students (65%) believed that using smartphones helped them study more efficiently. The study income of 54.5% of participants was less than 5000 riyals per month. The study utilized an observational cross-sectional design. Data collection was done using a structured electronic survey. The data collection tool was a structured electronic survey. The findings of the study showed a statistically significant correlation between phone addiction and a decrease in academic performance among college students. The study also found that smartphone addiction is a time-waster for students, disrupting their sleep and causing stress. The authors emphasized the need for a comprehensive plan to direct students towards balanced smartphone use.

2.3 CONCLUSION

The literature review is an integration and consolidation of studies and research paper subjected or aligned to similar topics. It can be understood that the international and national studies regarding one of the most alarming situations in our society that is directly affecting the adolescents have been approached with utter sincerity and commitment to understand and find remedial measures to counter the problem. However, the regional study is restricted to a couple of investigators who have tried to shed some light to the gravity of the situation that is Smartphone use and addiction in

terms of the academic Achievement of the adolescents. Since similar studies have been carried out internationally and nationally but the importance of the problem has not been equally realized in the regional sector. Technology is an integral part of 21st century education system and it is promoted at an increasing frequency by any administration. One of the primary reasons is that technology is merged in almost all sectors and it is of vital importance that one is made aware of it from his or her early stages. Smartphone provides the adolescents an access to any desired field of study. Smartphone without internet services would be considered as one of its earliest predecessors with minimal features of importance. Internet acts as the bridge between the user and the mobile services like e-banking, e-shopping, e-business, e-learning, etc. and it's parallelly responsible to influence one's academic achievement. One of the major reasons for an individual to get himself acquainted with the latest developments is theFear of Missing Out (FoMO). The society is accelerating towards the future and anyone who is holding on to orthodox methods will be left out. The use of social media can be beneficial for the students who want to adapt themselves to the progressive and innovative approach for study and its use in such cases will not have any negative influence on his/ her academic Achievement. However, reckless and unguided use of Smartphone can prompt disastrous outcomes both psychologically and physically. Few studies have also highlighted the adverse effect of Smartphone on health of the individual. Studies also suggested that urgent attention should be given by the parents, teachers and the other members of the society to the most alarming condition in the today's generation youth i.e. Smartphone Addiction. The findings of similar studies have shown that uncontrolled use of Smartphone reduces the study time of the students which affects their academic performance. Also, excessive and prolonged use of Smartphone especially at midnight reduces the quality of sleep which makes them fatigue and severely affects their health which in turn have a negative effect on their attention and level of concentration. Therefore, the students should be counselled about the potential threats that exist in the digital world and how extensive use of it can compromise their academic Achievement.

CHAPTER-III

RESEARCH METHODOLOGY

3.1 INTRODUCTION

The genesis of research lies in the progress of human life. As man embarked upon the rod to progress his curiosity to know the happenings around him become very intense. The saga of development of man from ancient times to modern era is the result of research. Superstitions and some traditional beliefs in ancient times were used to be wrongly ascribed to knowledge.

Man, gradually came out of these beliefs by way of research and was drawn towards scientific knowledge. This scientific knowledge is nothing but the outcome of research. Man from the very beginning strived to understand the nature and the universe. He also observed harmony everywhere in the universe and tried to find out the causal relationship underlying this harmony. This is how the beginning of scientific research was made.

Thus, the scientific research has played a significant role for achieving human progress. The advances in research in the fields of physics, biology, social sciences and psychology have largely contributed to the creation of new knowledge, new inventions and new ideas as well as new methodologies for carrying out further research. The modern research is not continued to laboratories only but has made strides in every field of human life. The scientific research has been playing an important role in the progress and enrichment of education and educational research.

Scientific research is a systematic controlled empirical and investigation of hypothetical proposition about the presumed relations among natural phenomenon.

- F.M. Kerlinger (1978)

The research for knowledge through objective and systematic method of finding solution to a problem is research.

- C.R. Kothari (1993

Research is considered to be more formal systematic intensive process of carrying on the scientific method of analysis. It involves a more systematic structure of investigation usually resulting in some sort of formal record of procedures and a report of results or conclusion.

- John. W. Best (2009)

Scientific research is systematic, controlled, empirical and critical investigation of hypothetical propositions about the presumed relation among natural phenomenon. For any education problem: to collect the real facts or information to analyses it, to interpret it that is research. This chapter deals with the sampling details, variables, the research design, tests employed for the gathering data, procedure for conducting the study and the statistical methods to be used for analysis.

3.2 DESIGN OF THE STUDY

The design of the research is the actual blueprint of the procedure for the completion of various research steps and reaching valid conclusion.

3.2.1 Method

To achieve the objectives of the proposed study. The proper methodology is required to select an appropriate sample and tool as to get information from the students. It must be feasible, objective, reliable, well planned and well understood.

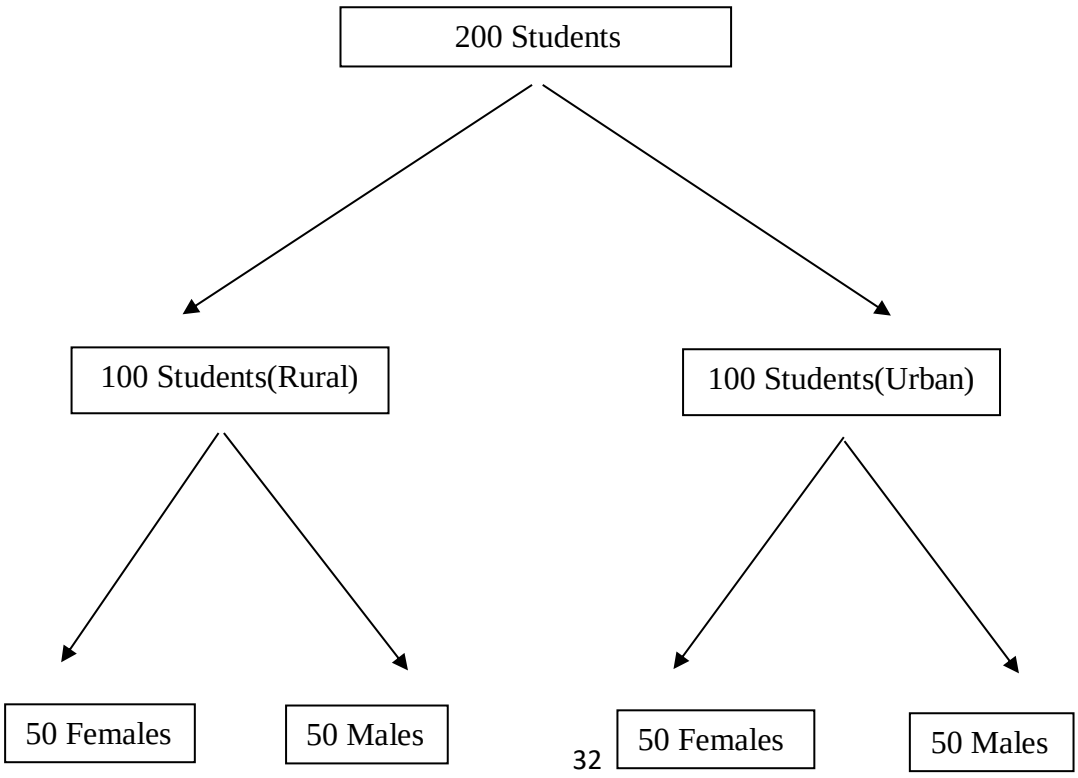
3.2.2 Population

Population refers to any collection of specified groups of human being or non-human entities such as objects, educational institutions, time units and geographical areas. The population of the current study consists of all the students enrolled in higher secondary classes in the 58 government and 206 private higher secondary schools in Jammu district. Population for the present study comprise of 165957higher secondary school's students in Jammu District. (Retrieved from: udiseplus.gov.in)

3.2.3 Sample

In the present study, a sample of 200 adolescents studying in high secondary schools have been selected through stratified random sampling. First of all, 4 government and 4 private schools have been selected randomly in which each school 25 students (12 girls and 13 boys) have been selected for collecting data. The detail of the sample has been given in the figure 3.1 and table 3.1 and 3.2.

Figure 3.1



Distribution of Sample

The details of the sample selected from 8 schools (Private and Government) affiliated to Jammu and Kashmir State Board of School Education have been given in the table 3.2 and 3.3

Table 3.1

Distribution of Sample for Government Higher Secondary Schools students

S. No.	**Name of the School**	**No. of Students Taken**	**No. of Females**	**No. of Males**
1.	Govt. Hr. Secondary school Chakrohi	25	12	13
2.	Govt. Model Hr. Secondary School Sai	25	13	12
3.	Govt. Boys Hr. Secondary School Bakshi Nagar Jammu	25	12	13
4.	Govt. Hr. Secondary School Simbal Camp	25	13	12
	TOTAL	100	50	50

Table 3.2

Distribution of Sample for Private Higher Secondary Schools students

S. No.	Name of the School	No. of Students Taken	No. of Females	No. of Males
1.	Mother India Sr. Secondary School Badyal	25	12	13
2.	Oriental Academy Sr. Secondary School Jammu	25	13	12
3.	BSF Sr. Secondary School, Jammu	25	12	13
4.	Twinkle Star Senior Secondary School Sai	25	13	12
	TOTAL	100	50	50

3.2.4 Variables of the Study:

Variables are those which may vary from person to person or situation to situation. The following variables have been involved for studies in the present research:

A) Independent Variables

The variables that are stable and unaffected by the other variables you are trying to measure. It refers to the condition of an experiment that is systemically manipulated by the investigator. In the study, the following independent variable are:

- Gender: - Males and Females
- Residential Area: - Urban and Rural
- Type of School: - Government and Private

B) Dependent Variables

The variables that depend on other factors that are measures these variables are expected to change as a result of an experimental manipulation of independent variables. In the study following are dependent variables.

- Smartphone Addiction

3.3 TOOL EMPLOYED AND THEIR DESCRIPTION

For the purpose of the accomplishment of objectives, the following tool of research have been used by the researcher

- *Smartphone Scale by Vijayshri and Ansari (2020)*

3.3.1 Smartphone Addiction Scale

Smartphone Addiction Scale was developed by Vijayshri and Ansari in 2020. The Smartphone addiction Scale has been developed for assessing different levels of smartphone addiction among students, the age Range is 14 to 24 years. It is used to get comprehensive knowledge about all factors which may be associated with Smartphone addiction. Smartphone addiction Scale has 23 items belonging to 6 dimensions of Smartphone addiction. The 6 dimensions are as follows:

A. Compulsion: It is an uncontrolled and irresistible urge to perform certain behaviour. These behaviors are persistent and repetitive which may or may not lead to pleasure.

B. Forgetfulness: It is a state of mind where the person is unable to store/ recall the information or he faces difficulty to input new information.

C. Lack of attention: It is state where a person is unable not concentrate, fail to be attentive and feels hard to listen to others and conversation.

D. Depression and anxiety: It is lowering the mood for a longer period of time, lacking interest in daily activities, numbness towards emotions, disturbed routine and pessimistic attitude towards society and the self while anxiety is the persistent fear and worry towards any situations or behavior.

E. Disturbed hunger and sleep: when regular pattern of hunger and sleep is disturbed; the person feels no hunger forget to taking meal, unable to sleep, waking up again and again at night are the disturbed pattern of hunger and sleep.

F. Social withdrawal: any person who avoids social gatherings; don't want communicate with family members, fan and relatives; wants to be alone facing social withdrawal.

Each dimensions have particular items belonging to it.

Table 3.3

Dimension wise distribution of items of tool

S. No.	Dimensions of Tools	Code	Items	Total No. of Items
1.	Compulsion	(D1)	1,5,10,16,20,21,23	07
2.	forgetfulness	(D1)	6,9	2
3.	Lack of attention	(D1)	7,19	2
4.	Depression and Anxiety	(D1)	2,13,17,22	4
5.	Disturbed hunger/sleep	(D1)	8,11,14,15	4
6.	Social withdrawal	(D1)	3,4,12,18	4
		Total		23

Distribution of Item for 6 Dimension of smartphone addiction

The presents scale was developed on the Likert Method, in which statements followed by several levels of agreements which are useful and practical means for determining one's opinion and attitude (likert,1932). The present 'Smartphone Addiction Scale' is a five-point Likert Scale these points are as follows: *Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree.*

Scoring Procedure

Table 3.4

Scoring procedure for of Smartphone addiction

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

The responses of the corresponding items were added generate dimension scores and summing- up all 23 items to generate overall Smartphone Addiction score. Thus, minimum possible scores of the score will be 23 and maximum 115. The higher score indicates high level of smartphone addiction and lower score indicates low level of Smartphone Addiction.

Reliability:

The Smartphone Addiction Scale was administered to 200 students (100 boys and 100 girls) studying in 11th class students of eight schools. The reliability of the present scale was computed through Cronbach's Alpha method. This method is most commonly used reliability coefficient i.e., Cronbach 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 high reliable.

Table 3.5

Reliability (Cronbach's Alpha) of Smartphone Addiction Scale.

Mean	Variance	Std. Deviation	Alpha Coefficient	No. of Items
57.97	199.050	14.108	.857	23

Validity

Smartphone addiction has been found to possess content validity as well as construct validity. For ensuring content validity the investigators confirmed content for the present scale was taken from the authentic sources and all items were covered all the six dimensions of Smartphone addiction scale. Thus, the through assessment of the scale by experts ensures all the items are related to the content of the Smartphone addiction which ensures that the scale has high content validity. To establish construct validity, quite few are having limitations as role of time and existence of subjectivity in subjects' response. To overcome these limitations, Exploratory factor analysis with Varimax rotation was used. Data screening was carried out in order to overcome to existence of multicollinearity (items that are highly correlated) and singularity (items that are perfectly correlated) in the scales and fulfills requisite requirements.

Norms

Standard (z- Score) norms for boys and girls have been given.

Table 3.6

Standard or z- Score Norms for the interpretation of the Smartphone Addiction:

Sr. No.	Range of Raw Scores	Range of z- Scores	Grade	Level of Smartphone Addiction
1.	**88 and above**	**+2.01& above**	**A**	**Very High Level of Addiction**
2.	81 to 87	+1.26 to +2.00	B	High Level of Addiction
3.	**66 to 80**	**+0.51 to +1.25**	**C**	**Above Average Level of Addiction**
4.	51 to 65	-0.50 to +0.50	D	Average Level of Addiction
5.	**40 to 50**	**-1.25 to -0.51**	**E**	**Below Average Level of Addiction**
6.	29 to 39	-2.00 to – 1.26	F	Low Level of Addiction
7.	**28 and below**	**-2.01& below**	**G**	**Very Low Level of Addiction**

As per the manual, the raw score can be used as such for the interpretation. The formula of mean and standard deviation can be used. High scores denote higher level of Smartphone addiction of students and contrary to it; low scores refer to low level of Smartphone addiction of students. However, if the nature of the data demands, it can be converted into the Standard scores as over the requirements.

3.3.2 Academic Achievement

The data for analysis of academic achievement of students are the total marks obtained by the sample in the secondary school examination in the Jammu district. The data was analyzed taking total marks obtained each of the school subject, viz English, Hindi, Mathematics, Science and Social Studies.

3.4 ADMINISTRATION OF THE TOOLS

The researcher aimed to collect data from the students of classes XI towards the end of the academic session when they have become well-versed with their respective present classes so that it would help them to respond properly to the tool of the study. Hence, the researcher collected data in the months of December, 2022 and January, February 2023. The researcher obtained formal permission from the concerned authorities of Education wherever possible and from the school principals to collect data from the students. The concerned authorities and the principals were briefed about the purpose and objectives of the research. With the permission of the school

principals, the researcher got the opportunity to interact with the students for data collection.

Before starting the data collection, a proper rapport was established with the students. After that the researcher explained to them the purpose of collecting the data. The objectives of tool to be administered were clearly explained to the students. The researcher assured them that their identity and responses will be kept confidential and will not affect their examination results. The researcher gave proper instructions to fill the forms and also helped the students in responding to the first 2-3 items of each tool. The students were asked to respond to the tools honestly with a free and frank thought as the tool items did not have any right or wrong answers. The tools were administered in a single day wherever possible or in 2-3 days within the school itself. The researcher was assisted by a teacher or the supervisor of teachers in each school for proper administration of the tool. After collecting the data, the researcher thanked the principals, the persons who helped in the data collection and the sampled students for giving their time and cooperation in the data collection. Thus, in this manner the required data was collected for the study. After data collected through the administered of tool have been tabulated and coded in excel. The obtained data has been analyzed with the help of SPSS software.

3.5 STATISTICAL TECHNIQUES EMPLOYED

In the present study, the following statistical techniques were employed to test the research hypothesis:

1) Descriptive statistics i.e., Means and Standard Deviations for all variables were obtained.

2) Inferential Statistics i.e., t-test was applied to study the mean differentials.

CHAPTER-IV

DATA ANALYSIS AND INTERPRETATIONS

4.1 INTRODUCTION

Organization, analysis and interpretation are the important steps in the research process after data collection and reaching at the findings and conclusions to obtain significant picture out of initial information thus obtained. Before hand out for the purpose the mass of the data needs to be standardized and is required to keep in order, i.e. edited, classified and finally tabulated. Here editing stands for the checking of data collected for precision, usefulness and completeness; classifying here refers to dividing information into various categories, classes for further use; and tabulating stands for recording of classified substance into Mathematical terminology i.e., preparing and counting frequency tallies on which the information is collected. Studying the tabulated material in order to find out innate meanings or facts is the meaning of Analysis. It split down the obtainable composite factors into simpler ones and put the parts together in new agreements for the purpose of understanding. Data are worthless pile of facts which doesn't contain any statistical analysis. Main purpose of analysis is to find out the relationship between variables, group difference is seen, and determination of comparative consequence of autonomous variables on dependent ones leading to theory authentication which is obtained by logical grouping of data and with use of statistical technique. Followed by analysis another important part is interpretation which revolves around some important questions as what are the meaning and significance of original research problem, what is shown by results and hence interpretation must be done carefully, logically after obtaining the results and examining, keeping in mind the limitations of sample chosen, selection of tools used in study.

Analysis of Data

The present study has been conducted to study the Smartphone addiction of higher secondary school students in relation to their Academic Achievement. The data of 200 (100 male and 100 female) students was analysed by calculating multiple regression analysis, Pearson coefficient of correlation, product moment correlation besides the

descriptive statistics (mean and standard deviation). The obtained results are given in tables below.

4.2 RESULTS AND FINDINGS

The resulting data were analysed using statistical techniques namely t-test, and correlation.

Findings based on research objectives posed and followed by data analysis are given below:

4.2.1 Research Objective 1

To assess the levels of smartphone addiction among higher secondary school students.

Levels of smartphone addiction among higher secondary school students (N=200)

Table 4.1

Raw scores range	Frequency	Percentage	Level of smartphone addiction
<=HIGH	7	3.5	Very Low level of Addiction
30-39	9	4.5	Low Level of Addiction
40-50	26	13	Below Average Level of Addiction
51-65	79	39.5	Average Level of Addiction
66-80	41	20.5	Above Average Level of Addiction
81-87	7	3.5	High Level of Addiction
88 and above	31	15.5	Very High Level of Addiction
Total	200	100	

Table 4.1 shows assess the levels of smartphone addiction of higher secondary school students. The raw score range, levels of smartphone addiction, frequency and percentage of higher secondary school students had extremely very high, high, above average, average, below average, low, very low level of smartphone addiction is used. So, it can be observed from the table 4.1 that 15.5 % of the higher secondary school

have very high level of smartphone addiction, 3.5% of the higher secondary school have very high level of smartphone addiction, 20.5% of the higher secondary school have above average level of smartphone addiction, 39.5% of the higher secondary school have average level of smartphone addiction, 13% of the higher secondary school have below average level of smartphone addiction, 4.5% of the higher secondary school have low level of smartphone addiction and 3.5% of the higher secondary school have very low level of smartphone addiction

4.2.2 Research Objective 2

To study the difference in smartphone addiction of higher secondary school students with respect to their gender (Male and Female).

To study the difference in smartphone addiction of the male and female students studying in higher secondary schools; mean, standard deviation, t-value have been calculated. The resulting data have been shown in the table 4.2

Table 4.2

Values of N, Mean, S.D., Standard Error Mean and t for smartphone addiction of higher secondary school students with respect to their gender

Gender	N	Mean	Std. Deviation	Std. Error Mean	df	t	Level of Significance
Male	100	64.06	23.7	2.37	198	0.88	NS
Female	100	66.63	17.3	1.73			

Table4.2 shows the calculated value of t-test which has been employed to determine the significant difference in smartphone addiction of higher secondary school students with respect to their gender. The calculated t value i.e., 0.88 is less than the table value 1.96 at 0.05 level and also less than the table value 2.58 at 0.01 level, which indicates that there is no significant difference between smartphone addiction of male and female higher secondary school students. Therefore, the hypothesis No. 1 stating that there is no significant difference in the smartphone addiction of higher secondary school students with respect to their gender stands accepted.

4.2.3 Research Objective 3

To study the difference in smartphone addiction of higher secondary school students with respect to their type of school (Government and Private)

To study the difference in smartphone addiction of government and private higher secondary schools' students; mean, standard deviation, t-value have been calculated. The resulting data have been shown in the table 4.3

Table 4.3

Values of N, Mean, S.D., Standard Error Mean and t for smartphone addiction of higher secondary school students with respect to their type of school

Type of School	N	Mean	Std. Deviation	Std. Error Mean	df	t	Level of Significance
Government	100	71.45	23.3	2.33	198	4.41	Significant at 0.01 level
Private	100	59.24	14.9	1.49			

Table 4.3 shows the calculated value of t-test which has been employed to determine the significant difference in smartphone addiction of higher secondary school students with respect to their type of school. The calculated t value i.e., 4.41 is more than the table value 2.58 at 0.01 level. Thus, there is a significant difference between smartphone addiction of government and private higher secondary school students. Therefore, the hypothesis No. 2 stating that there is a no significant difference in the smartphone addiction of higher secondary school students with respect to their type of school stands rejected.

4.2.4 Research Objective 4

To study the difference in smartphone addiction of higher secondary school students with respect to residential area (Rural and Urban).

To study the difference in smartphone addiction of rural and urban higher secondary school students; mean, standard deviation, t-value have been calculated. The resulting data have been shown in the table 4.4

Table 4.4

Values of N, Mean, S.D., Standard Error Mean and t for smartphone addiction of higher secondary school students with respect to their residential area

Area	N	Mean	Std. Deviation	Std. Error Mean	df	t	Level of Significance
Rural	100	69.94	22.0	2.20	198	3.25	Significant at 0.05 level
Urban	100	60.75	17.6	1.76			

Table4.4 shows the calculated value of t-test which has been employed to determine the significant difference in smartphone addiction of higher secondary school students with respect to their residential area. The calculated t value i.e., 3.25 is more than the table value 1.96 at 0.05 level. Thus, there is significant difference between smartphone addiction of rural and urban higher secondary school students. Therefore, the hypothesis No.3 stating that there is no significant difference in the smartphone addiction of higher secondary school students with respect to their residential area stands rejected.

4.2.5 Research Objective 5

To study the difference in academic achievement of higher secondary school students with respect to their gender (Male and Female).

To study the difference in academic achievement of the male and female students studying in higher secondary schools; mean, standard deviation, t-value have been calculated. The resulting data have been shown in the table 4.5

Table 4.5

Values of N, Mean, S.D., Standard Error Mean and t for academic achievement of higher secondary school students in relation to their gender

Gender	N	Mean	Std. Deviation	Std. Error Mean	df	t	Level of Significance
Male	100	365.89	61.07	6.107	198	1.76	NS
Female	100	381.07	60.70	6.070			

Table4.5 shows that the calculated value of t-test which has been employed to determine the significant difference in academic achievement of higher secondary school students in relation to their gender. The calculated t value i.e.,1.76 is less than the table value 1.96 at 0.05 level and also less 2.5 at 0.01 level. Thus, there is no significant difference between academic achievement of male and female higher secondary school students. Therefore, the hypothesis No.4 stating that there is no significant difference in the academic achievement of higher secondary school students in relation to their gender stands accepted.

4.2.6 Research Objective 6

To study the difference in academic achievement of higher secondary school students with respect to type of their school (Government and Private).

To study the difference in academic achievement of the students studying in government and private higher secondary schools; mean, standard deviation, t-value have been calculated. The resulting data have been shown in the table 4.6

Table 4.6

Values of N, Mean, S.D., Standard Error Mean and t for academic achievement of higher secondary school students in relation to their type of school

Type of School	N	Mean	Std. Deviation	Std. Error Mean	df	t	Level of Significance
Government	100	384.64	60.1	6.01	198	2.67	Significant at 0.05 level
Private	100	362.32	60.5	6.05			

Table4.6 shows that the calculated value of t-test which has been employed to determine the significant difference in academic achievement of higher secondary school students with respect to their type of school. The calculated t value i.e.,2.67 is more than the table value 1.96 at 0.05 level. Thus, there is significant difference between academic achievement of government and private higher secondary school students. Therefore, the hypothesis No.5 stating that there is no significant difference in the academic achievement of higher secondary school students with respect to their type of school stands rejected.

4.2.7 Research Objective 7

To study the difference in academic achievement of higher secondary school students with respect to their residential area (Rural and Urban).

To study the difference in home environment of the rural and urban students studying in secondary schools; mean, standard deviation, t-value have been calculated. The resulting data have been shown in the table 4.7

Table 4.7

Values of N, Mean, S.D., Standard Error Mean and t for academic achievement of higher secondary school students with respect to their residential area

Area	N	Mean	Std. Deviation	Std. Error Mean	df	t	Level of Significance
Rural	100	372.56	62.0	6.20	198	0.21	NS
Urban	100	374.40	60.6	6.06			

Table4.6 shows that the calculated value of t-test which has been employed to determine the significant difference in academic achievement of higher secondary school students with respect to their area. The calculated t value i.e., 0.21 is less than the table value 1.96 at 0.05 level and also less 2.58 at 0.01 level. Thus, there is no significant difference between academic achievement of rural and urban higher secondary school students. Therefore, the hypothesis No.6 stating that there is no significant difference in the academic achievement of higher secondary school students with respect to their area stands accepted.

4.2.8 Research Objective 8

To study the relationship between smartphone addiction and the academic achievement of higher secondary school students.

To find the relationship between smartphone addiction and academic achievement of higher secondary schools' students, Pearson's Coefficient of correlation have been used. The resulting data have been shown in the table 4.8

Table 4.8

S.No.	Variables	Coefficient of correlation	Level of Significance
1.	Smartphone Addiction	+0.17	Significant at 0.05 level
2.	Academic Achievement		

Table4.8 represents that the calculated value of Pearson's correlation coefficient (r=0.17) which is negligible and is significant at 0.05 level for 196. Therefore, it can be inferred that significant relationship exists between two variables.

Hence the hypothesis No. 7 stating "There is significant relationship between smartphone addiction and academic achievement among higher secondary school students" is rejected.

CHAPTER-V

FINDINGS, CONCLUSIONS, DISCUSSION, EDUCATIONAL IMPLICATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

5.1 INTRODUCTION

In the previous chapter the data have been analysed by using suitable statistical techniques and the results pertaining to the data have been presented and described. The findings can be generalized to the extent of representatives of the sample and methodology employed in the study. In this chapter, the results are discussed to show how these findings are concurrent with some of the empirical studies already conducted in the field. At places, some of the observations do not concur with the findings of the same investigators. Keeping the major findings in view, the educational implications of the study have been worked out. But these findings and implications do not fit in all the concerns of the study. As such some suggestions have been given for further research. The chapter is therefore devoted to focusing the conclusions, discussion of results of the study and for indicating their implications and suggestions for further research. An attempt has been made to examine critically the obtained results in the light of the foregoing studies and various hypotheses proposed in the present study. Before discussing the results there are a couple of points which need to be clarified and explained.

5.2 MAJOR FINDINGS OF THE STUDY

5.2.1 Research Objective 1

To assess the levels of Smartphone addiction of higher secondary school students.

To assess the levels of Smartphone addiction of higher secondary school students. The present study revealed from the table 4.1 that 19 % of the higher secondary school have very high level of smartphone addiction, 73% of the higher secondary school have average level of smartphone addiction and 8 % of the higher secondary school have low level of smartphone addiction.

5.2.2 Research Objective 2

To study the difference in smartphone addiction of higher secondary school students with respect to their gender (Male and Female).

In this study, result shows that there is no significant difference in smartphone addiction of higher secondary school students with respect to their gender difference, *t*-test was used. The calculated value 't' is 0.88 which is not significant at both 0.05 level and 0.01 level. Hence hypothesis No.1 stating "There is no significant difference in the smartphone addiction of higher secondary school students with respect to their gender" is accepted.

5.2.3 Research Objective 3

To study the difference in smartphone addiction of higher secondary school students with respect to their type of school (Government and Private)

In this study, result shows that there is significant difference in smartphone addiction of higher secondary school students with respect to their type of school in which the mean value of government higher secondary school students (71.45) has been found to be higher than the private higher secondary school students (59.24) and the calculated value 't' is 4.41 which is significant at both 0.05 level and 0.01 level. Hence hypothesis no. 2 stating "There is significant difference in the smartphone addiction of higher secondary school students with respect to their type of school i.e., government and private" is rejected.

5.2.4 Research Objective 4

To study the difference in smartphone addiction of higher secondary school students with respect to their residential area (Rural and Urban)

In this study, result shows that there is significant difference in smartphone addiction of higher secondary school students with respect to their residential area in which the mean value of students living in rural areas (69.94) has been found to be higher than the students living in urban areas (60.75) and the calculated 't' value is 3.25 which is significant at 0.05 level. Hence hypothesis No. 3 stating "There is significant difference

in the smartphone addiction of higher secondary school students with respect to their residential area" is rejected.

5.2.5 Research Objective 5

To study the difference in academic achievement of higher secondary school students with respect to their gender (Male and Female)

In this study, result shows that there is no significant difference in academic achievement of higher secondary school students with respect to their gender difference, t-test was used. The calculated 't' value is 1.76 which is not significant at both 0.05 level and 0.01 level. Hence hypothesis No.4 stating "There is no significant difference in academic achievement of higher secondary school students with respect to their gender" is accepted.

5.2.6 Research Objective 6

To study the difference in academic achievement of higher secondary school students with respect to their type of school (Government and Private)

In this study, result shows that there is significant difference in academic achievement of higher secondary school students with respect to their type of school in which the mean value of government higher secondary school students (384.64) has been found to be higher than the private higher secondary school students (362.32) and the calculated 't' value is 2.67 which is significant at 0.05 level. Hence hypothesis no.5 stating "There is significant difference in the academic achievement of higher secondary school students with respect to their type of school" is accepted.

5.2.7 Research Objective 7

To study the difference in academic achievement of higher secondary school students with respect to their residential area (Rural and Urban)

In this study, result shows that there is no significant difference in academic achievement of rural and urban of higher secondary school students with respect to their residential area, t-test was used. The calculated value 't' is 0.21 which is not significant at both 0.05 level and 0.01 level. Hence hypothesis No.6 stating "There is no significant

difference in the academic achievement of higher secondary school students with respect to their residential area" is accepted.

5.2.8 Research Objective 8

To study the relationship between smartphone addiction and the academic achievement of higher secondary schools' students

To study the relationship between smartphone addiction and the academic achievement of higher secondary school students, Pearson's Coefficient of correlation was used. The calculated value of Pearson's correlation coefficient (r=+0.17) which is negligible and is significant at 0.05 level for 196. Therefore, significant relationship exists between the two variables.

Hence hypothesis no. 7 stating "There is significant relationship between smartphone addiction and academic achievement among higher secondary school students" is rejected.

5.3 CONCLUSION AND DISCUSSION

On the basis of interpretations of the results drawn in the present study the investigator lays down the following conclusions. The results of the research can be summarized as under:

- To assess the levels of Smartphone addiction of higher secondary school students. The present study revealed that 73% of the higher secondary school students have average level of smartphone addiction

- The present study revealed that there is no significant difference between male and female higher secondary school students in smartphone addiction. The reason may be less use of smartphone in higher secondary school students and better their academic achievement. Study by Bhutia and Tariang (2016) also reported similar results indicating that gender has no impact on smartphone addiction. Gangadharan, Borle, and Basu (2022) reported results contrary to the present study.

- The present study revealed that there is significant difference in smartphone addiction of students studying in government and private higher secondary schools.

- The present study revealed that there is significant difference in smartphone addiction of students studying in rural and urban higher secondary schools.

- The present study revealed that there is no significant difference between male and female higher secondary school students in academic achievement

- The present study revealed that there is significant difference in the academic achievement of students studying in government and private higher secondary schools. Kumar and Yadav (2015) also reported similar results indicating that gender has no impact on academic achievement.

- The present study revealed that there is no significant difference between in academic achievement of students studying in rural and urban higher secondary schools.

- The present study revealed that there is significant relationship between smartphone addiction and academic achievement. Alharbi, Alshammari and Mohammad (2022) also reported similar results indicating that significant co relation between smartphone addiction and academic achievement.

5.4 EDUCATIONAL IMPLICATIONS

In educational research the selection of the problem is generally conditioned by the scope of improvement in the field of education. The present study was concerned on the smartphone addiction of higher secondary students in relation to their academic achievement. The findings of this study can become a source of information and guidance to the parents, teachers and students to use smartphone in a proper way. Parents and their teachers can understand the psychology of their children and broaden their understanding. From the present study, very important implications emerged and these are as under:

1. This study found that smartphone addiction can be predicted on the basis of academic achievement. Schools should raise awareness among students, parents, and teachers about the negative impacts of smartphone addiction on academic performance. Various programs can be designed to educate students from the risks of smartphone addiction and how to use their phones in a responsible manner in educational institutions.

2. This study is also useful for collaboration with parents and guardians is crucial in addressing smartphone addiction. Schools should engage parents in discussions about responsible smartphone use, provide resources for setting limits on screen time at home, and encourage open communication between parents and teachers.

4. The study would be helpful to which should monitor and regulate the use of smartphones in classrooms and during study time to minimize distractions and improve academic performance. Teachers can also encourage students to use their phones for educational purposes, such as accessing online resources and educational apps.

5. Schools can create a supportive environment where students feel comfortable seeking help for smartphone addiction. This study can involve providing counselling services, organizing support groups, or partnering with external organizations that specialize in addiction treatment.

6. Schools should prioritize promoting digital well-being among students. This can include educating students about healthy smartphone use, setting guidelines for responsible phone usage, and encouraging breaks from screens.

7. Schools should provide support and counselling services to students who are struggling with smartphone addiction. These services can help students overcome addiction and improve their academic performance.

8. Schools should collaborate with parents to address smartphone addiction among students. Parents can be encouraged to monitor their children's smartphone use and set limits on screen time.

9. School should provide learning environment which become very conducive where students are more interactive in the classroom.

5.5 SUGGESTIONS FOR FURTHER RESEARCH

Research in any branch of knowledge is never closed book. There is always persistent need of finding solutions to new problem and testing the variety of the solutions to older problems. There is no piece of meaningful research that does not provide clues for further experience; the solution of one problem tends to indicate many other unsolved problems. The present study has brought out the how home environment plays important role in moral judgement. It has examined the impact of gender, residential background and type of school on moral judgement and home environment. These results suggest further research to be carried out as follows:

- The present study cannot be called final and comprehensive. More work can be done on different samples of different age groups students.
- The present study focusses on smartphone addiction of higher secondary school students with respect to their academic achievement. Further study could be focussed on smartphone addiction of higher secondary school students with respect to their mental health.
- Further studies can be conducted to know the effect of smartphone addiction on academic achievement of higher secondary school students.
- The present study is confined to Jammu district only. Similar study can be undertaken in other districts also.

SUMMARY

TOPIC: STUDY OF SMARTPHONE ADDICTION OF HIGHER SECONDARY SCHOOL STUDENTS IN RELATION TO THEIR ACADEMIC ACHIEVEMENT

SUPERVISOR
Dr. Bindu Dua
(Assistant Professor)

INVESTIGATOR
Gunjan Bharti
M.Ed. Sem-IV
Roll No. 2101020

INTRODUCTION

Technological advancement and globalization have changed life, and this boom in technologies has changed our orientation towards these electronic gadgets. Among all electronic gadgets, a smart-phone is the most accepted and widely used device and is comparatively easy to afford. In today's time, there are 5 billion people who own smart-phones, and this number is increasing rapidly. The smart-phone has become the most integral and intimate part of our lives. On an average, 56% of children between the ages of 8-12 get their first smart-phone and the population falling under the age group of 18-29 has 100% ownership of smart-phone, and 79% of them can't be without their devices for more than an hour. In this technologically advanced 21st century, people of every walk of life use mobile phones (also known as cell phones) and young adults are that group which uses mobile phones to a large extent. The use of mobile phones is not limited to communication only, people use it for entertainment, accessing the internet for seeking information, passing time, playing games, photo and video recording, listening to music, a way of showing status and finding an identity etc. So, some users feel insecure to have a life without it and slowly and gradually they develop an addiction to it. The transformative technology of mobile phone usage heads to addiction. Life without a mobile phone is not easier for some people, there is a scope for belief that the use of mobile phone may possibly and subsequently lead to an addiction and addiction of mobile phone can substantially influence on academic achievement of a student. Education has become a pressing issue, because of the importance of it and eventually its impact on social life. Academic achievement has become a matter of great concern

among the masses and especially among teachers, parents and guardians as they think that depending upon academic achievement; students get selected for a better course of study and eventually for a decent job with handsome salary

SMARTPHONE ADDICTION

"Addiction is an adaptation. It is not you; it Is the cage you live in"

- Johann Hari

According to the American Psychiatric Association "Addiction is a complex condition, a brain disease that is manifested by compulsive substance use despite harmful consequences." The two properties that characterize all addictive stimuli are that they are reinforcing (they increase the likelihood that a person will seek repeated exposure to them) and intrinsically rewarding (they are perceived as being inherently positive, desirable and pleasurable). Over time people with addiction build up a tolerance, meaning they need larger amounts to feel the effects. People become addicted to something for a variety of reasons like, feeling of pleasure, relieve stress, improvement of performance, curiosity, peer pressure, sometimes symbol of status and fashion, loneliness, breakups, job loss and much more. Reason for addiction depends upon persons' circumstances and their mental health. In simple words, addiction is when the body and mind badly want or need something it is called being addicted or being an addict. People do not have to be addicted only to alcohol or gambling, here some other examples of well-known addictions are: Tobacco, Nicotine and Caffeine Shopping Workaholic Illegal and Prescription Drug Sexual in Nature Eating Disorders Exercise Relationship Perfectionism Thriller Seeking Types of Addiction Watching Television and Playing Video Games, Internet Surfing Social Networking Sites Line.

Smartphone overuse/ addiction (or problematic mobile phone use) is a dependence syndrome which can be seen among certain mobile phone users. Smartphone addiction, also referred to as problematic mobile phone use, is a type of behavioral addiction which is somewhat considered as similar to that of Internet addiction, tv addiction, shopping, or video game addiction leading to serious health hazard or danger to one's psychological health and wellbeing. Terms such as "Smartphone addiction" (Ahmed, Qazi & Perji, 2011) "mobile phone addiction". A Smartphone addict uses the cell phone for an long span of time in order to achieve pleasure and satisfaction; repeated

unsuccessful attempts to control or stop using the cell phone; feels lost and blank , impatient, apprehensive, irritable, low, or prickly when attempting to curb the use of cell phone; engaged in the cell phone longer than usual ; conceal from family and friends etc. to disguise or deceive the extent of engagement with the cell phone; and using the cell phone as a means of breaking away and ignoring the existing problems or to get temporary relieve from the feeling of seclusion, nervousness, solitude, and dejection

Mobile phone or smart-phone addiction leads to an unhealthy life and can result from poor academic performance. Like every other addiction, this behavioral addiction does not only hamper an individual's cognition but other core areas like education, career, relations, and self, thus, need dire attention and research.

A. **Compulsion:** It is an uncontrolled and irresistible urge to perform certain behavior. These behaviors are persistent and repetitive which may or may not lead to pleasure.

B. **Forgetfulness**: It is a state of mind where the person is unable to store/ recall the information or he faces difficulty to input new information.

C. **Lack of attention**: It is a state where a person is unable to concentrate, fails to be attentive and feels hard to listen to others and conversation.

D. **Depression and anxiety:** It is lowering the mood for a longer period of time, lacking interest in daily activities, numbness towards emotions, disturbed routine and pessimistic attitude towards society and the self while anxiety is the persistent fear and worry towards any situations or behavior.

E. **Disturbed hunger and sleep:** When the regular pattern of hunger and sleep is disturbed; the person feels no hunger forget to take a meal, unable to sleep, waking up again and again at night are the disturbed patterns of hunger and sleep.

F. **Social withdrawal:** Any person who avoids social gatherings; doesn't want to communicate with family members, fans and relatives; wants to be alone facing social withdrawal.

Characteristics of Smartphone Addiction

Based on increasing No. Reports from around the globe completed on this particular topic is an interpersonal phenomenon about addiction to one's cell phone & that usually impacts folks that are younger. Regular & daily use of smartphones causes it to be difficult to draw a line in among abnormal behavior & normal behavior. Because of this, when determining this particular issue, it's essential to look at qualitative & quantitative facets of connection one has with his/her cell phone. Originating from quantitative point of view, we usually discuss _cell telephone mania' when individual can make as well as gets total of about 300 calls or messages one day. Nevertheless, quantitative problems may also be shown in conditions of long conversation with some people, or maybe too much use might be associated with abuse of various other functions in cell phone.

In addition, besides measures of correspondence or perhaps time spent on PDA, we can speculate dependence on phones when individuals show few of accompanying side effects.

- Dedicating a great deal of your opportunity to exercises in regards to phone (calls, instant messages, computer games, interviews, utilization of camcorder for video cuts just as pictures, etcetera) finished exclusively or maybe related alongside different exercises.

- The target encounters sensation of dizziness, migraine, dizziness eye or perhaps ear hurt or whatever other real actual issues which could be in regards to not dealing with advanced cell.

- Extreme love appeared towards mobile cell phones that is fundamentally seen through not wanting to move miles from the phone, perhaps for little amounts of time.

- The target tends to be apprehensive, alarms or possibly experiences unsavoury sentiments in like manner if the phone's electric battery is dead or regardless of whether the phone doesn't work.

- The target is slanted to utilize PDA as instrument of order in loving & wistful connections.

- Tendency to utilize mobile cell phone to keep up weaknesses & stresses in line (dread of isolation, particular fears, mental breakdowns).
- Tendency to take more noteworthy than only one phone, oftentimes working with singular lines for different utilizations (work/companions).
- The objective is in act of keep the phone on around evening time to emerge at check just as night for calls or correspondences.
- The casualty spends considerably more money on embellishments than phone costs.
- The target has no force battery every day.
- The target answer call just as text while driving.

Academic Achievement

Educational achievement is one of the important elements of the whole educational system. It is considered as a major benchmark of education. Educational Achievement is the product of the teaching cum learning context provided to the students in educational institutions which will determine by the grads or marks obtained in this specific examination. In general, it shows the learning outcome of learners' which is essential for a series of planned activities.

Academic achievement is the process of judging the performance of the students' ability. It is useful information granting decision alternatives. Academic achievement is both a quantitative and qualitative aspect. It is not just a testing programme, but it is the process where the researcher arrives at a value judgment. Therefore, it provides better scope and flexibility. The gradation system, the rating system, in place of percentage, the choice-based credit system (CBCS) etc. are very useful and support concepts of academic achievement. Therefore, the role and significance of academic achievement have a greater impact on the education system. Students' academic achievement should reflect their abilities, performance, knowledge, understanding, belief etc.

A students' academic performance or academic achievement related with educational Achievement of the student at the end of an institutional scheme as well as competent

or confidence level showing in the school subjects. Generally, achievement is the progressive manner or calibre in the performance of the student relating to the subjective and objective skill. Therefore, academic achievement comprises cognitive domain. The term academic achievement has been explained by different persons in different ways.

Stagner (1962) defined achievement "as a degree of proficiency or progress made by pupils in the mastery of school subjects".

According to Crow and Crow (1969) "achievements refer to the extent to which a learner gets profit from instructions in a given area of learning i.e., achievement is reflected by the extent to which knowledge or skill has been acquired by a person from the training imparted to him".

Generally, in India academic achievement depends on the concept of proving marks or greed's by their respective subject teacher. The general parameter shows academic achievement through the reflection of grade, 20 percent shows academic achievement through the reflection of grade, percentage or marks on a student's report card. The level of academic achievement considers students' subjective knowledge depends on academic achievement. The quality of teaching, the modification of behavior considers academic achievement. Academic achievement helps in bringing desirable changes in behavior. It also assists in the achievement of teaching-learning objectives. It also assists in the proper development and growth. Academic achievement involves reconstruction of experiences. It is stored in our learning experience, stored in the form of past experience. It also helps to promote, or promotion of the next class depends on educational achievement that means educational achievement is the benchmark or indexes of the further success. As Singh (1976) stated that "academic achievement is a very complex variable, a resultant of diverse factors of different kinds intellectual and non-intellectual, acting and interacting in a variety of ways. Intelligence, personality factors and socio-economic background are some of the factors which are considered to be having an influence on academic achievement". The level of performance is the key factor for personal development. Generally, expectations, parents, family members, friends and peer members desire that the person seems to be in the highest position achieved in his life. Students' cognitive domain, affective domain and psychomotor domain are directly associated with educational achievement. For this reason, the

cognitive achievement comprises that means intelligence, knowledge, inductive thinking capacity, deductive thinking capacity, problem solving capacity, application skill, analysis skill, comparison skill, interaction skill, learning ability, acquisition of skill, convergent thinking, divergent thinking, transformation, implication skill, analysing skill, vocabulary skill etc. The effective domain also comprises receiving skill, skill of value judgment, conceptualization capacity, characterization, organization etc. at last the psychomotor domain consists of imitation, manipulation, precession, articulation, and naturalization. These factors can be summarized as below- students' physical growth that means physical factors, tendency, behavior, self-actualization, personality, environment, heredity, motivation, attention, transfer of learning, remembering, intelligence, maturity, emotional development, emotional maturity, emotional intelligence, thinking capacity, reasoning ability, problem solving ability, adjustment capacity, realistic perception, flexibility of behavior, awareness of one's own strength and limitation. Satisfaction of the basic need, physical and mental development, growth and development with internal organ, satisfaction of the physiological needs, satisfaction of material need, home and family adjustment, the choice of work, co-curricular activities, peer group interaction, approach towards life, mental health, social environment, knowing the self, outlook of life, rational thinking, transformation etc. Academic achievement may be a ranking system where students' performance compares with other students' performance on a numerical basis. Where with the help of percentage or academic score the researcher can say one student performs outstanding than another. In a general situation in a standardized classroom few students will be outstanding or genius. On the other hand, few students may be called as slow learners and the remaining students will be average achievers. It is always a shocking incident where teachers provide a unique curriculum, unique teaching method instead of a significant difference from one student to other students. It is noticeable that out of several reasons the psychological factors play a significant role for this difference. In today's competitive world academic 23 achievement will be an important benchmark where opportunity will provide those students who got the highest percentage in his academic achievement. Considering all aspect i.e., physical, mental, emotional and social only institution gives priority only to the academic achievement

Factors of Academic Achievement:

Various experts have explained numerous factors for academic achievement of an individual like his personality, intellectual ability, environment etc. such factors seem to come under two generals.

- ❖ Intellectual Factor
- ❖ Non-Intellectual Factor.

Intellectual factor**:** An individual is said to be intelligent in proportion to his success in general life situations. The term intelligence is used to denote power or capacity of an individual. The nature of intelligence was first introduced by Sir Francis Galton in his book "Hereditary Genius" intelligence was reflected by hereditary traits.

According to Thorndike (1914), "intelligence may be defined as the power of good responses from the point of view of truth or fact"

Jean Piaget (1952), defined "intelligence is the ability to adapt to one's surroundings".

Intelligence should be understood because the mentality or psychic energy offered with a private person at a specific time in a very particular state of affairs. Keeping of those basic factors in mind the distinctive definition as a form of motive, among the kind of mental skills or psychological feature skills, offered with a personal that enables him to handle his setting in terms of adaptation to face a noble state of affairs or a different challenge as effectively as potential

Non- intellectual factor: It can be found that the lack of intellectual skill it is impossible to achieve high scholastic performance but at the same situation the superior intelligent person cannot ensure always high academic achievement. In the past many studies and scientific investigation have given explicit reports that even students with greater intelligence are underachievers while few students with average intelligence achieve more than that of an intelligent person. That's why researchers who have tried to build the association between intellectual ability and scholastic attainment have found only a moderate correlation. That's why the importance of non-intellectual factor is considerable. For a satisfactory performance a minimum level of intelligence is necessary for academic achievement side by side some favourable non-intellectual

Here, therefore an attempt has been made to discuss some of the following non-intellectual factors, which are likely to affect academic achievement.

(A) Personality Factor.

(B) Socio-Economic Background Factor.

NEED AND SIGNIFICANCE OF THE STUDY

Keeping in contact through multimedia and mobile phones in social life starts in childhood in most parts of the world (Karaaslan & Budak, 2012). Smartphones as a new mobile technology that change the patterns of social life eliminate social boundaries and existing forms. Technology age has brought mobile phones into a state of significance and it has a great effect on the social and emotional development of adolescents. During the transition stages from childhood to adolescence, the use of media increases (Rideout et al., 2010). Most teenagers spend their time on electronic media platforms (Willemse et al., 2012). These technological devices, which are extremely popular among teenagers, also cause them to change their lifestyles and differ their way of establishing social relations; as a result, they restrict their lives within the borders of this technological world. However, teenagers think that the use of technology, especially mobile phones, improves their social status. It is well known that mobile phones are also receiving worldwide attention leaving no stages of human development untouched in the present time. Young adults are one of those groups who use it to the large. They are the future of a nation. As such, mobile phones are also taking a prime place while discussing their academic achievement, either good or bad. Researchers have also given attention to cell phone use and its impact on academic achievement, but they have not given much attention to cell phone addiction, which is a complex issue and it has an interaction with academic achievement. Therefore, they feel more attached to them (Yilmaz, Sar & Civan, 2015). Kim et al. (2012) reported that adolescents have the tendency to concentrate while using media and can develop more habitual usage problems than adults when they are introduced to a new type of media. Besides, teenagers are more prone to smartphone addiction compared to adults (Kwon, & Yang, 2013). In addition, smart phone use is a dominant and defining characteristic of this generation of higher secondary students and often occurs during class time, while completing homework, and studying. Although young individuals use smart phones and

tablet computers mostly for accessing the Internet, social networking, listening to music and watching videos, mobile technologies have started to be used formally and informally in educational activities. Mobile devices are particularly preferred for data storage, course materials, e-books, timetables and reaching information (Sarrab, 2015). This research will be helpful for students, teachers and parents in prevention and care of students affected with overuse of social networking and smartphones due to which their academic achievement is affected. This research will also be helpful in monitoring and managing children's time limit, visiting sites, conversations etc.

STATEMENT OF THE PROBLEM

A STUDY OF SMARTPHONE ADDICTION OF HIGHER SECONDARY SCHOOL STUDENTS IN RELATION TO THEIR ACADEMIC ACHIEVEMENT.

OPERATIONAL DEFINITIONS

Smartphone Addiction

Smartphone overuse/ addiction (or problematic mobile phone use) is a dependence syndrome which can be seen among certain mobile phone users. Smartphone addiction, also referred to as problematic mobile phone use. In the present study, Smartphone Addiction has been by assessed by tool Smartphone Addiction scale by Vijayshri and Ansari (2020).

Higher Secondary Students

In the present study, it refers to students studying in 11^{th} class in government and private schools of Jammu district.

Academic Achievement

In the present study academic achievement refers to the marks obtained by the students in the 10^{th} class.

OBJECTIVES OF THE STUDY

1 To assess the levels of smartphone addiction among higher secondary school students.

2 To study the difference in smartphone addiction of higher secondary school students with respect to their gender (Male and Female).

3 To study the difference in smartphone addiction of higher secondary school students with respect to their type of school (Government and Private).

4 To study the difference in smartphone addiction of higher secondary school students with respect to their residential area (Rural and Urban).

5 To study the difference in academic achievement of higher secondary school students with respect to their gender (Male and Female).

6 To study the difference in academic achievement of higher secondary school students with respect to their type of school (Government and Private).

7 To study the difference in academic achievement of higher secondary school students with respect to their residential area (Rural and Urban).

8 To establish the relationship between smartphone addiction and academic achievement of higher secondary school students.

HYPOTHESES OF THE STUDY

1. There is no significant difference in smartphone addiction of higher secondary school students with respect to their gender (Male and Female).

2. There is no significant difference in smartphone addiction of higher secondary school students with respect to their type of school (Government and Private).

3. There is no significant difference in smartphone addiction of higher secondary school students with respect to their residential area (Rural and Urban).

4. There is no significant difference in academic achievement of higher secondary school students with respect to their gender (Male and Female).

5. There is no significant difference in academic achievement of higher secondary school students with respect to their type of school (Government and Private).

6. There is no significant difference in academic achievement of higher secondary school students with respect to their residential area (Rural and Urban).

7. There is no significant relationship between smartphone addiction and academic achievement of higher secondary school students.

POPULATION OF THE STUDY

Population refers to any collection of specified groups of human being or non-human entities such as objects, educational institutions, time units and geographical areas. The population of the current study consists of all the students enrolled in higher secondary classes in the 58 government and 206 private higher secondary schools in Jammu district. Population for the present study comprise of 165957 higher secondary school's students in Jammu District. (Retrieved from: udiseplus.gov.in)

SAMPLE OF THE STUDY

In the present study, a sample of 200 adolescents studying in high secondary schools have been selected through stratified random sampling. First of all, 4 government and 4 private schools have been selected randomly in which each school 25 students (12 girls and 13 boys) have been selected for collecting data.

TOOL USED

For the purpose of the accomplishment of objectives, a standardized tool namely Smartphone Addiction Scale by Vijayshri and Ansari (2020).

Smartphone Addiction Scale was developed by Vijayshri and Dr. Ansari in 2020. The Smartphone addiction Scale has been developed for assessing different levels of smartphone addiction among students, the age Range is 14 to 24 years. It is used to get comprehensive knowledge about all factors which may be associated with Smartphone addiction. Smartphone addiction Scale has 23 items belonging to 6 dimensions of Smartphone addiction. The 6 dimensions are as Compulsion, Forgetfulness, Lack of Attention, Depression and Anxiety, Disturbed Hunger and Sleep and Social Withdrawal.

RESULTS OF THE STUDY

- The results indicate that 19 % of the higher secondary school have very high level of smartphone addiction, 73% of the higher secondary school have average level of smartphone addiction and 8 % of the higher secondary school have low level of smartphone addiction. Thus, it can be concluded that the majority of the higher secondary school students have an average level of smartphone addiction.

- The result shows that there is no significant difference in smartphone addiction of higher secondary school students with respect to their gender difference. The calculated *'t'* value is 0.88 which is not significant at both 0.05 level and 0.01 level. Hence hypothesis No.1 stating "There is no significant difference in the smartphone addiction of higher secondary school students with respect to their gender" is accepted.

- The result shows that there is significant difference in smartphone addiction of higher secondary school students with respect to their type of school in which the mean value of government higher secondary school students (71.45) has been found to be higher than the private higher secondary school students (59.24) and the calculated value *'t'* is 4.41 which is significant at both 0.05 level and 0.01 level. Hence hypothesis no. 2 stating "There is significant difference in the smartphone addiction of higher secondary school students with respect to their type of school i.e., government and private" is rejected.

- The result shows that there is significant difference in smartphone addiction of higher secondary school students with respect to their residential area in which the mean value of students living in rural areas (69.94) has been found to be higher than the students living in urban areas (60.75) and the calculated *'t'* value is 3.25 which is significant at 0.05 level. Hence hypothesis No. 3 stating "There is significant difference in the smartphone addiction of higher secondary school students with respect to their residential area" is rejected.

- The result shows that there is no significant difference in academic achievement of higher secondary school students with respect to their gender difference. The calculated *'t'* value is 1.76 which is not significant at both 0.05 level and 0.01 level. Hence hypothesis No.4 stating "There is no significant difference in

academic achievement of higher secondary school students with respect to their gender" is accepted.

- The result shows that there is significant difference in academic achievement of higher secondary school students with respect to their type of school in which the mean value of government higher secondary school students (384.64) has been found to be higher than the private higher secondary school students (362.32) and the calculated *'t'* value is 2.67 which is significant at 0.05 level. Hence hypothesis No.5 stating "There is significant difference in the academic achievement of higher secondary school students with respect to their type of school" is rejected.

- The result shows that there is no significant difference in academic achievement of rural and urban of higher secondary school students with respect to their residential area. The calculated *'t'* value is 0.21 which is not significant at both 0.05 level and 0.01 level. Hence hypothesis No.6 stating "There is no significant difference in the academic achievement of higher secondary school students with respect to their residential area" is accepted.

- To study the relationship between smartphone addiction and the academic achievement of higher secondary school students. The calculated value of Pearson's correlation coefficient (r=+0.17) which is negligible and is significant at 0.05 level for 196. Therefore, significant relationship exists between the two variables. Hence hypothesis no. 7 stating "There is significant relationship between smartphone addiction and academic achievement among higher secondary school students" is rejected.

DELIMITATIONS OF THE STUDY

- The present study has been delimited to the 200 higher secondary students from 4 government and 4 private school studying in 11^{th} class of Jammu district only.

- The present study has been confined to standardized tool namely:

Smartphone Addiction Scale by Vijayshri and Ansari (2020)

SUGGESTIONS FOR FURTHER RESEARCH

The following suggestions may be incorporated for further research:

- The present study cannot be called final and comprehensive. More work can be done on different samples of different age groups students.
- The present study focusses on smartphone addiction of higher secondary school students with respect to their academic achievement. Further study could be focussed on smartphone addiction of higher secondary school students with respect to their mental health.
- Further studies can be conducted to know the effect of smartphone addiction on academic achievement of higher secondary school students.
- The present study is confined to Jammu district only. Similar study can be undertaken in other districts also.

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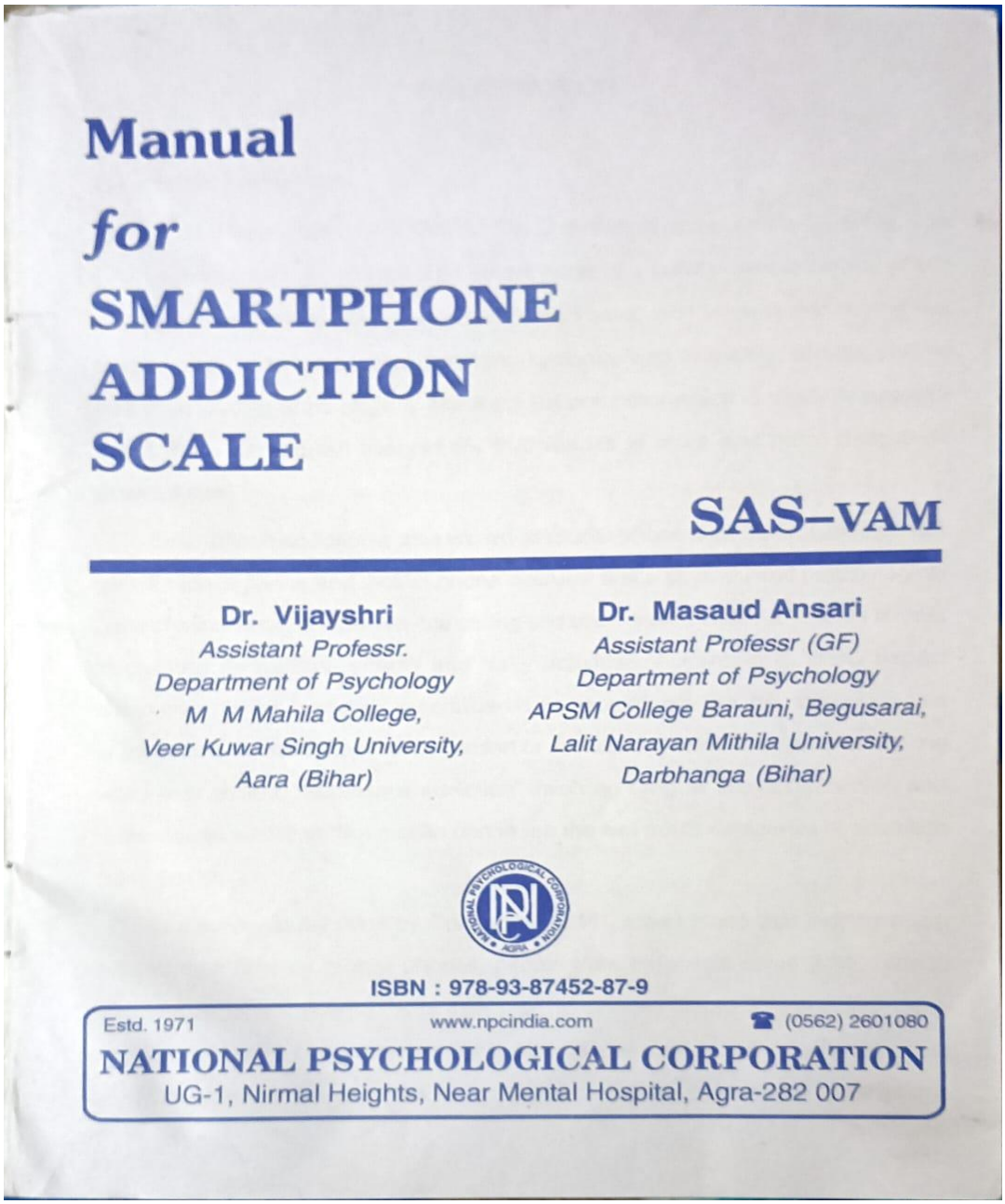
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Appendix-A



Manual

for

SMARTPHONE ADDICTION SCALE

SAS–VAM

Dr. Vijayshri
Assistant Professr.
Department of Psychology
M M Mahila College,
Veer Kuwar Singh University,
Aara (Bihar)

Dr. Masaud Ansari
Assistant Professr (GF)
Department of Psychology
APSM College Barauni, Begusarai,
Lalit Narayan Mithila University,
Darbhanga (Bihar)

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NATIONAL PSYCHOLOGICAL CORPORATION

UG-1, Nirmal Heights, Near Mental Hospital, Agra-282 007

INTRODUCTION

Theoretical Framework

Modern era is not only limited to the addiction of drugs and alcohol but also to the technology like Smartphone. Smartphone is a cellular mobile device which is designed to provide more comfort to human being with modern technology like touch screen, internet access, operating systems, web browsing, clicking photos and downloading apps etc. it is like a pocket computer which is easily accessible and can be carried out everywhere that results in more and more usages of Smartphone.

Smartphone addiction is also known as mobile phone dependency, problematic use of mobile phone and mobile phone overuse. It is a physical and psychological state of mind where the person has strong and uncontrolled desire to use his phone, neglecting its harmful effects and daily activities. According to WHO expert committee (1964), addiction is considered as dependence, as the continuous use of something for the sake of relief, comfort or stimulation, which often causes craving when it is absent. "Substance addiction" involving drug or alcohol addiction and "behavioural addiction" like mobile phone are the two major categories of addiction (Kim, 2013).

In a survey study done by Comscore (2018), it was found that Indians spent 89% of their time on mobile phones, people from Indonesia spent 87%, Mexico 80% and Argentina spent 77% of their time on mobile phones. The research done by Aligarh Muslim University highlights that 14 per cent of the surveyed people used Smartphones for less than three hours in a day, 63 percent use Smartphone

for 4 and 7 hours whereas 23 per cent use Smartphones for more than 8 hours daily (https ://www.firstpost.com/tech/news-analysis/smartphone-addiction-university-students-in-india-check-their-smartphones-up-to-150-times-a-day-4442283.html).

The person with Smartphone addiction spend much of his time on social media, texting, browsing or playing games using his Smartphone. Overuse of Smartphone can lead to other problematic behaviours and psychological problems like lack of concentration, increased stress, depression, anxiety, social withdrawal, feeling of isolation and disturbed daily routine. Particularly, it can be a risk factor for depression, loneliness, anxiety and sleep disturbances (Gao *et. al.*, 2016).

Development of Smartphone Addiction Scale

In order to develop **Smartphone addiction scale**, the researchers consulted books, encyclopaedia and other related material including the previous related scales to get comprehensive knowledge about all factors which may be associated with **Smartphone addiction. Finally, six dimensions of Smartphone addiction scale** were identified through the review of related literature and by consulting 15 experts from Education and Psychology Department of **L.M.N.U. Darbhanga, Aligarh Muslim University, Banaras Hindu University, Varanasi, Calcutta University and V.K.S.U. Aara.**

Dimensions of the Smartphone addiction scale are as follows :

For the development of the '**Smartphone addiction scale**,' the investigators identified the six dimensions of study habits with the help of related literature. These dimensions are as follows :

- **Compulsion :** It is an uncontrolled and irresistible urge to perform certain behaviours. These behaviours are persistent and repetitive which may or

may not lead to pleasure. It may be an option to go away the obsessions or reoccurring thoughts.

- **Forgetfulness :** It is a state of mind where the person is unable to store/ recall the information or he faces difficulty to input new information. Distraction plays an important role in forgetfulness.
- **Lack of attention :** It is the state where a person is unable to concentrate, fail to be attentive and feels hard to listen to others and conversation. Due to attention distraction he is unable to complete the task.
- **Depression and anxiety :** Depression is lowering the mood for a longer period of time, lacking interest in daily activities, numbness towards emotions, disturbed routine and pessimistic attitude towards self and society. Anxiety is the persistent fear and worry towards any situation or behaviour. Increased heart rate, rapid breath, restlessness and tiredness are the common symptoms of anxiety.
- **Disturbed hunger and sleep :** When regular pattern of hunger and sleep is disturbed; the person feels no hunger, forgets to take meal on time or don't have an urge for food is the disturbed pattern of hunger. Similarly irregularity in sleep pattern, unable to sleep, waking up again and again at night or feels no need to sleep is called disturbed sleep.
- **Social withdrawal :** Any person who avoids social gatherings; don't want to communicate with family members, friends and relatives; who wants to be alone is facing social withdrawal. It is a stage of total or partially lack of contact with any individual or society.

Description of the Scale

The Smartphone 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 (*Likert*, 1932). The present 'Smartphone Addiction Scale' is a five-point Likert scale these points are as follows : *Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree.*

Preparation of the first draft

In order to develop indicators of Smartphone addiction scale investigators went through different journals, related books, reports, newspapers and consulted previously related tools. After reviewing the extensive related literature the investigators constructed the statements with due care that each item should be associated with the dimensions as chosen for the Smartphone addiction scale. In order to cover all six dimensions of Smartphone addiction scale, investigators constructed 65 items under the guidance of experts of the relevant area on the basis of their relevance to the current study and on their contextual appropriateness.

Over the 65 items of Smartphone addiction scale, expert opinion was undertaken. The first draft of the Smartphone addiction scale was discussed with 13 experts; these experts belonged to Lalit Narayan Mithila University, Darbhanga; Veer Kunwar Singh University, Aara; Aligarh Muslim University, Aligarh, in various departments such as Department of Education, Department of Psychology, and

Department of English. After the expert's valuable suggestion twenty (20) items were rejected as they were found to be ambiguous and some of the items were restructured and a draft of 45 items was prepared to make the scale more effective and valid. It enhanced the validity of the scale in terms of language, item clarity, appropriateness, the arrangement of items under appropriate dimensions in the Indian context. Finally, after getting the experts' approval, the revised version of the scale contains 45 statements for the first try out of the scale.

The first try out of the scale

The initial draft consisted of 45 items in the scale. In order to ensure the communication effectiveness of the scale, the preliminary try-out was carried out on a randomly selected sample of 50 students (30 males and 20 females) selected from the secondary schools of Aara city. In this process the students were free to respond to each item and could discuss it with the investigators if they feel any problem with it. Then those items which were subjected to more rejection and considered as unclear by the students were not considered in the final draft of the scale. Now there were 40 statements in the sheet.

The second try out of the scale

The second try out of the Smartphone addiction scale with 40 items, was administered on a representative sample of 150 students, selected through purposive sampling technique. The sample was comprised of 75 girls and 75 boys of secondary school from Aara, Darbhanga, districts of Bihar as well as from Aligarh districts of Uttar Pradesh. For collecting the data investigators personally approached all the secondary school students through proper channel, from the selected schools and requested them to answer all the 40 items on this scale.

The scale data was arranged in the order of highest to lowest scoring. From this order, two groups, one of 27% from highest scoring and other of 27% from the lowest scoring were selected. In these two groups inter-correlation matrix was examined in order to determine existence of multicollinearity and singularity of items in the scale. In addition to inter-correlation matrix, 'Determinant' of the R-matrix was estimated and it was greater than 0.0001 (*i.e.* 0.006), in this case. Sampling adequacy through *Kaiser-Meyer-Olkin (KMO)* test was also carried out and found to be greater than 0.50 (*i.e.* 0.80). On the basis of reliability check 8 items having multicollinearity and singularity were rejected and the final manuscript of the scale had 32 items, again researchers rejected 5 items having < .30 item total correlation and 5 items having less than .40 factor loading. Finally, 23 items frozen and distributed across six dimensions extracted through the Exploratory Factor analysis with Principle Component Analysis extraction and Varimax rotation methods. The distribution of items and dimensions is given in Table 1.

TABLE 1 : Dimension wise distribution of items of tool

Sr. No.	Dimensions of Tool	Code	Items	Total No. of Items.
1	Compulsion	(D_1)	1, 5, 10, 16, 20, 21, 23	07
2	Forgetfulness	(D_2)	6, 9	02
3	Lack of attention	(D_3)	7, 19	02
4	Depression and Anxiety	(D_4)	2, 13, 17, 22	04
5	Disturbed hunger/sleep	(D_5)	8, 11, 14, 15	04
6	Social withdrawal	(D_6)	3, 4, 12, 18	04
		Total		**23**

Scoring System

The scale has positively worded statements and the response was sought on the five points.

TABLE 2 : Scoring System

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 summing-up all 23 items to generate overall Smartphone Addiction score. Thus, the minimum possible score of the scale will be 23 and the maximum 115. The higher score indicates high level of Smartphone Addiction and lower score indicates low level of Smartphone Addiction.

Instructions for Administration

As per the instructions of administration is concerned the scale is in printed form. The scale can be administered on an individual or on a group (preferably not more than 30 at a time) on student's population.

Standardization of the Scale

The final form of the Smartphone Addiction Scale with 23 items was administered on a representative sample of 200 students randomly selected from schools of Aara, Darbhanga, and Aligarh. The sample students were students of class 10^{th} and Graduation.

Reliability of the Scale

The considerations of reliability and validity typically are viewed as essential elements for determining the quality of any standardized tool. However, professional and practitioner associations frequently have placed these concerns within broader contexts when developing standards and making overall judgments about the quality of any standardized test as a whole within a given context. As we know that reliability provides reasons for believing the score to be stable and trustworthy (*Garrett*, 2009). Thus it predicts the accuracy or the precision of the measurement. The reliability of the present scale was computed through Cronbach's Alpha method. It can be seen by table 3A and 3B.

TABLE 3A : Descriptive Statistics of Items, Scale and Alpha

Descriptive Statistics for Items					Descriptive Statistics for Scale			
Item No.	Range	Mean	SD	Var.	Scale Mean if item deleted	Scale Variance if item deleted	*Item total correlation	*Alpha if item deleted
01	4	2.76	1.308	1.711	55.21	180.270	.486	.850
02	4	2.74	1.217	1.482	55.24	186.425	.335	.855
03	4	2.56	1.340	1.796	55.42	185.109	.333	.855
04	4	2.57	1.250	1.564	55.41	184.504	.382	.853
05	4	2.88	1.236	1.527	55.10	184.965	.374	.854
06	4	2.41	1.249	1.561	55.56	179.916	.524	.848
07	4	2.34	1.226	1.502	55.63	184.585	.389	.853
08	4	2.16	1.227	1.505	55.81	179.361	.553	.847
09	4	2.08	1.200	1.441	55.89	181.170	.509	.849
10	4	2.93	1.218	1.483	55.04	186.114	.345	.854
11	4	2.02	1.154	1.331	55.95	184.148	.433	.852
12	4	2.31	1.250	1.562	55.66	182.284	.451	.851
13	4	2.75	1.374	1.887	55.22	179.019	.494	.849
14	4	2.33	1.212	1.470	55.64	184.362	.401	.853
15	4	2.48	1.228	1.507	55.49	184.462	.392	.853
16	4	2.21	1.200	1.440	55.77	184.771	.394	.853
17	4	2.74	1.226	1.502	55.24	183.500	.423	.852
18	4	2.68	1.278	1.634	55.29	187.021	.301	.856
19	4	1.90	1.070	1.146	56.07	185.668	.419	.852
20	4	2.89	1.339	1.793	55.08	181.009	.451	.851
21	4	2.78	1.215	1.476	55.19	182.758	.451	.851
22	4	2.75	1.307	1.709	55.23	185.304	.338	.855
23	4	2.71	1.329	1.767	55.27	179.113	.511	.849

r = 0.20 (p<.05); 0.30 (p<.01) - Two Tailed

TABLE 3B : Descriptive Statistics of Scale and Reliability (Cronbach's Alpha)

Mean	Variance	Std. Deviation	Alpha Coefficient	N of Items
57.97	199.050	14.108	.857	23

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. The descriptive statistics and inter-correlations among dimensions of the scale are shown by Table 4.

TABLE 4 : Descriptive Statistics and Inter-Correlation between Dimensions of Smartphone Addiction Scale.

Dimensions	Descriptive Statistics					Inter-Dimension Correlation						
	Range	Mean	SD	Var.	α	D1	D2	D3	D4	D5	D6	GDT
D_1	21	13.82	4.51	20.35	.69	1						
D_2	20	13.89	4.06	16.50	.66	.462	1					
D_3	16	9.23	3.40	11.60	.62	.462	.407	1				
D_4	8	5.51	2.61	6.85	.95	.340	.359	.220	1			
D_5	12	7.99	2.70	7.31	.49	.372	.324	.323	.240	1		
D_6	12	7.54	2.86	8.21	.62	.499	.390	.405	.381	.326	1	
GDT	67	57.97	14.10	199.05	.85	.800	.742	.691	.574	.593	.706	1

r = 0.20 (p<.05); 0.30 (p<.01) - Two Tailed

From the table 4, it is evident that the correlation coefficients of all the dimensions are high and statistically significant 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 characteristic individually that the scale as

a whole measure *i.e.*, Smartphone addiction, which predicts that the scale has good construct validity.

Validity

Validity indicates the degree to which a test accurately measures, what it was supposed to measure (*Lindquist*, 1951). For the present Smartphone addiction scale content validity and construct validity was determined.

Content Validity : In order to determine content validity, the scale was sent to 20 experts from the field of Education, Psychology, Statistics and English for their expert opinion. The statements were evaluated by them from the perspective of their experience in the field of research and Smartphone addiction with keeping in mind the population, sampled students for whom the scale was constructed. Further they gave their valuable suggestion based on the definition and dimensions of the Smartphone addiction scale. The investigators rejected those items which did not get the consensus from the experts. For ensuring the content validity the investigators confirmed that the content for the present scale was taken from the authentic sources and all items were covered all the six dimensions of Smartphone addiction scale. Thus, the thorough assessment of the scale by experts ensures that the items are specifically related to the content of the Smartphone addiction, which ensures that the scale has high content validity.

There are various methods to establish *construct validity* of the tool. Hence, quite a few of them are having limitations as role of time and existence of subjectivity in subject's responses. To overcome these limitations, Exploratory Factor analysis with Varimax rotation was used to establish the construct/factorial validity of the tool. Data screening was carried out in order to overcome existence of multicollinearity (*i.e.* items that are highly correlated) and singularity (*i.e.* items that are perfectly correlated) in the scale and fulfils requisite requirements. Table 5 shows construct/factorial validity along with factor loadings, per cent of variance (PV) and cumulative per cent of variance (CPV) for each dimension.

TABLE 5 : Construct/Factorial validity

Items	Factors					
	1	2	3	4	5	6
Q01	.875 D_1					
Q05	.507					
Q10	.574					
Q16	.509					
Q20	.555					
Q21	.654					
Q23	.562					
Q06		.683 D_2				
Q09		.549				
Q07			.467 D_3			
Q19			.621			
Q02				.548 D_4		
Q13				.890		
Q17				.577		
Q22				.677		
Q08					.465 D_5	
Q11					.640	
Q14					.591	
Q15					.703	
Q03						.695 D_6
Q04						.450
Q12						.527
Q18						.719
PV	10.808	9.783	9.305	9.301	7.779	7.101
CPV	10.808	20.591	29.896	39.197	46.976	54.077

Extraction Method : Principal Component Analysis.

Rotation Method : Varimax with Kaiser Normalization.

a. Rotation converged in 10 iterations.

PV = Percent of Variance, CPV = Cumulative Variance

Norms

Standard (*z* – Score)

The standard score (more commonly referred to as *z*-score) is a very useful statistic, as it enables us to compare two scores that are from normal distribution. Standard (z-scores) scores can be calculated using the descriptive statistics (Mean = 57.97, SD = 14.108 with N = 200) as given in Table 3B and using following formula :

$$Z = \frac{(X - \mu)}{\sigma}$$

Where; X is the raw score of Smartphone Addiction scale, is the mean and is the standard deviation. On the basis of descriptive statistics *z*-score norms have been prepared are given in Table 6.

Applicability and Scope

It is a **23 items** Likert type **bilingual** scale based **on 6 dimensions**. The scale may conveniently be administered to students of **14 to 24 years** of age and may be used for survey or research work. Although there is no time limit but the respondents are expected to complete it within 25 minutes.

Instruction for Administration

This scale can be administered individually as well as in groups (preferably not more than 30 at a time) on student's population.

Interpretation

The raw score can be used as such for the interpretation. For this the user can apply the formula of mean ± SD (Garret, 2009). High scores denote higher level of Smartphone addiction of students and contrary to it; low score refers to low level of Smartphone addiction of students. However, if the nature of the data demands, it can be converted into the standard score as per the requirements.

TABLE 6 : Z-score norms for Smartphone Addiction

RAW Score	z-Score	RAW Score	z-Score	RAW Score	z-Score	RAW Score	z-Score
25	–2.33724	42	–1.13230	59	.07265	76	1.27760
26	–2.26637	43	–1.06142	60	.14353	77	1.34848
27	–2.12901	44	–.99054	61	.21441	78	1.41936
28	–2.12461	45	–.91966	62	.28529	79	1.49024
29	–2.05373	46	–.84878	63	.35617	80	1.56112
30	–1.98285	47	–.77790	64	.42705	81	1.63200
31	–1.85588	48	–.70702	65	.49793	82	1.62651
32	–1.84109	49	–.63614	66	.56881	83	1.77375
33	–1.77021	50	–.56526	67	.63969	84	1.84463
34	–1.69933	51	–.49438	68	.71056	85	1.91551
35	–1.62845	52	–.42350	69	.78144	86	1.89963
36	–1.55757	53	–.35262	70	.85232	87	2.05727
37	–1.48669	54	–.28175	71	.92320	88	2.12815
38	–1.4158	55	–.21087	72	.99408	89	2.19903
39	–1.34493	56	–.13999	73	1.01197	90	2.26991
40	–1.27406	57	–.06911	74	1.13584	91	2.24104
41	–1.20318	58	.00177	75	1.20672	92	2.41167

TABLE 7 : Norms for the Interpretation of the Smartphone Addiction

Sr. No.	Range of Raw Scores	Range of z-Scores	Grade	Level of Smartphone Addiction
1.	88 and above	+2.01 & above	A	Very High Level of Addiction
2.	81 to 87	+1.26 to +2.00	B	High Level of Addiction
3.	66 to 80	+0.51 to +1.25	C	Above Average Level of Addiction
4.	51 to 65	–0.50 to +0.50	D	Average Level of Addiction
5.	40 to 50	–1.25 to -0.51	E	Below Average Level of Addiction
6.	29 to 39	–2.00 to -1.26	F	Low Level of Addiction
7.	28 and below	–2.01 & below	G	Very Low Level of Addiction

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Consumable Booklet

of

SAS-VAM

(English Version)

Dr. Vijayshri, (Aara)

Dr. Masaud Ansari, (Darbhanga)

Name

Please fill in the following Information : **Date** | | | | | | | | |

Age _____ Gender _____

Region (Rural/Urban) _____ Family (Joint/Nuclear) _____

Educational Qualification _____ School (Government/Private) _____

Stream (Science/Arts/Commerce) _____ Income of Parents (App. Monthly) _____

Interent Access (Regularly/Occasionally) _____

Accessibility (Personal Phone/Not Personal) Marks in 10th -

INSTRUCTIONS

The purpose of the inventory is to know your Smartphone addiction. Given in every statement please respond on five point scale ***Strongly Agree** *Agree** ***Undecided** ***Disagree** ***Strongly Disagree*** how do you feel about it ? There is no correct or incorrect statement. If you are :

Your responses received through this inventory will be used for research work only and will strictly confidential. Please do not place your signature or name on this sheet. Please put a tick mark ☑ each statement as given on next page. Kindly answer all the statements.

SCORING TABLE

Raw Scores			z-Scores	Grade	Level of Smartphone Addiction
Page	3	4			
Score					
Total					

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Sr. No.	Statements	Strongly Agree	Agre	Undecided	Disagree	Strongly disagree
1.	It becomes hard for me to be away from my phone.	☐	☐	☐	☐	☐
2.	I feel anxious and irritated without my phone.	☐	☐	☐	☐	☐
3.	I don't like to meet anyone while using my phone.	☐	☐	☐	☐	☐
4.	Instead of looking and observing the outer world, I like to surf in my Phone.	☐	☐	☐	☐	☐
5.	I surf in my phone without any reason.	☐	☐	☐	☐	☐
6.	I forget things due to excess use of my phone.	☐	☐	☐	☐	☐
7.	I am unable to concentrate on academic related activities.	☐	☐	☐	☐	☐
8.	I frequently skip my meal due to phone even if I feel hungry.	☐	☐	☐	☐	☐
9.	I generally forget to do my homework due to phone.	☐	☐	☐	☐	☐
10.	While studying I wish to keep my phone with me.	☐	☐	☐	☐	☐
11.	I don't take my food without my phone.	☐	☐	☐	☐	☐
12.	I spend less time with my family members and friends due to phone.	☐	☐	☐	☐	☐
13.	While sleeping I wake up suddenly and check my phone.	☐	☐	☐	☐	☐
14.	I don't feel hungry while using my phone.	☐	☐	☐	☐	☐

Sr. No.	Statements	Strongly Agree	Agre	Undecided	Disagree	Strongly disagree
15.	I am unable to sleep easily because I feel there will be messages for me.	☐	☐	☐	☐	☐
16.	I feel there is no other source of entertainment except phone.	☐	☐	☐	☐	☐
17.	I feel lonely and pity without my phone.	☐	☐	☐	☐	☐
18.	I have more friends on social media than in real life.	☐	☐	☐	☐	☐
19.	I can't focus during the lectures in class because I feel I'll check it later in phone.	☐	☐	☐	☐	☐
20.	Generally my phone has low battery due to excess use.	☐	☐	☐	☐	☐
21.	My family members and friends say that I over use my phone.	☐	☐	☐	☐	☐
22.	I frequently chat with my online friends for a long time.	☐	☐	☐	☐	☐
23.	I always have my smart phone in my mind.	☐	☐	☐	☐	☐

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