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Research Paper

Relationship between Gadget Usage and Physical Health among Adolescents

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ABSTRACT

Gadget usage is a growing concern in our society today and many doesn't even know that they are getting addicted to it until it's too late and usage of gadgets is rapidly growing eve-ry year especially among adolescents. Adolescence period is a rapid changing period and, in this stage, they are adventurous and want to explore the world for more experience and it's not surprise to wonder that today generation have all the access to discover all the hidden exposure of the world. This research follows a specific objective for determination of the relation between Gadget usage among Adolescents and their Physical health specifically with regard to Musculoskel-etal, Nutrition, Obesity, Sleep & Vision. The present study was carried out among 120 stu-dents (60 males and 60 females) from different schools in Bangalore and Delhi with the ages 14-17 years old. Data were collected using Gadget use scale by Jyoti Ranjan Muduli (Not a standardized tool) and Self-Formulate Questionnaire for measuring Physical health. Pearson product moment correlation between Gadget dependency and physical health was statistical-ly not significant.

Keywords: *Adolescents, Gadget Usage, Physical Health*

Today every human life is embedded with the technology to serve the needs, for fun and for ease use. Gadgets are shaping human lives with the feel of more efficient, fast, free and independence. What we prioritizing things in our lives is the way to tell others who we are, especially when it comes to new technologies and gadgets (Gerard, 2013).

A gadget is a small electric machine or device which performs some specific tasks. It is believed that the origin came from the French word *gâchette* for pieces of a firing mechanism or *gagée*, a small tool or accessory. The first written record of the word is found in the 19th-century book "Spunyarn and Spindrift: A sailor boy's log of a voyage out and home in a China tea-clipper" by Robert Brown. Earlier usage of the word also found in the British Royal Flying Corps as a slang term. A version related to the gadget is attached with Gaget, Gauthier & Cie, and the company who created the mini version of the Statue of Liberty. Reyner Banham in his book "The Great Gizmo" used the term gadget interchangeably and associate with compactness and mobility (Gerard, 2013).

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Types of Gadgets

We cannot deny that Gadgets exist in every phase of our life and these gadgets really made our lives simpler. If we start counting them they will be numerous. Let's focus on those which are playing a vital role in today's world.

1. **Mobile/Smartphone:** Mobile phone or cell phone is a device that can make and receive telephone calls over a radio link while moving around a wide geographical area. Besides telephony it can also provide a variety of other services like text messaging, playing music, e-mail, internet access, infrared, Bluetooth, business applications, gaming, and photography etc. It was first introduced in 1973 and in 1983 the first mobile phone was commercially available (Heeks, 2008). A smartphone is a type of mobile phone built on a mobile operating system with more advanced computing capability and connectivity than a feature phone (SL et al., 2016).
2. **Computer/Laptop:** The computer is a general purpose electric device that can be programmed to carry out a finite set of arithmetic and logical operations. A computer can solve more than one kind of problem at a particular time as a sequence of operations can be readily changed. A laptop is a type of computer that can be folded and easily carried out due to its' small size and battery support for the energy required to run it. The first laptop was invented in 1979 by British Designer Bill Maggridge. For the laptop producers, the year 1989 was quite successful. Now the laptops are generally used for making programs, storing data, entertainment (music and videos), accessing internet etc. (SL et al., 2016).
3. **Electronic Tablets:** Tablets are smaller in size than a laptop and larger than a smartphone. It is basically operated by touching the screen instead using a manual keyboard and also its a internet enabled mobile computing device (Ganguly, 2016)

Gadget Usage

In today's world technology is developing rapidly. Every day one or another device is coming in the market and today's generation is moving towards it because all these technologies or electronic gadgets makes our life easy. Everyone has access to these devices and its essential for each one of us. Sometimes we forget the limits of using these gadgets and go beyond to use these devices and become addicted to it and it's a very controversial topic in the society. When it comes to the usage of gadgets we can debate on this how it is useful or useless.

Gadget Addiction

Every day something new comes in the consumer market and these all are helping sources for today's generation. These gadgets have an impact on our lives. Sometimes people become habitual to a level, where they are not able to move forward without them, and slowly a person is addicted to it. The usage of gadgets have massively impacted adolescents children in today's world. Especially adolescents are moving toward gadgets. People become addicted when they start neglecting other aspects of life and stick with their gadgets or excessive use of gadgets.

According to Oxford English Dictionary (2012), "Gadget addiction" is enjoying a particular activity very much such as laptops, iPods, and Play Stations and spending as much time as possible doing some or other activity on them (as cited in Kumar, 2013).

Researchers have found that people have fear to being without their phones. They use a term Nomophobia, a technical term for the anxiety and panic one suffers when they cannot access

their smartphone or gadget. Nomophobia is "no mobile phone phobia" (as cited in Smartphone Addiction, 2016).

According to Nainar (2015), the symptom of gadget addiction is getting anxious and irritable by not having your favourite gadget. Symptoms of chronic pain due to overuse of gadgets. Difficulties how to have a face to face conversation with others. Often use of gadgets at late night effect sleeping pattern (as cited in The Hindu, 2015).

Effects of Gadgets Addiction

People across the world are addicted toward gadgets and it has positive and negative effects on the adolescent. If we see positive effects it helps the student in their studies and helps to develop concentration skills. Where it has positive effects as well there is some negative effect also. Much research have done and researchers found those adolescents have addicted to gadgets are poor in academics, social relationship with other, some bad behavioral changes, psychological issues, and various health issues as well (Impact of Technology on Children, 2015).

Advance technology has upgraded our lives. Everyone is depending too much on these technologies every day and it's leading to health concerns. These tech devices or technology is destroying physical health of human being. Such health concerns are listed below that we need to look into and see ourselves where we are standing on these measures.

Physical health

World Health Organisation (1946) defined health as 'a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity'. Physical health defined as 'anything that relates to our bodies as physical entities'. Physical health means good body health 'all internal and external body parts, organs, tissues and cells function as they are supposed to' (as cited in Outcomes Map Physical Health, 2013).

The aim of this research work is to focus on how the usage of gadgets is affecting the different areas of physical health like Musculoskeletal, Nutrition, Obesity, Sleep, and Vision. The inclusion of these significant components of physical health in research work is to check how adequately these body systems are working and to see if there is any loophole to it.

Musculoskeletal

When we talk about the musculoskeletal system, it has its own significant definition in the medical field. Doctors describing it as when bones and muscles join together and form a system, the unified system called as the musculoskeletal system. This system has its own important functions it provides protection for vital organs like brain, heart, and lungs and provides a well-built framework to support body structure. Bones and muscles attached to each other. It helps in maintaining body temperature. Musculoskeletal system serves as a reservoir for immature blood cells and essential minerals includes calcium, phosphorus, magnesium and fluoride (Ansari, 2014)

Using gadgets for a longer period of time it shows prolonged effects on the musculoskeletal system. Researchers found out that excessive usage of gadgets showed effects on different parts of human body. Basically, it affected hands, wrist, forearm, arm, neck, shoulder and back. These issues are not facing by one country or population of one area it's spreading all over in the world whoever is using and overusing gadgets.

Everyone uses gadgets from schools kids to housewives. Every week doctors are seeing a huge number of people from different age groups who are complaining about severe pain in their hand, wrist, and neck and in their back. Reason of all musculoskeletal disorder is excessive and improper use of gadgets (Ravichandran, 2012)

Nutrition

Each person has different understanding about nutrition. According to White (1962) "Nutrition is the science of food, the nutrients and other substance therein, their action, their interaction and balance in relation to health and disease, and the processes by which the organism ingest, digest, absorbs, transports, utilizes, and excretes food substances. In addition, nutrition must be concerned with certain social, economic, and psychological implications of food and eating" (as cited in Tuck and Haar, 1969, p. 73)

There are some specific nutrients. They are divided into six general classes Protein, Fat, Carbohydrates, Vitamins, Minerals, and Water. Which have certain specific functions and all are interrelated to each other and the optimum way to maintaining good health is consumption of all these nutrients (Tuck and Haar, 1969).

U.S. Department of Agriculture divided foods for fitness into four basic groups.

1. **Milk group:** The milk and other milk products are the high sources of calcium and some other food of this group supplies protein also.
2. **Meat group:** The food in this group is the rich source of protein.
3. **Vegetable-Fruit group:** All the fruits and vegetables is the high source of vitamins and minerals.
4. **Bread-Cereal group:** The food is coming in this group is high source of carbohydrate and this food is giving high energy to the body (Jones, Shainberg & Byer, 1978)

In today's era, people have developed habits of eating fast food and which are the high source of calories and very low in nutritional value. These foods are easily available at home and in shops. Often people have fast food in front of TV or found to skip their meals while using gadgets. Poor nutrition also can lead to numerous health problems (Roberts, 1992).

Obesity

"Obesity is an excessive accumulation body fat" (Taylor, 2012). According to Kopelman (2000) "worldwide obesity is caused by a combination of genetic liability, increased high-energy and high-fat quality of food, and less physical activity" (as cited in Taylor, 2012, p. 99).

There are number of factors that leads to obesity. Dietz & Gortmaker (2001) says, one important factor that leads to obesity is desk-bound lifestyle among children and adolescents, involving with television and video games (as cited in Taylor, 2012, p. 103).

Children are spending more time indoors than outdoors. These days children are spending time sitting in front of TV, computer and with smartphones instead of going outside for running and for burning calories. In that, they adding snacking and that lead to significant weight gain. Out of three one American child is overweight or obese. American Academy of Paediatrics found that an average child is spending seven hours in a day watching TV, browsing the internet, and playing video games (Paula, 2015).

Sleep

According to Weintraub (2004), sleep is very important for our physical health. It is a health practice in that we all take part. Sleep is divided into two types; the first one is Non-rapid eye movement (NREM) and another is rapid eye moment (REM). NREM sleep is included four stages. Stage 1 is marked as lightest and earliest stage of sleep, where a person can easily awaken by any loud sound. Stage 2 is about where breathing and heart rates slow and regular and brain registers are slow. Stage 3 and 4 where a person goes into deep sleep. These are the stages where body restores energy again, strengthens the immune system and body help to promote the growth of hormones. REM sleep knows as to strengthen memories, solving problems and change knowledge into long-term memories (as cited in Taylor, 2012, p. 115).

Pressman & Orr (1997) said that insufficient sleep (less than 7 hours a night) affects cognitive functioning, mood, work performance, and quality of life (as cited in Taylor, 2012, p. 115).

National Sleep Foundation found after a survey in America with the adolescents who are using gadgets, sleeps less two hours per night. They found out that checking or sending messages, playing games on their phones or tablets, watching TV, and net surfing during night time.

Sleeping inadequately is affecting their performance in their school and as well in others activities during day time (How Electronic Devices Affect Teens Sleep, 2014).

Vision

Eyes are one of the essential parts of human body and vision is one of the extraordinary functions of human body. It's amazing that a man can see the light of a candle from the far distance. If proper care is not there for vision, so it can turn life into disaster and affect the whole life but with the best care, we can turn into effective and enjoyable life. Following good visual hygiene means fewer chances to visual fatigue and great enjoyment in the later years of life (Langton and Anderson, 1957).

In recent years after studies, some of the symptoms of gadgets on the vision upon children may include dry, red and irritated eyes, fatigue, eye strain, blurry vision, problem focusing, headaches and moving word on screen because of some fundamental eye alignment problems (Helimich, 2014).

Adolescence

Term Adolescence is derived from the Latin word *adolescere* which mean "to grow" or "to grow to maturity".

Adolescence divided into two Phases:

1. Early Adolescence which extends from 13 to 16 or 17.
2. Late Adolescence which extends until legal maturity till the age of 18.

Each period of the life span is important and adolescence period has its own certain characters that distinguish it from other periods of life span. Adolescence is a transitional stage and time of change from child to adulthood that includes many areas like mental maturity, emotional maturity, social maturity and as well physical changes (Hurlock, 2013).

According to Piaget (1969) Psychologically, it's an age where individual become integrated into the age of adults when a child no longer feels that he is below the level of his elders but equal, at least rights. This integration into adult society has many effective aspects more or less linked with the puberty. It also includes very profound intellectual changes. These intellectual transformations typical of the adolescent's thinking enable him not only to achieve his integration into the social relationship of adults, which is, in fact, the most general characteristic of the period of development (as cited in Hurlock, 2013, p. 222).

REVIEW OF LITERATURE

Gadgets (Technology) and its Impacts

Balakrishnan, Chinnavan & Feii (2016) conducted a research to measure how "An extensive usage of handheld devices will lead to musculoskeletal disorders of upper extremity among students in AMU (Asia Metropolitan University, Malaysia)". The research was done with 200 students were chosen randomly from AMU and result revealed this way 100% students at AMU users of the cell phone. Duration of using cell phones was 14 hours out of 24 hours and 27.5% were found as unaffected by hand pain but 44.5% of students were affected by mild hand pain, 24% students shown moderate symptoms of hand pain and 3.5% students shown severe hand pain and worst possible pain.

SL, Hanakeri, and Aminabhavi (2016) have done research with youth to inspect the use of gadgets, time spent by youth with their gadgets, their emotional maturity and reasoning ability. Data was collected by structured questionnaire, form 120 undergraduate students of different colleges from Hubli-Dharwad, Karnataka. Samples were divided into two groups, one was more gadgets users and another fewer gadgets users. Output was that more gadgets users had a high emotional maturity and to a certain extent high reasoning than fewer gadgets users.

In a recent study, Muduli (2014) found that in modern era dependency on gadgets is increased and people even not able to move forward without them and dependency is leading toward to addiction. Youth is the one out of the other population those more addicted to this technology.

He conducts the research to examine the use of gadgets, how much time people spending with their gadgets, what is the purpose of using these gadgets, and its effect on their mental health and on lifestyle. He studied 150 participants of NIT Rourkela, Odisha, India. The result shows that a large amount of time spent by the participants with their gadgets and the purpose was not for necessity things but it was the pleasure that driven them to use their gadgets. Research shows the participants not only becoming more addicted to gadgets but some lifestyle changes are observed that lead to physical health issues.

Chung (2014) a survey conducted by the department of health, Hong Kong by seeing rapid development in the technology. Its main concern was to see the use of smart device improperly and its adverse effect on health on Hong Kong children and the result was shocking that 37% children give up outdoor activity, 49% deprive sleep time, and 45% have the effect on academics results. This research was the reminder to the general public and to take appropriate steps to minimize its adverse effect on health. This was to promote healthy use of electronic products.

In recent research of Davey and Davey (2014), a mixed method study by Systematic-Review and meta-analysis approach was done by them on 'Smartphone Addiction in Indian

Adolescents'. By using two keywords "Smartphone's addiction" and "Indian adolescents" they found total 45 articles in systematic review from various websites. Out of 45 articles, 6 studies considered to Smartphone's addiction in India were pull out to perform a meta-analysis, in which a total number of participants were enrolled was 1304. In India, the smartphone addiction immensity ranged from 39% to 44% as per fixed effects calculated. The study revealed that there is a broad range of problems that caused by smartphones. Smartphone addiction is affecting work and home life, sometimes it's a caused to accidents. In this modern era technology is driving our life values and smartphones are ruining our personal and social life.

A research done by Nokia reveals that an average person checks his or her phone in every 6.30 min in 16 hours walking cycle. In the age group of 20 to 45 at least 10% people face smartphone and computer related injuries. Constantly they complain about back's stiffness, tendon injuries, carpal tunnel syndrome, radiation related problems, inattention blindness, computer vision syndrome, and neck tendons (as cited in Davey and Davey, 2014).

In India a survey conducted by a cartoon channel and revealed that 95% of kids stays at homes with mobile phones. They found 76% in the age group of 11-14 years, Indian kids, using smartphones and most of them lives in metro cities. By that, they get easy access to the mobiles in very young age. Addiction to the gadgets in very young age, discourages them to be part of any physical activity and it leads them toward Obesity (as cited in Davey and Davey, 2014).

According to Simuforosa (2013) in the contemporary world, all youth have access to use modern technology whenever and wherever they want to use they can access according to their own convince. His concern was to measure the effects of technology on academic performance because youth spending hours to use this technology and majority of youth have access to the internet, mobile phones, smartphones, computers, video games etc. The purpose was to conduct this research to check the relationship between adolescent usage of computer and their academic performance. The outcome was that modern technology has effect positively and negatively on learning.

Hussain and Arasad (2013) Aimed their study to check how much Ethiopian youth are addicted to social networking. For their research, they targeted three population, first teens who visit cyber cafe, second mobile using older youths and last one professional laptop using youths. Methods of collecting samples were systematic random sampling and snowball sampling. The sample size was 264 and tools which were used by them was questionnaire and interview. The finding of this research was that Ethiopian youths take 30 to 60 minutes per session for using social networking sites.

Al-Dubai, Ganasegeran, AL-Shagga, Yadav, and Arokiasamy (2013) studied on medical students who were using Facebook and measured their Health and Unhealthy Behaviours. The study was conducted with 316 medical students in Malaysia by using self-administering questionnaire. Out of 316 students, 300 students returned with the valid response.

Results revealed all the students had Facebook accounts and the surfing hours were ranged between from 1-8 hours per day. 67% students surfed Facebook at home and in different areas like the bedroom (65.7%), living room (27.7%) and in the dining room (5.7%). 27% students reported they surfing Facebook through their mobiles. Students complained about back pain, shoulder pain, wrist pain, headaches and irritation in eyes during using Facebook.

There were other significant unhealthy behaviours had an association with using Facebook like holding urine, skipping meals, midnight logins, and isolation from family and society.

Nehra, Kate, Grover, Khehra, and Basu (2012) conducted a study with young adults and aim of the study was to see excessive use of mobile phone and its adverse consequences. In this research 212 young adults participated. The research was based ICD-10 substance dependence syndrome criteria with 46 item questionnaire and CAGE questionnaire. After the research done, around one-third participants met with three and more criteria of ICD-10 diagnostic criteria and 57.1% more than half met with two or more items of CAGE questionnaire. Whoever met with criteria found more spending time with mobile phones in the day and found with adverse consequences in different aspects of life.

Wanajak (2011) conducted a study on "Internet use and its impact on Secondary school students in Chiang Mai, Thailand". He used mixed methods to conduct his research. He divided his research into three stages. At first stage he employed 22 Thai addiction experts 'the Delphi panel' to develop the definition of internet addiction, to identify diagnostic criteria and strategies for minimizing the harm of internet. On second stage he did an online survey with 952 students. The last stage was structured in-depth interview, where randomly 30 students chosen by him who agreed to interview out of them who were participated for online survey. He found that 3.7% students of Chiang Mai is addictive to the internet and 39.5% population of students is at the risk of Internet Addiction. Result revealed that those who are addictive to internet having such issues like problem in school, physical and mental health problems, and relationship problems.

RESEARCH METHODOLOGY

Aim of the Study

This study aims to examine the relationship between Gadgets usage and adolescent's Physical health (Musculoskeletal, Nutrition, Obesity, Sleep, and Vision).

Problem Statement:

Is there any relationship between Gadgets usage and Adolescent's Physical health?

Hypothesis

There will be a significant relationship between Gadgets usage and Adolescent's Physical health.

Objective

- To assess the Gadget usage among Adolescents.
- To assess the Impact of Gadgets usage on Adolescents Physical health.
- To see if there is any relationship between Gadgets usage and Adolescent's Physical health.

Research Design

This research is a correlation design.

Population

The population consists of adolescents aged between 14-17 studying in International English medium schools in the city of Bangalore and New Delhi.

Sample

The sample consisted of 120 respondents (60 males and 60 females) of the age 14-17 from schools situated in the Bangalore and Delhi after seeking permission from the concerned authorities of the school.

Sampling Method

Purposive sampling

Inclusion criteria

- Students in the age group 14 to 17 studying in International English medium Schools
- Able to read and write in English

Exclusion Criteria

- Students who are not studying in the International English medium schools,
- Students who do not meet the desired age limit.

Variables

- Independent: Gender & Adolescent
- Dependent: Gadgets, Physical Health

Operational definition

- **Gadget Usage:** Gadget usage defined as the excessive use of any gadget, compulsive behaviour which interferes with normal living and cause to the severe negative effect on human body.
- **Adolescence*:*** Adolescence is a stage in a person's life between childhood and adulthood. This is the stage of rapid growth between childhood and adulthood, including psychological and social development. For this study adolescence considered a period between the ages of 14-17.
- **Physical health:** Physical health refers to the general health of a person in all aspect of his/her overall health including all internal and external body part, organs, tissues and cells functioning properly as they are supposed to do.
  - **Musculoskeletal -** All the muscle and bones of human being is working in way as they structured to function and not showing any symptoms of pain.
  - **Nutrition -** Having all the meals and snacks between the meals.
  - **Obesity -** Obesity is an excessive accumulation body fat (Taylor, 2012).
  - **Sleep -** Sleeping less than seven hours or insufficient sleep during night time.
  - **Vision -** Not showing any symptoms of dryness, redness, irritation, fatigue, eye strain, blurry vision and focusing problems.

Tools of Data Collection

List of tools:

- The socio-demographic details
- Gadget use scale by Jyoti Ranjan Muduli (Not a standardized tool)
- Self-Formulate Questionnaire for measuring Physical health (Approved by three Doctors)

Procedure of data collection

The informed consent of the authorities was obtained to conduct the study. The researcher met students during the regular class hours and explained the nature and purpose of the

study to subject satisfaction. Then the informed consent of the students was taken before the test was administered.

Methods of Analysis of Data

The data was collected and were scored following the direction given for tools. These data were analyzed using the computer program SPSS 23.0. The data was subjected to statistical analysis using Correlation to evaluate the hypothesis.

Ethics

In order to maintain the ethical validity of the study, the researcher observed strictly the following guideline while carry out data collection.

- Consent of subject was taken before administering the test.
- Data obtained is kept confidential.
- The subject is described about the purpose of the experiment.
- Any query related to the study was clarified.

RESULTS AND DISCUSSION

The main objective of the study was to see the relationship between Gadget Usage and Physical Health specifically with regard to Musculoskeletal, Nutrition, Obesity, Sleep & Vision. The sample consisted of 120 respondents (60 males and 60 females) of the age 14-17 selected from two schools situated in Bangalore and in Delhi after seeking permission from the concerned authorities of the school. The researcher collected the demographic details of the sample through the questioner. The tools used to assess the Gadget dependency and the Physical health for Adolescents. The data hence forth collected was entered into excel for scoring and later for correlation calculation between the Gadget dependence and Physical health in adolescents. Statistical analysis was performed using Statistical for the Social Science (SPSS 23.0) to determine the result.

Table 1 Correlation between the Gadget dependency and Physical health (Musculoskeletal, Nutrition, Obesity, Sleep & Vision)

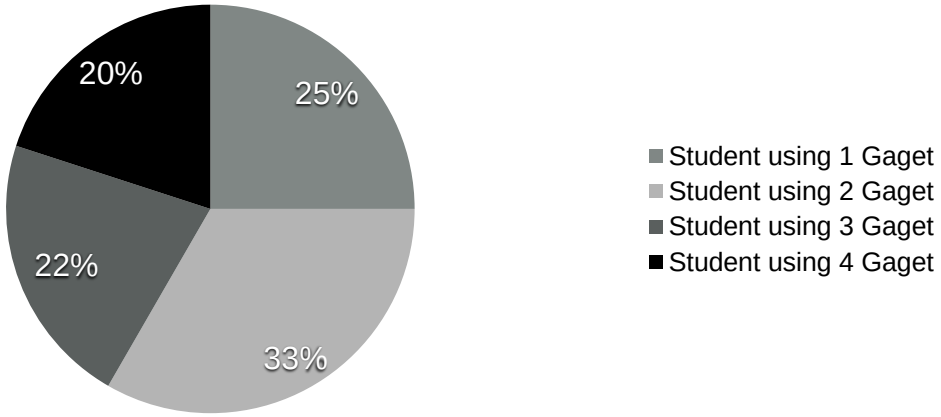
Measures	**N**	**'r'**	**Significance**
Gadget Dependency	120	-.020	.831
Physical Health			

Discussion of Table 1

Table 1 records the correlation between Gadget Dependence and Physical Health of Adolescents. It shows that with N=120 and correlation (r = -.020) and the 'p' value is greater than .05 hence not significant. Therefore, it can be understood that there is no significant correlation between gadget dependency and physical health. Therefore, the hypothesis 'there will be a significant relationship between Gadgets usage and its Impact on Adolescent's Physical health' is not accepted.

Figure 1.1 Numbers of Gadgets Usage by Adolescents

Distribution of Gagets among Students

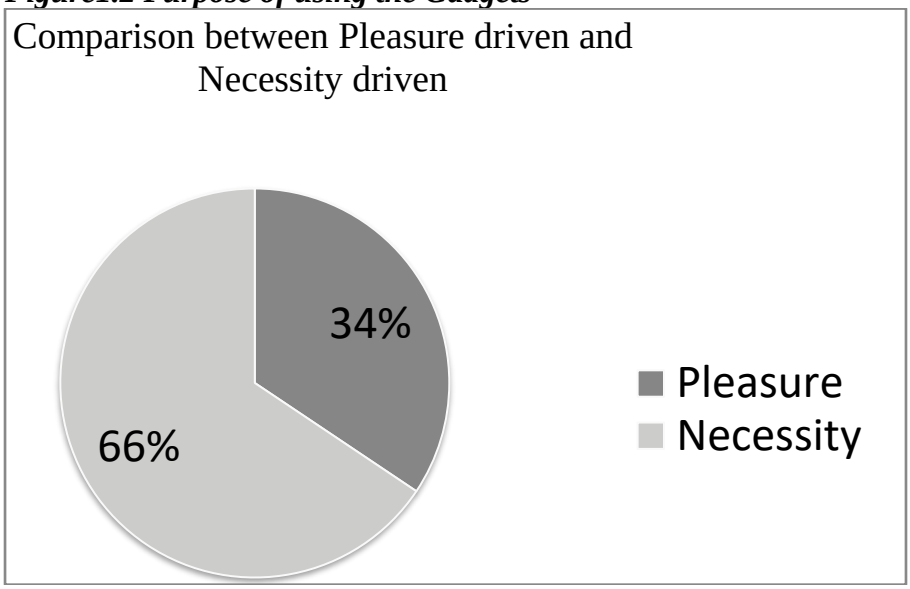


Discussion of Figure 1.1

It is clear from the data that all most 33% respondents have two gadgets, 25% have one gadget, 22% have three and 20% of them have four gadgets (Fig No. 1.1).

It shows the fondness of the adolescent participants towards the gadgets and services. It is tendency of human being that availability of something always forces to use of that product. Most interesting thing of these gadgets provides lots of fun and it keeps the adolescents hooked for a longer period of time.

Figure1.2 Purpose of using the Gadgets



Discussion of Figure 1.2

Figure 1.2 shows how much time the respondents are spending to the respective purpose out of the total time devoted to their gadgets and the services provided by them. This diagram manifests that how much time the participants are using their gadgets and the services for which purpose. Nearly 66% of their total time spent is for necessity purpose and nearly 34% of their time out of the total time spent with their gadgets is for pleasure. So analysis of the

data it can be understood that usage of gadgets and its services are necessity driven rather than pleasure driven.

Limitations:

- The tools were not standardised.
- The researcher was not able to conduct the test in many schools with high economic status schools.
- The research was done on samples from only two schools.
- Hesitation to answer the question was evident with many of the students in the school. It would have been more practical to take the test online.
- The economic status in different schools varied which also lead to the differences among the students population using gadgets.

SUMMARY AND CONCLUSION

Summary:

This research study was done in order to find out if there is a relationship between gadget usage and physical health (Musculoskeletal, Nutrition, Obesity, Sleep & Vision). Gadget dependency and physical health questionnaire was used as a device to test the scores of these variables in particular among students from Bangalore and Delhi schools between the age group of 14 to 17 which includes both boy and girls, this questionnaire was divided into three sections which are Numbers of gadget usage and Hours of gadget usage, Gadget dependency and Physical health. The score obtained in this test was compared to the gadget dependency and physical health of the adolescents. The result came out through Pearson's correlation method.

Conclusion:

This study aimed to examine the relationship between Gadget usage among adolescent's and their Physical health. The main objective of the study were to assess the gadget dependency of the adolescents and their physical health. The sample consisted of 120 respondents (60 males and 60 females) of the age 14-17 selected from two schools situated in Bangalore and in Delhi after seeking permission from the concerned authorities of the school. In conclusion, the alternative hypothesis which stated that there will be a relationship between Gadget usage and Physical health is rejected, and the results demonstrates that there is no relationship between these two variables. The present result contradicts to the review of literature which talks about gadget usage and various other health factors such as musculoskeletal, nutrition, obesity, sleep and vision.

Strengths

As part of my research, I was able to create awareness in schools about gadget usage and its impacts on physical health. It was evident that a lager percentage of students at the adolescent age with the higher socio economic status owns more than one gadget and also spend many hours both in pleasure driven and necessity driven gadget usage. With regard to physical health compare to the older generation the subject group showed less interest for outdoors games or physical activity rather showed a high interest in spending time with their gadgets.

Weaknesses

The tools used by the researcher were not standardised and hence results were effected. The researcher was not able to conduct the research in schools with high economic status

because of restriction with regard to security purpose. The research was done on samples from only two schools which may not represent a larger population. Hesitation to answer the question was evident with many of the students in the school. It would have been more practical to take the test online or by some another ways.

The economic status in different schools varied which also lead to the differences among the students population using gadgets.

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