

**A Study to Explore Mother's Perception about 2-6 Years Children's
Behavior Influenced by Prolonged Screen Time in Dhaka City**

Presented by

Tahmina Jany
Student ID: 17155016

A thesis submitted to Brac Institute of Educational Development in partial fulfillment of
the requirements for the degree of
Master of Science in Early Childhood Development

Brac Institute of Educational Development
Brac University
[November] [2019]

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Declaration

It is hereby declared that

1. The thesis submitted is my/our own original work while completing degree at Brac University.
2. The thesis does not contain material previously published or written by a third party, except where this is appropriately cited through full and accurate referencing.
3. The thesis does not contain material which has been accepted, or submitted, for any other degree or diploma at a university or other institution.
4. I/We have acknowledged all main sources of help.

Student's Full Name & Signature:

Tahmina Sikder Jany

Student Id -17155016

Approval

The thesis/project titled “A Study to Explore Mother’s Perception about 2-6 Years Children’s Behavior Influenced by Prolonged Screen Time in Dhaka City.” submitted by

1. Tahmina Sikder Jany (Student ID-17155016)

of [Semester], [2019] has been accepted as satisfactory in partial fulfillment of the requirement for the degree of [Degree Name] on [Date-of-Defense].

Examining Committee:

Supervisor:
(Member)

Full Name
Designation, Department
Institution

Program Coordinator:
(Member)

Syeda Fareha Shaheeda Islam, Senior Lecturer, ECD,
BRAC IED BRAC University

External Expert Examiner:
(Member)

Md. Abul Kalam, Research Fellow, Research Department,
BRAC IED BRAC University

Departmental Head:
(Chair)

Dr Erum Mariam, Executive Director,
BRAC IED BRAC University

Ethics Statement

Title of Thesis Topic: A Study to Explore Mother's Perception about 2-6 Years Children's Behavior Influenced by Prolonged Screen Time in Dhaka City

Student name: Tahmina Sikder Jany

1. Source of population

2. Does the study involve (yes, or no)

- a) Physical risk to the subjects
- b) Social risk
- c) Psychological risk to subjects
- d) discomfort to subjects
- e) Invasion of privacy

3. Will subjects be clearly informed about (yes or no)

- a) Nature and purpose of the study
- b) Procedures to be followed
- c) Physical risk
- d) Sensitive questions
- e) Benefits to be derived
- f) Right to refuse to participate or to withdraw from the study
- g) Confidential handling of data
- h) Compensation and/or treatment where there are risks or privacy is involved

4. Will Signed verbal consent for be required (yes or no)

- a) from study participants
- b) from parents or guardian
- c) Will precautions be taken to protect anonymity of subjects?

5. Check documents being submitted herewith to Committee:

- a) Proposal
- b) Consent Form
- c) Questionnaire or interview schedule

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Executive Summary

Innovation in technology has made gadgets and devices an integral part of our everyday lives. Every household from different economic background has some sort of gadgets that they use for either entertainment or for communication. It is inevitable for children not to become part of this new era gadget culture. Children are exposed to different types of gadgets from the moment they are born. In U.S.A 29% of children use tech gadgets as toddlers and 70% master them completely by primary school age. In developed countries many researches were done and still being conducted about children's gadget usage and screen time to ensure children's proper healthy growth and to inform parents about right ways to let their children use gadgets. In 1999, the American Academy of Pediatrics recommended no T.V at all for kids under 2 and only two hours a day for older kids. In Bangladesh, not very many researches were done on children's gadget or screen usage. There is no guidance from the government for Bangladeshi parents to exercise with their children about gadget use or screen time. The research and findings found in western world has associated screen time with sleep disorder, developmental delay, attention issues, school readiness, problems with social connectedness, violence, less connectivity, sleep disorder, obesity, sedentary behavior and less family bonding. In Bangladesh screen time and gadget usage among children is relatively newer concept than western world. Therefore, advantages and disadvantages of using gadgets are coming into light recently.

Considering the importance of this issue, this study was done in Dhaka City to understand mother's perception and practices at home with gadgets with their preschool age children. This study will give us insight into mother's perception and practices about gadget usage among preschoolers. The objective of this study is to explore mother's perception on whether their 2-6 years old children's behavior influenced by prolonged screen time and practices at home.

This is a qualitative study. Data was collected through qualitative data collection methods. It used In-Depth Interview (IDI) and Focus Group Discussion (FGD) as data collection method with the mothers of Dhaka city. Open ended questionnaire for IDI and FGD was used. The study used purposive sampling for selecting four (4) mothers from different socio-economic background and two FGD groups consisting of 6 mothers in each group and these two group represents two different social economic class. Content analysis was used for data analysis. The findings of the study gave us a vivid understanding of mother's perception about gadget or screen usage among their children. From both the IDIs' and FGDs' it seemed like mothers are using gadgets as "babysitters" to control their children while they are eating or acting out in a social gathering. They also claimed that screen is being used as a source of entertainment due to the lack of child friendly activities in the town and absence of secured play area. This situation has made it impossible for children not to use electronic devices to engage themselves during their leisure time. Many parents expressed that when children are using devices they tend to be focused into the device, quiet and sitting which gives the parents opportunity to do their own chores or work. Some mothers said it is easier to feed their children if the children are watching screen during meal time. The usage of screen has increased among children in recent years which has finally started to show side effects and now parents are confused if screen or excessive gadget usage are the reason for their children's sedentary behavior, less sleep, less attention, obesity, less social connectedness, speech delay etc. problems. Many mothers think being able to use gadgets is a smart thing for their children without realising that children will suffer from its side effects. However, research findings have shown that, screen time, in particular, television viewing, has been negatively associated with the development of physical and cognitive abilities, and positively associated with obesity, sleep problems, depression and anxiety. Numerous researches have

linked excessive screen time with socializing, cognitive and behavior issues.

In this research, mothers showed positive attitude towards their childrens' usage of devices.

Not all mother is informed about the issues that will arise due to excessive usage of screen and we are creating a generation who will lack social connectedness and other life skills.

However some of the mothers are aware and thinks gadget use or screen time should be

controlled by parents and children should not use gadgets or screen excessively. Mothers

were confused about how much time they are supposed to allow their children to use gadgets

as it was really very tough to control gadget or screen time of their children. There is no

government guidelines for parents of Bangladesh to follow about this topic. Mothers do think

there should be more awareness raising workshops where parents can get more information in

this subject matter.

Key Words: gadget, screen time, preschool children, mother's perception, Dhaka City.

Acknowledgement

I am grateful to BIED, Brac University for providing me the chance and all the support needed to successfully complete this thesis.

I am gratified to my supervisor Mohammad Safayet Khan, Research Associate, BIED, BRAC University. I am thankful to him for his continuous support, guidance and reinforcement. Without his support it would have not been possible to complete the report within due date.

I thankfully acknowledge and greatly appreciate contribution of all the faculty members of BIED, BRAC University for their guidance and cooperation throughout this Masters course.

I also want to convey my thanks to the mothers who kindly participated in this study and sincerely answered and expressed their viewpoint.

Finally, I would like to express my heartfelt appreciation to my husband, parents, sister and friends who always helped me in every possible way and supported me throughout my masters' courses and finally with my thesis.

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List of Acronyms

ADHD	Attention Deficit Hyperactivity Disorder
ESS	Electronic Screen Syndrome
FGD	Focus Group Discussion
IDI	In-depth Interview
DMDD	Disruptive Mood Dysregulation Disorder
PFC	Prefrontal Cortex
NIH	National Institute of Health
NAEYC	National Association for the Education of Young Children

CHAPTER I: INTRODUCTION AND BACKGROUND

1.1 Introduction

Science and technology is advancing at a rapid pace by making our everyday life comfortable and easy. From morning till night in every step of our lives, we are unable to function without technology. This advancement is adding, both positive and negative consequences to our daily lives. These inevitable consequences affect adults and as well as children. Madigan et al.

(2019) found that, children aged 0-8 are spending over 2 hours per day in front of screens and 98% of children live in a home with an internet-connected device. Children are provided with different kinds of smart gadgets from an early age. Parents now a days uses gadgets as a tool to engage their children or as virtual babysitter during their free time to keep children quiet.

According to NAEYC & Fred Rogers Canter, 2012, “Children are attracted to animation and music from the screen; thus, gadgets is always an alternative method for the “babysitter” to keep the children quiet. They interact with the screen instead of with their parents or peers.”

The American Academy of Pediatrics recommends little to no screen time for children under the age of 2 (Greutman , 2016).According to Suhana (2018), children aged 0-2 years should not be exposed to gadgets, children aged 3-5 years old should have only 1 hour per day screen time, and 2 hours per day for children aged 6-18 years old. This study also states that in reality many children use gadgets 4- 5 times more than the amount recommended.

Technology has a lots of practical benefits but research suggests screen time may be linked to bring negative outcomes in children. Prolonged screen time can alter children’s mood and behavior. According to the same study children who are exposed to unsupervised and longer period to screen time can exhibit problems like speech delay, sleep disorder, poor school

performance, attention problem, aggressive behavior, brain impairment and different health issues (Sanders et al., 2016). Research has shown concurrent associations between screen time and developmental delays in children (Mori & Madigan, 2019).

Excessive screen time can be associated with brain structure alteration and unusual functionality of brain. PFC or Pre Frontal Cortex, the part of the brain which involves regulation of emotion, self-control, responsibility, decision making and other moral values can be impaired due to excessive production of dopamine in children for addictive and excess usage of gadgets (Suhana, 2018). Tangermann (2018) stated that, a revolutionary research conducted by the National Institute of Health (NIH) found that brain scans for around 4500 children showed different brain patterns depending on the amount of screen time children were exposed to. Same study found thinning of cortex (the outer layers of neural tissue responsible for processing information) in children who spent more than seven hours in front of screen.

Lissak (2018) stated, Depression and suicidal tendency are associated to screen time induced poor sleep, night use of digital device and mobile phone dependency. Screen time has different negative effects on children and many studies were done to shed light on these issues. Heid (2018) found, young people who spend seven hours or more a day on screens are more than twice as likely to be diagnosed with depression or anxiety as those who use screens for an hour a day.

The problems associated with prolonged screen time and children's behavioral outcomes are now affecting world population. We have to detect ways to regulate children's behavior about screen use. So far according to our knowledge, the studies done on this subject matters are mostly in the context of western countries and culture. In Bangladesh, children are being affected by this epidemic slowly but greatly and parents are also unaware of the dark sides. So, in Bangladeshi context this study was conducted to understand how prolong screen time is

affecting children of Bangladesh. Therefore, this study is designed to understand behavioral outcomes of children aged 2-6 years by prolonged screen time and the mother's perception about their children's gadget and screen use.

1.2 Statement of the Problem

In Dhaka, screen time and gadget use among children is becoming a severe problem and parents are sometimes not even aware of the harmful outcomes of excessive screen time. Due to security reasons and lack of play areas in the communities, children are often kept at home and provided with different kinds of gadgets to engage themselves or to make them quietly seated during their leisure. Bartolo and Braun (2017) addresses the misconception of parents that devices can effectively teach children to regulate their behavior, as many parents now use devices as “babysitters.”

Parents allowing their children to use gadgets is actually encouraging children to become addicted towards screen and lead an unhealthy sedentary lifestyle. Children spend hours and hours watching screen which is resulting an increment in physical, mental and psychosocial developmental problems among children. Moreover recent studies from Yee et al. (2019) found that screen time decreased academic achievement, fitness, lowered scores in prosocial behavior and self-esteem, and instead increased victimization, sedentary lifestyles and even obesity. Children's screen time is related to parents' attitude and belief of how often and ways media devices are used in a household (Sanders et al., 2016). Understanding mother's perception of Dhaka city about their preschool aged children screen time will open a door for us to learn about their beliefs and practices. So far there are very few studies on this subject in Bangladesh. That is why it is very important to understand the thought process of mothers of Dhaka city about gadgets and screen usage among their preschool children. Mother's viewpoint

will help to create awareness and educate parents about the negative impact of prolonged screen time on children. It is important to create awareness about this problem among everyone so that parents, teachers and other caregivers of children pay special attention towards their children's gadget use. Children and negative behaviors associated with prolonged screen time should be considered as an upcoming threat for our society and we should be thinking about preventive measures from now on.

1.3 Definition of Key Terms

Perception: Perception is a multifaceted concept that involves the way one sees the world and a powerful driving force for action (McDonald, 2012). It is “an individual's or group's unique way of viewing a phenomenon that involves the processing of stimuli and incorporates memories and experiences in the process of understanding” (McDonald, 2012).

In this study, the term ‘perception’ is referred to the understanding, view and knowledge of mothers about screen time or gadget usage among their preschool age children. Their understanding and view about children's screen use and what is their knowledge on this topic is indicated through their ‘perception’.

Screen Time: Screen time refers to the consumption of electronic media: television, internet, computer games, video games (both traditional handheld and newer Active-Input designs), tablets, and smartphones (Bartolo & Braun, 2017). Screen time (i.e. time spent viewing or use of a device with a screen, including, but not limited to television, DVDs, electronic games and computers (Hinkley, Brown, Carson, & Teychenne, 2018). Screen media exposure is commonly described as time spent in visual media activities on screen devices, including watching television or videos, playing games, video chatting, searching the Internet, and reading or writing on a computer, tablet, or smartphone for entertainment purposes and does

not include time spent listening to music through screen devices (Banda & Robinson 2017).

Prolong Screen Time: Banda & Robinson (2017) stated that The American Academy of Pediatrics advises parents to limit children's total entertainment screen time to less than 2 hours per day, discourage screen media exposure for children less than 2 years of age, and avoid placing televisions and internet-connected devices in children's bedrooms.

In this study, the term 'prolong screen time' referred to the time spent in front of screen for more than 2 hours per day.

1.4 Purpose of the Study and Objective

This study is designed to explore the perception of mothers of Dhaka city about their 2-6 years old children's behavioral outcomes influenced by prolong screen time. The knowledge and understanding of the participants about children's' screen time was the core of this research.

This study also explored reasons for mothers to allow children use gadgets and screen.

Identification of practices by mothers at home was another contributing aspect of this research.

The objective of this research is:

- i. To explore mother's perception whether their 2-6 years old children's behavior influenced by prolonged screen time
- ii. To investigate the behavior pattern of device usage, duration of the use of devices per day
- iii. To identify household practices on electronic devices and gadgets.

1.5 Significance of the Study

Kids who spend more time on screens tend to be less happy than kids who engage in non-screen activities like playing sports, reading traditional printed media or spending time socialising with friends face-to-face (Heid, 2018). In the context of Dhaka city,

children are now spending more time than ever with gadgets and on screen. In Dhaka, secured places for Children to spend time or playground to socialise with other children is rare. Few institution do offer physical activities, sports and other extracurricular activities which has a cost attached to it and not every parents has ability to afford those services. As a result most of the children of Dhaka city stay at home mostly during day time or after school. Staying home is ultimately making our children companionless and more dependent on screen.

Screen time and physical activity behaviors develop during the crucial early childhood period (0–5 years) and impact multiple health and developmental outcomes, including psychosocial wellbeing (Hinkley et al., 2018). Lack of secured play area has made it nearly impossible for children to be physically active. Therefore, children are spending countless hours in front of screen to pass their time and mothers are also allowing children so that children are busy and they can finish their daily chores. Spending time with gadgets instead of doing physical activity or play with friends is becoming a habit for children living in Dhaka city.

Associations between screen time and poor health outcomes such as obesity and lack of exercise have been well-documented (Chiasson et al., 2016). In Dhaka the current situation is going towards creating a generation of children who will suffer from eyesight problem, obesity, lack of social connectedness, mood disorder, sleep issues and other behavior issues due to recent explosion of gadget use among children and mothers or caregivers not having enough knowledge about the side effects of using gadgets in early years. Therefore, this study is very important to raise awareness and to gather more knowledge.

Moreover, this study will contribute to the knowledge creation on the perception and practices of mother's of different socio-economic background about their preschool age children's gadget usage. This study will draw the attention of the researchers to do further study on the

effects, practices and perception of parents and caregivers about screen or gadget usage among children.

1.6 Research Topic and Research Questions

With time society and human behavior changes. People practices different trends that makes their life easier and it ultimately becomes a lifestyle. 15-20 years ago children of Dhaka city played with neighborhood kids, went to rooftop to flew kites and rode bicycle on the roads. However, the scenario has changed and those activities is rare for children of present generation of Dhaka City. Most of the household has at least one gadget and children as young as preschoolers are permitted to use them instead of going outdoors or playing with friends. This study wanted to have a deep understanding of the reasons behind allowing children to use gadgets through the perception of mothers from Dhaka City. Therefore, the research topic is: A Study to Explore Mother's Perception about 2-6 Years Children's Behavior Influenced by Prolonged Screen Time in Dhaka City.

The target population of this study was from Dhaka and this research tried to understand the awareness level among mothers of Dhaka city about their preschool aged children's gadget use. The knowledge, attitude and practice of the mothers about their children's screen usage are often overlooked. The knowledge and understanding gathered from this research could be used to design awareness campaign to shape the perception of the mother's towards their children screen time. This study also tried to explore average amount of time (hours per day) children spent on screen or with gadget. Therefore, exploring the perception of mothers of Dhaka city about this matter is essential for this research.

Research Question:

1. What is the perception of mothers about children's screen time usage (age 2-6 years old)?
2. Children's behavioral patterns after using screen time?

CHAPTER II: LITERATURE REVIEW

Many studies are done about the effects of prolonged screen time on children and their behaviors. According to a recent study by Sanders *et al* (2016), it is found that 58% Americans own smart phones and use of tablets increased by 39% between 2010 and 2014. According to Bozzola *et al.* (2018), nowadays, even pre-school children are growing up in environments filled with internet, computer and video games that strongly catch their attention.

Even though parents are adopting smart devices with rapid pace but they are confused as to how to navigate their children's life around so many smart gadgets. There are very little resources for parents to learn how to control their children's gadget use and risks associated with screen time, it is time we should focus on educating parents about it. According to Tamana *et al.* (2018), pre-school children spend an average of two-hours daily using screens. Parents mostly give their children gadgets due to the belief that this would help them to become smart, successful and updated. However, the developmental, mental-physical health and behavior abnormalities associated with screen time is real and relevant. It is time we focus on these aspects of developmental and behavioral issues of children related to prolonged screen time.

2.1 Research around the world:

Many research has been done and also being conducted to find out reasons, consequences and outcome of screen usage among children. According to Twenge *et al.* (2019), a growing proportion of children and adolescents' leisure time is spent with screens including smartphones, tablets, gaming consoles, and televisions. World Health Organization in 2018 reported that, high users of screens were more likely to lose their temper, less likely to calm down when excited, and less likely to switch tasks without anxiety or anger. Children

themselves are very interested to learn about new technology. According to O'Connor (2013), infants are keen to access technology and screen media in early childhood programs.

Alattraqchi et al. (2014) stated that one of the preschools in Kuala Terengganu demonstrated that half of the preschoolers passed their leisure time watching television, even though they reported that they were interested in sports. The findings lend support to the fact that nowadays children have a more sedentary lifestyle. Wise (2018) stated, Canada's 24 Hour Movement Guidelines for Children and Youth recommend at least 60 minutes of physical activity a day, two hours or less of recreational screen time a day, and 9-11 hours of sleep a night. American Academy of Pediatrics (AAP 2013) stated that newborns aged less than two (2) years should not have any exposure to technology, toddlers aging between three (3) to five (5) years should be regulated to one (1) hour per day, and six (6) to eighteen (18) years olds are to be controlled to two (2) hours per day. A recent study by Kaiser Family Foundation (2010) has stated that from year 2004 to 2009 the use of media among eight (8) to eighteen (18) years old, particularly average time spent with each medium per day increased from 6:21 to 7:38, a total increase of 1 hour and 17 minutes (Sadri,2018).

Shulman (2010) stated, getting parents to limit their kids to no more than 2 hours per day of screen time and excluding TVs, DVDs, and internet access from children's bedrooms are highly sensible and important goals, which are often difficult to achieve. The American pediatric academy now recommends parents "avoid digital media use -- except video chatting - - in children younger than 18 to 24 months. According to Wise (2018), limiting children's time spent watching screens to less than two hours a day—including phones, tablets, video consoles, and television—would improve their cognition.

2.2 Screen as Digital ‘Babysitter’:

As children for our generation afternoons meant playtime with friends, holidays meant going to village and parties meant playing with other kids. However, with time scenarios changed for us and our kids as well. Now children’s eyes are glued to screen in parties, in malls, in vacation, at home practically every where a child goes. We don’t see kids playing in the afternoon or playing as a group with other kids at a party. Mothers and other adults in children’s lives do provide kids with these devices. Children are attracted to animation and music from the screen, thus, gadgets is always an alternative method for the “babysitter” to keep the children quiet. They interact with the screen instead of with their parents or peers. Such a phenomenon can cause speech delay, sleep problems, weak social skills and even brain damage, especially to younger children (NAEYC, Fred Rogers Canter, 2012). Study done on children’s gadget usage and screen time by Alattraqchi et al. (2014) involved interviewing preschool teachers. Of the 14 teachers interviewed, 38.5 percent of the teachers reported that parents always gave their mobile phones to their children in order to keep them quiet, followed by 30.8 percent of teachers who mentioned that the preschoolers would inform their teachers that they were playing with gadgets at home when they saw mobile phones and computers in preschool. According to Bozzola et al. (2018), parents often give children devices when doing house chores, to keep them calm in public places, during meals and/or at bedtime to put their child to sleep. The study done by Bozzola et al. (2018) also reported, parents often use media as pacifiers, giving mobile devices to their child to keep them calm during the first (30%) and the second (70%) years of life.

2.3 Health issues related to screen time

Electronic devices and screen usage of children can be linked with many problems and normal wellbeing of children. Domingues-Montanari (2017) stated, screen time, in particular, television viewing, has been negatively associated with the development of physical and cognitive abilities, and positively associated with obesity, sleep problems, depression and anxiety. According to Abbasi (2017), brain health, obesity, behavioral problem, stress, depression and sleep disorders and children development effect are common outcome of excessive exposures to mobile devices, and also overexposure to cell phones is actively associated with the development of Alzheimer's sickness. Behavior issues, cognitive incompetence and total psychosocial wellbeing can possibly be affected by too much gadget use and screen time among early aged children. Beurkens (2017) highlighted that increased time with electronic gadgets can create many health complications including obesity, insulin resistance , risk of type 2 diabetes among children due to over exposure to food and restaurant advertising targeting children. Sadri 2018 also stated that too much screen viewing has negative effects on children's' vision. Frequent usage of screen among children can cause myopic/nearsightedness by continuous stress of near point vision on electronic gadgets which ultimately causes problems for children in their classrooms.

2.3.1 Delayed speech

Prolonged screen time also is associated with speech delay among young children. According to Tangermann (2018), National Institute of Health (NIH) researchers have found that kids who are exposed for more than two hours to screens scored lower scores on thinking and language tests.

American College of Pediatricians (2016) stated, toddlers between 18 and 30 months of age had improved language scores among the children whose parents engaged them in play with building blocks. According to Sundus (2018), the more time children spends on smart phones, tablets and electronic games and other handheld devices, the more likely the child have delays in expressive speech. According to The Swaddle (2018), dialogues exchange between caregivers and children are decreasing due to screen time which is resulting speech delay among children. Children pickup language from interaction with parents but excessive use of gadget is teaching them language that is not transferable in real life communication. Studies show that an hour of viewing baby- aimed videos are associated with decrease in language development among babies of 8-16 months. According to Madigan et al. (2019), one in four children are showing delays and deficits in language, communication, motor, and emotional skills. Too much screen time results sedentary lifestyle among children which can eventually lead to many other problems. Television viewing has been shown to be associated with delays in cognitive, language and motor development in young children (Hinkley et al., 2018). According to Bozzola et al. (2018), “Media devices use has been associated to task inefficiency, loss of attention, and safety hazards. Thus, media use by children and toddlers could have positive effects only with right contents and parents’ interaction presence.”

2.3.2 Sleep Disorder

Prolonged screen time is linked with number of problems exhibited by children and one of them is sleep disorder. Sadri (2018) reported that, usage of electronic devices and gadgets causing severe sleeping disorders and the hormone responsible for sleep known as ‘melatonin’ can be suppressed by the exposure to blue light emitted from device screens. Aishworiya et al. (2018) stated, among children with developmental disabilities, greater daily screen time is

associated with lower sleep duration. Screen time and usages of different gadgets can cause children to sleep less or have poor quality sleep which eventually leads to other health and behavior issues. According to American College of Pediatricians (2016), screen time interfere with the quality and quantity of sleep by casing irregular bed time, nightmares and night time waking. Sleep deprivation is also linked with poor immune system, impaired regulation of metabolism, obesity, diabetics, school failure and behavior problems. According to Nicole B. (2018), using devices near bedtime increases the likelihood of problems falling asleep. This is especially problematic for children, because they need more sleep than adults. Loss of even a half hour of sleep can negatively impact their behavior the next day. Problems caused by prolonged screen time and sleep is interrelated. A child who is sleep deprived is likely to be less attentive at school and this can lead to school failure.

2.3.3 Attention problem

The amount of time spent watching television at young age has also been linked to future attention difficulties. According to Lissak 2018, Attention Deficit Hyperactivity Disorder (ADHD)- related behavior was linked to sleep problems, overall screen time, and violent and fast-paced content which activates dopamine and the reward pathways. An analysis done by using National Longitudinal Survey of Youth found, hours viewed per day at age one and three are associated with attention problems at age seven. (American College of Pediatricians, 2016). Holton and Nigg (2017) stated that recent meta-analysis affirms a minor but solid relationship of screen time with manifestations of ADHD symptoms, which appeared, based on a few experimental and prospective investigations, to have a causal component. According to Sadri (2018) kids with ADHD suffers more physical and health related problems from excessive use of screen. He also stated that children with ADHD symptoms were probably going to spend more

time using a PC within school days; they were additionally bound to eat while utilising a PC. Likewise, these children were also more likely to eat while seated in a car, using a smartphone, using a PC at bedtime, and eating before going to bed than kids without ADHD symptoms. Sadri further stated that, an increased danger of obesity in youngsters with ADHD indications was related with the overuse of electronic gadgets, snacking while using electronic gadgets, and postponing sleep to eat and use electronic gadgets

2.3.4 Obesity

Prolonged screen time is also linked with obesity for both kids with ADHD or without ADHD. Children are inactive during the time they use gadgets. The hours spent using these smart gadgets are increasing so the health risk associated with screen time. American Indian children have high rates in overweight and obesity, which can be partially attributed to screen time behavior (Barr- Anderson *et al.*, 2014). A study done by Fang *et al.* (2019) reported, a positive association between the different types of screen time and overweight/obesity among children. According to Bazian (2008), reducing television viewing and computer use may have an important role in preventing obesity and in lowering BMI in young children. Sadri (2018) stated, “A conceivable justification can be that younger kids have more unstructured time and that this unstructured time is filled in with television viewing. So, it is significant to focus on the home setting when targeting to lessen television viewing.”

2.3.5 Sedentary lifestyle vs. Active Lifestyle

Children spend more sedentary time when they do not comply with the recommended screen time. According to O’Connor (2013), infants are using gadgets with low energy, sitting or lying down, and the term “sedentary behavior” explains such a condition. According to Biddle

(2011), sedentary behavior refers to primarily sitting or lying behavior and spending time doing physically inactive tasks which do not require a lot of energy during waking hours. A recent systematic review found that preschool children (roughly 3 to 5 years) spend up to 12 h per day in total (objectively measured) sedentary time (Downing et al., 2017). Another study conducted by Downing et al. (2017) has shown that, children were sedentary for 301.1 (SD 34.1) minutes/day and spent 108.5 (SD 69.6) minutes/day in screen time. Hinkley et al. (2018) said, preschoolers such as children who spend more time outside are more active and less sedentary than children who spend less time outside. Less active sedentary lifestyle can cause many negative outcomes for young children. Video games and television viewing have links with increased obesity (Tremblay 2005 as cited Rowan, 2014).

2.3.6 Social Behavioral problem

According to Abbasi (2017), brain health, obesity, behavioral problem, stress, depression and sleep disorders and children development effect are common outcome of excessive exposures to mobile devices, and also overexposure to cell phones is actively associated with the development of Alzheimer's sickness. Excessive gadgets usage and screen time is impairing children's social ability and connectedness with other human beings. Hinkley et al, 2011 reported screen-based entertainment had been connected with social and well-being consequences in young kids, including blood pressure, weight status, behavioral problems, bone mineral content and density, educational attainment in adulthood, reading, and social competence, timing of adiposity rebound, cardio respiratory fitness and serum cholesterol. The result from Hinkley et al. 2011, study shows that preschool children are inadequately active and occupied in extreme amounts of screen-based entertainment.

Face to face conversation, quality time with friends and family are being replaced by smart gadgets which is impairing children's ability to understand people, emotional connectedness and growth of empathy. According to Nicole (2018), excessive screen time also leads to a reduction in quality family time, social connectedness, and negative impact of social and relational skills. Children are becoming less creative and more virtual. They are not learning simple life skills. 58 percent of the preschool children knew how to play a computer game versus only 9 percent who could tie their shoes. (American College of Pediatricians, 2016).Lissak (2018) stated, addictive screen time use decreases social coping and involves craving behavior which resembles substance dependence behavior.

2.3.7 Cognitive Impairment

According to Nicole B. (2018), exposure to digital media below 2 years of age negatively impacts language and cognitive development. A study done by Zimmerman and Christakis (2016), evaluated children up to age seven to explore the impact of watching television. For each hour of average daily television watching before age three was associated with poor reading recognition and comprehension. Lisaak (2018) reported that, brain structural changes related to cognitive control and emotional regulation are associated with digital media addictive behavior. In terms of cognitive skills development and academic problems and learning challenges Beurkens (2017), mentioned that exposure to device displays under two (2) years of age adversely effects language and cognitive development and precise learning problems links to increased PC/keyboard usage. Sadri (2018) mentioned that children in their early age benefits from handwriting rather typing because hand writing promotes reading skills. The more time children spend typing or using touch screen, the less they develop skills like forming letters or coloring with pencils or crayons.

2.3.8 Aggression and emotional outburst

According to Sadri (2018), children who uses excessive screen frequently have angry outbursts for shallow reasons; their responses were always unequal to the issue at hand. The rage outbursts of kids with Disruptive Mood Dysregulation Disorder (DMDD) are identical to the temper tantrums frequently seen in children younger than six (6) years, but the duration and intensity is much more severe. Around two (2) to five (5) percent kids are projected to be having this condition. Lissak (2018) also states that, early and prolonged exposure to violent content is also linked to risk for antisocial behavior and decreased prosocial behavior

Prolonged screen time not only harm children's cognitive development but it also causes children to behave aggressively and show different mental disorders. American College of Pediatricians (2016) mentioned about relationship between media violence and real life aggression. Many studies documented link between viewing violence on screen and future aggressive behavior. Playing violent games and being violent in real life is very much interrelated.

2.3.9 Psychosocial Illness

Screen time, sleep disorder and other psychological disorders are interrelated. Depression is just one of the mental health dangers linked with irregularity in sleep and excessive screen time causes sleep disorder (Sadri,2018).

Dunckley (2015) coined the term ‘Electronic Screen Syndrome (ESS)’, where children have high level of arousal and low level of control over emotional and stress level. According to Nicole (2018), children without realising becomes overstimulated by screen time which leads to mood swings, anxiety, irritability, poor behavior and also increases the risk associated with different mental disorders like: ADHD, depression, suicidal tendency and mood disorder.

2.4 Bangladesh context about screen time

Study done by Bozzola et al. (2018) reported, in Italy, A recent survey found that 20% of children used a smartphone for the first time during his first year of life. Moreover, 80% of children from 3 to 5 years old is able to use their parent’s smartphone. It is impossible for children not to be exposed towards some sort of gadgets as almost every household in Bangladesh has some sort of gadgets. According to Sadri (2018), more than eighty percent of children are using Smartphone and TV for the sole purpose of entertainment in Dhaka. The average duration of usage which was observed by parents is 119.03 minutes (1.98 hours) per day. Lack of play area, friends and parental attention are some of the reasons why children are more into gadgets and screen now a days. A study done on Dhaka children by Professor Khan recommended limiting screen time for children, based on most of the global guidelines for children under 2 years old – zero screen time, including media and games on TV, smartphones or tablets, for children aged between 2 and 5 – maximum one hour screen time per day, for children aged between 5 and 17 - maximum two hours screen time per day. However, parents now more than ever are using gadgets or screen to make their lives easy and to control their children without realising the dark sides of excessive screen usage. Sadri 2018 mentioned that, more than 65 percent parents are not aware of the consequences of sleep problems and language delay that can cause due to excessive device use. Sadri also mentioned, 73% parents

sometimes or always practice showing devices to their children at mealtime to keep them distracted. On the contrary, 65% parents observed significant reduced time of device use after enrolling them to school. Parents of Dhaka city are not always informed about the negative effects of too much gadget use by their children.

CHAPTER III: METHODOLOGY

3.1 Research Participants

In qualitative research, participants are selected who best inform the research questions and enhance understanding of the phenomenon under study (Sargeant, 2012). In this study, the perception of mothers from Dhaka city of children aged 2-6 years and their children's behavioral outcome was explored, therefore mothers from different economic background who lives in Dhaka city and has children of this age range were selected.

The study population in this research was mothers in Dhaka city who has children aged 2-6 years old. However, it is impossible for all the mothers who has children of this age to take part in this study or to take a random sample of mothers because of the scope of the study and time inconvenience. So a purposive sample was selected. Hence, the sample in this study was 16 mothers from different social economic class. 2 mothers from upper social class and 2 mothers from lower social class were also selected for in depth interview. For FGD two groups were formed consisting of 6 mothers each who belong to two different socio economic groups.

3.2 Sampling Procedure

This study covered the mothers from Dhaka, Bangladesh as population as this was the group of interest to the researcher.

In this study non-probability sampling technique ‘purposive sampling’ was used. Because, the objective of this study was very specific and to attain that specific objective, also, clear criteria of the sample was needed; for example, mothers were selected purposively as sample who has children aged 2-6 years and lives in Dhaka city of Bangladesh.

3.3 Research Site

The research site for this study is a slum near Jamuna Future Park Mall and a house in Gulshan for conducting the FGDs. In-depth interview for both upper and lower socio economic group took place in their respective work places.

3.4 Research Approach

This was a qualitative study and to understand the central topic, the study was designed to understand the perception of mothers in terms of their children (age 2-6 years) usage of screen time. Qualitative research is a process of naturalistic inquiry that seeks in-depth understanding of social phenomena within their natural setting (Utah University,2019).Qualitative research is a type of social science research that collects and works with non-numerical data and that seeks to interpret meaning from these data that help us understand social life through the study of targeted populations or places (Crossman, 2019). Qualitative research presents the in-depth information and understanding about the research problem being studied and, reflects the perception of the participants from a real world/natural situation. Hence, in this study to understand the perception of the mothers about prolong screen usage of their children, qualitative research was used to have a true in-depth reflection of the participants’ perspectives.

3.5 Data Collection Methods

This study used qualitative data collection methods given the qualitative approach of the study. Qualitative method is used to understand people's beliefs, experiences, attitudes, behavior, and interactions (Pathak et al., 2013). Qualitative research produces descriptive data and methods of qualitative research are: direct observation, open ended survey, focus group, in depth interview, oral history, participant observation, ethnographic observation, content analysis etc. (Crossman, 2019). Two of these data collection methods were used herein; In Depth Interview (IDI) and Focus Group Discussion (FGD).

In-depth interviews are useful when detailed information about a person's thoughts and behaviors is needed or to explore new issues in depth (Boyce & Neale, 2006). Similarly, in this study, through the in-depth interviews of the mothers, their perception and views about screen time usage among their children was reflected. A semi-structured and open-ended questionnaire was used as the data collection tool in 4 individual interviews of the participants.

A focus group discussion involves gathering people from similar backgrounds or experiences together to discuss a specific topic of interest (Baral et al., 2016). This study used two focus group discussions through which the participant's thoughts and views were reflected on the subject matter.

Since, the study used two different methods for generating both perception and knowledge of the research topic, the researcher could ensure data triangulation.

Collected data through a research is valuable asset and information for the researcher to reach result of their study. The study result can be threatened if the data is not correctly collected. This study data was collected through in-depth interviews and focus group discussions and researcher personally did the interviews and discussions. After participants were selected the researcher successfully built an understanding with the participants so that the participants are comfortable sharing their views with the researcher. With consent of the participants both in depth interview and focus group discussion took place. In depth interview were done separately over the period of four days. The Focus group discussion took 2 days in total. All the responses were recorded descriptively via field notes and later maintained via electronic files.

3.6 Data Analysis

To analyze qualitative data gathered from the in-depth interview and group discussions, first the data were organized by thorough reading. Data collected from field notes for both in-depth interview and focus group discussion was categorised under themes to interpret the data. Before interpretation the data was summarised in terms of the research questions. Also, the collected data were triangulated. Data was interpreted at the end where the true perception of the participants were reflecting.

3.7 Ethical Issues

In this study the different measurements of ethics were integrated by following all ethical principles of research of BRAC University ethical review committee. Participants were informed about the nature, purpose and the type of the study. They were then given the opportunity to read and sign the consent form. Participants took part willingly and were informed that they can leave or not answer any time they feel uncomfortable. Thereby they were assured that responses provided by all the participants will be kept in securely and will not be disclosed to any third party. The responses will only be used for this specific study purpose.

3.8 Validity and Reliability

In order to ensure the validity of the study the data collection tools; in-depth interview and focus group discussion questionnaire were reviewed by BRAC University's Institute of Educational Development. The instruments were piloted before the final data collection to ensure reliability. Moreover, by using different sources of data collection data was

triangulated to ensure the reliability of the study.

3.9 Duration of the Study

This study took total four months to finish, from July to October 2019. In the first two months proposal was developed and data was collected and analysed in the second month. In the last two months of August and September report was written, finalised and submitted.

3.10 Limitations of the Study

Small number of participants from Dhaka city took part in this qualitative research. Therefore there are some limitations that was faced by the researcher. Firstly, the finding cannot be generalised to a larger population as the number was low and all the participants are from Dhaka city. Secondly, the participants seemed biased and was trying to make an impression on the researcher. Thirdly, the researcher could not see the real-life situation or practices of the mothers at home with their children which could give the researcher a clear picture. Even though there are few limitations but this study has shed light on the importance of this topic and this study will encourage other researchers to do research more on this subject.

CHAPTER IV: FINDINGS AND DISCUSSIONS

This chapter consist of two units – ‘Findings’ and ‘Discussion’. In the ‘Finding’ section data collected from in depth interviews and focus group discussion will be documented. In the ‘Discussion’ part the analysed data will be presented by literature review and researcher reflections. Recommendation will be provided at the end of the discussion from the knowledge gained from this study.

4.1 Findings

The finding of this study is on the basis of the data collected from the four in-depth interview and two focus group discussion of the mothers from Dhaka city who has children aged 2-6 years old. The findings are focused on the objective of the study which includes the perception of mothers about their 2-6 years old children’s prolonged screen use and whether 2-6 years old children’s behavior influenced by prolonged screen time and practices at home. Research findings of this study has been documented under different theme.

4.1.1 Demographic Information

The demographic of the study was quiet interesting. There were four in depth interviews and two focus group discussions consist of six mothers in each group, total twelve mothers.

Mothers were from two economic background groups– upper socio economic class and lower socio economic class based on household income. Mothers from lower socio economic class reported to get married at an earlier age than mothers from upper socio economic class. Thus the mothers from lower income group had children earlier in their lives than the other group. Age of mothers from lower socio-economic group were in their twenties or late twenties.

Whereas mothers from upper socio-economic group was thirties, late thirties or early forty.

The educational background of the mothers from both groups also differed. Out of eight mothers from upper income groups five finished under graduation and three finished post-graduation. The eight mothers from lower income group mostly failed S.S.C and did not study further.

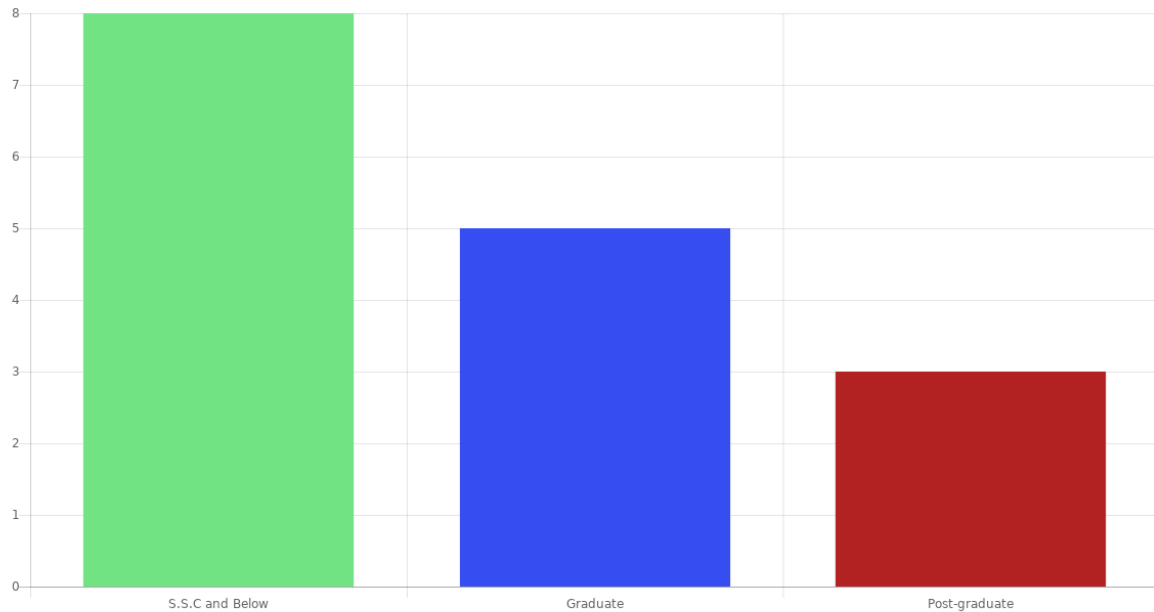


Figure 4.1: Educational background of mothers.

Another interesting factor was the mother's employment status. Four mothers from the upper socio economic class were in service and the other four were house wives. On the other hand all the mothers but one from lower socio economic class were working as house help or support staff in different institutions. The below figure shows that 31% (n=16) of the total respondents were unemployed and 69% is employed.

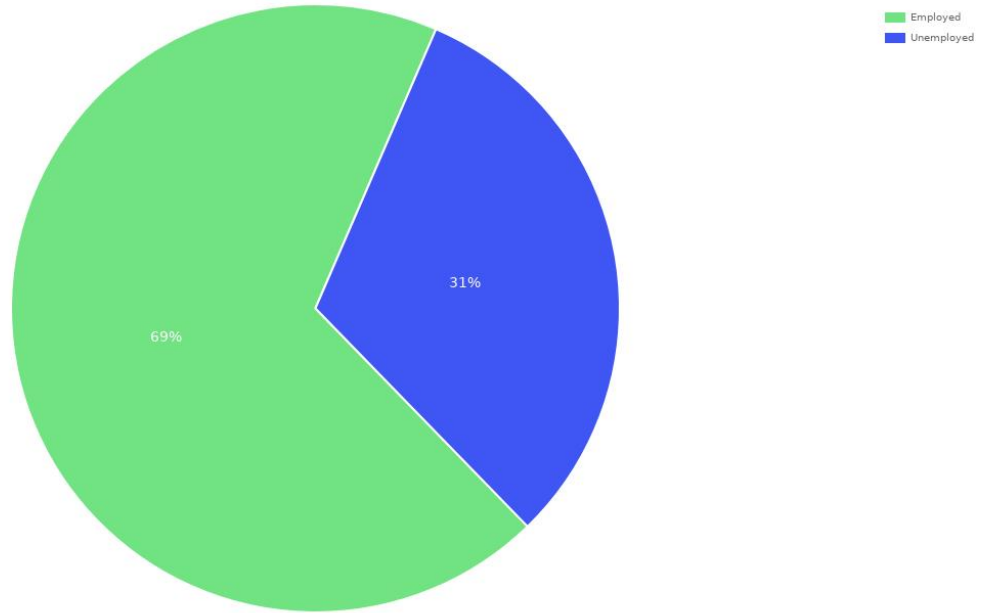


Figure 4.2: Employment status of Mothers

During both FGDs and in-depth interviews children were seen with their mothers. Lower income group mothers were interviewed in their work place so children were not present with them. However, FGD with Lower income group took place at the slum near Jamuna Future Park Mall where children were seen playing outdoor together. In-depth interview for upper income group mothers were taken at their residence where children were seen watching TV alone. Upper income group FGDs also took place at a residence in Gulshan where some children were playing together and some were watching cartoon on an iPad.

4.1.2 Age and Gender of Children

Basic information about children were collected through primary set of questionnaires from the mothers. This study targeted children aged 2-6 years old. 5 of these children were 3 years old, 1

was 4 years old, 4 of these children were 5 years old and 6 children were 6 years old. The below figure explains clearly.

Table 4. 1 Parents having children

Age Group	Upper Income Group	Lower Income Group	Total No. Respondent
Toddler (aged 1 to 3 years)	4 children	1 child	5 children
Preschoolers (aged 3 to 5 years)	3 children	2 children	5 children
Primary school going children (aged 6 years)	1 child	5 children	6 children

From the above table, the breakdown of children's age and their socio economic background is clear. 4 toddlers were from upper socio economic group and 1 toddler was from lower socio economic group. 3 preschoolers were from upper socio economic group and 2 preschoolers were from lower socio economic group. 1 primary school going child was from upper socio economic group and 5 were from lower socio economic group.

Gender of the children are shown in the figure below. 56% (n=16) of the total number of children were girl child and 44% (n=16) were boy child.

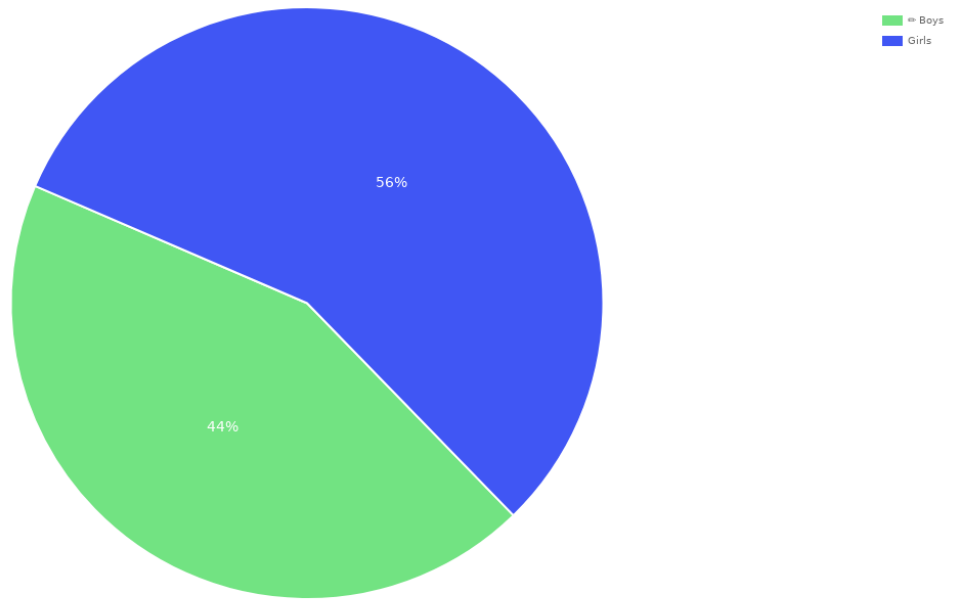


Figure 4.3 Gender of children

4.1.3 Available Digital Devices in the Household

Almost all of the respondents had at least one screen based device in their household. Television and smartphones were the most common devices that the respondents have in their household. Besides T.V and smartphones the respondents also had other screen based devices such as, tablets, laptops and gaming devices available in their households. Among 16 household 15 have T.V in their house, 13 household has smart phones, 7 household has tablets, 10 have laptops and 5 have gaming devices.

Table 4. 2 Electronic devices available in the household

Type of device	Upper Socio Economic group	Lower Socio Economic group	Respondent (total 16 household)
T.V	9	6	15
Smart phone	8	8	16
Tablets	7	0	7
Laptop	8	2	10
Gaming Devices	5	0	5

From the table above the breakdown of gadgets owned by different household from different socio-economic background is clearly shown. 9 households from upper socio economic group and 6 households from lower socio economic group have TV in their house. 8 household from upper socio-economic background and 8 from lower socio economic background have mobile phones. Tablets are available in 7 upper socio-economic families and none of the families from lower socio economic background owns any tablets. Laptops are available in 8 upper socio-economic households and 2 households from lower socio-economic background have this gadget too. 5 upper socio-economic families have gaming devices in their houses whereas none of the families from lower socio-economic background have any.

4.1.4 Devices used by Children

Majority of the children has access to T.V and smartphones. However, some of these children also uses tablets and laptops. 14 children out of 16 watches T.V regularly, 12 children uses smart phones frequently, 7 children uses tablets and 2 children uses laptops.

Table 4. 3 Electronic devices used by children frequently

Type of device	Upper Socio Economic Group	Lower Socio Economic Group	Number of Children (total 16 children)
T.V	7	7	14
Smart phone	6	7	13
Tablets	7	0	7
Laptop	1	0	1
Gaming Devices	0	0	0

This table above show that children from 7 upper socio economic families and children from 7 lower socio economic group have access to TV. 6 upper socio economic group’s children and 7 lower socio economic group’s children have access to mobile phones. 7 children from upper socio economic background have access to tablets and none of the children from lower socio economic background have access to tablets. 1 child from upper socio economic class has access to laptop and none of the children from lower socio economic class have access to laptops. None of the children from both group have access to gaming devices. Mainly gaming devices are used by older children and adults of the households.

4.1.5 Location of using Digital Devices by children

Figures 4.4 presents the locations where the children use devices frequently. 58% mothers (n=16) reported that their children use device at home, 13% children from lower socio-

economic group uses gadgets or watches screen in their neighborhood and 29% children from upper socio- economic group reported to watch screen at social gathering.

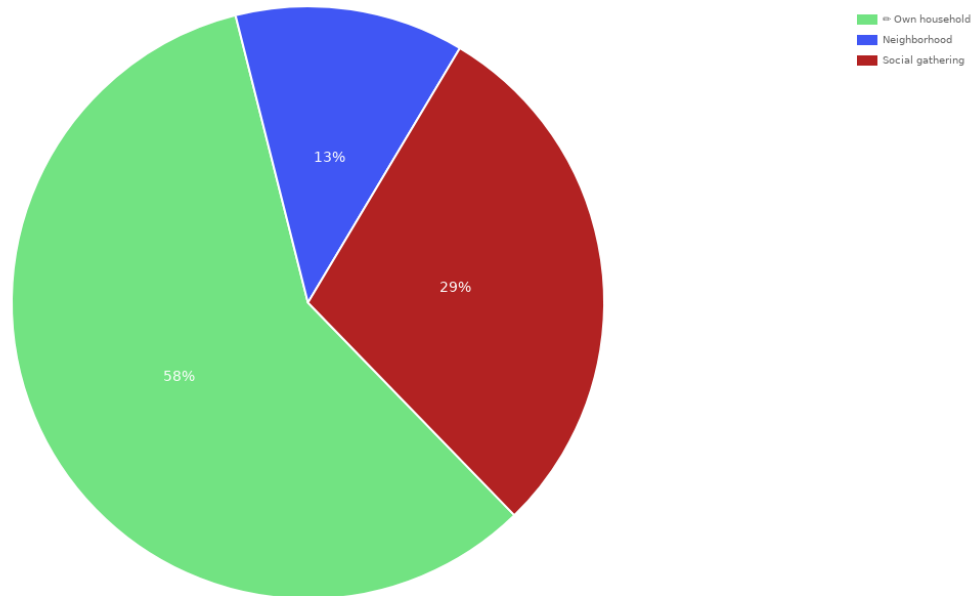


Figure 4.4 Location of Children's device usage

4.1.6 Duration of Device and Screen Use by Children

This key question was asked to respondent to discover the duration of their children's screen usage. The total number of children was 16. Among 16 children 7 children spend 1-2 hours every day on a regular basis. 4 of those children spend 3-4 hours daily on screen. The rest of the 5 children spend 4-6 hours daily on the screen.

Table 4. 4 Duration of Children's screen use

Duration of time by Hours	Upper Social Economic Group	Lower Social Economic Group	Number of children
1-2 hours	4 children	3 children	7 children
3-4 hours	2 children	2 children	4 children
4-6 hours	2 children	3 children	5 children

This table explains children spending time with screen from both socio-economic group. 4 children from upper socio-economic class spend 1-2 hours regularly on screen or with gadgets and 3 children from lower socio-economic group do the same. From both socio economic group 2 children totaling 4 children spend 3-4 hours on screen on a regular basis. 2 children from upper socio economic group and 3 children from lower socio economic group spend 4-6 hours on screen regularly. We asked mothers about their thoughts on the duration of their children’s screen usage and received interesting answers. One mother from upper socio economic group said, *“To be honest I work full time. Whenever she is awake and has nothing to do she prefers using gadgets. There is no one at home to play with her. We have no control over her screen usage. Her grandmother also has no control over her. She throws tantrums every time her grandmother and I try to control the time.”*

Another mother from upper socio economic group gave an interesting answer, *“I let her watch screen for long time because there is nothing else to do for her at home. For security purpose I do not allow her to go outdoors to play”*

One of the mother from lower socio economic group said, *“I do not regulate time for my child’s screen use because I do not think using screen is harmful. Rather I think it is beneficial because he can learn things from watching TV.”*

4.1.7 Application and Channel used by Children

Children use different application on gadgets and watches different channels on television.

Children watch both Bangla and Hindi channels on television. Some children also watches cartoon channels. Children also use YouTube channel and some children play different games on their gadgets. Children watch different contents on gadgets to pass their time. YouTube application on touch screen devices are very popular application among children. 13 children out of the total 16 children watch contents through this application. 6 children out of 16 children watches different Bangla channel on Television. 5 children watch Hindi channel. 5 children watch cartoon channels. 6 children play games on these devices. Bangla and Hindi channels are mostly watched by children from lower income level. Cartoon channels were mostly seen by children from upper income group. Different games and You Tube are popular among both group of children. Mothers were asked if they think their children are being benefited from watching screen. One mother from upper socio economic background said, *“Yes she does because I have rules for her. She only watches what I think is appropriate for her. She learnt educational rhymes and stories from the YouTube. She also learnt about kids exercises from Duroto TV. She learnt coloring and crafting projects from youtube videos and practices those projects at home.”*

Another mother from lower socio economic group said, *“I think yes because she can speak clear Hindi. We are poor and will be never able to go to any other parts of the world but my son can still see those places through TV.”*

Table 4. 5 Application and channels children use

Channels and Application	Number of children
Bangla Channel (Duronto Tv, Atn Bangla, Ntv,Star Jalsha, Bangla news channel)	6
Hindi Channel (Sony Tv, Star Tv, music channel)	5
Cartoon Channel	5
You Tube	13
Games	6

4.1.8 Contents children watches and games children play

Children watches Bangla channel, Hindi channel, cartoon channel, YouTube and plays different games on different electronic devices. Here is a breakdown of the contents children watches and the types of games they play.

YouTube: High income children were reported to watch crafting videos, rhymes, songs, cartoons, Disney shows on YouTube. Children from lower income families mostly watches viral videos, Hindi songs, Bangla songs.

One mother from lower socio economic group gave us an example of the viral videos her daughter watched recently saying, *“My daughter saw Ranu Mondol singing and became very emotional. She tries to sing like Ranu Mondol and cries.”*

Bangla Channels: children from upper social class were reported to watch Bangla singing, dancing shows on Bangla channels. Children from lower income sample were mostly watching

Bangla cinema, drama serials, news.

Hindi Channel: None of the children from upper social class were reported to watch Hindi channels. On the other side children from lower income families were reported to watch different shows on Hindi channels. Hindi crime shows are very popular among these children, along with drama serials, songs, and cinema.

One of the lower socio economic group mother said, *“My daughter wants to become a police officer like the characters from CID (a Hindi crime show).”*

Cartoon Channel: None of the children from lower social economic group were reported to watch cartoon channels. Whereas children from upper social class watches different cartoons, for example, Peppa Pig, Paw Patrol, Ben 10, Princess Sophie etc cartoons.

Games: Children play different games on the touch screen mobile phones and mostly lower income family children enjoyed these games. The games they play includes fighting games, snake game, fruit cutting game, candy crush, ludo, jumping etc.

4.1.9 Purpose of using digital devices by children

We asked parents if their children go to school and if the kids follow a daily routine. Out of 16 children 13 go to school. Almost all the children followed a set routine. So, naturally our next question was what time during the day they use screen. We received very detailed information about when, why and where children uses gadgets or watches screen.

Main source of entertainment: Children use screen as a source of entertainment and some use it as the only and the main source of entertainment. Mothers from both socio economic group expressed that lack of secured play area and adult supervision has made it nearly impossible for children to go outdoor and play with other children. One mother from lower socio economic background said, *“Before they used to play outdoor more but recently there have been some*

incidents with children so we are scared. I told them to stay in our room and not to go outdoor much when we are not home. So, when children are at home they watch TV to entertain themselves.”

Screen - “Digital Babysitter”: All of the children from both socio economic background watches television or You Tube during their meal times. Some of the mothers said it is impossible for them to feed their children without screen because if not given screen while eating they throw tantrums and does not want to eat. So, mothers are bound to give their children screen while eating. Some mother also said they give their children screen to keep them seated or quiet when they are busy or at a social gathering so the child is in control. One mother from upper socio economic background explained the situation saying, *“I can’t feed my son without YouTube videos.”*

When and with whom children are watching screen: Besides meal time children from both group are also reported to watch screen throughout the day. On weekends children from both socio economic class tends to watch more than usual. Children watch television mostly in the evening with adults of their house. Children also watch the shows that the adults watch which includes crime shows, news, serials etc. One of the mother from upper socio economic group said, *“My 3 year old daughter watches television or tablet whenever her brother watches. It is very difficult for me to control her screen time due to my full time job. My daughter spends with as much screen time as she prefers.”*

Mothers from lower income family stated one interesting thing. Some of their children will go outdoor with their smartphone and play games or listen to music with those gadgets instead of playing with other children physically.

4.1.10 Age of Children when they Started Using Gadgets

Most children from both group started using gadgets very early. Out of 16 children 3 child

could not use gadgets. Children from lower income families mostly started using gadgets either 3 or 4 years old. From eight children of lower income families three children started using gadgets when they were 3 years old, three children started at age 4 years old, one child started using gadgets at age 3.5 years old and one of them cannot use gadgets yet. From upper social class two children could not use gadgets. Three children from this group started using gadgets when they were 2 years old, one child at age 3, one at age 4, one at age 1.5 years old.

4.1.11 Reaction of Children towards Limiting Time

Mothers were asked about limiting their children's screen time to which mixed answer from both groups have been received. Four mothers from upper socio economic background said they definitely limit their children's screen 1 hour to maximum 2 hours. The other four mothers gave various reasons for not being able to limit the screen time of their children. One mother said, *"It is difficult for me to control my son's screen time mainly because he would not eat unless shown screen and also the adults of the house watches television that is why the child also watches. I cannot control the adults at the house."* Another mother from upper socio economic background said, *"My daughter throws tantrums, cries and screams if not given screen."* Two other mothers gave similar reason stating that their children have nothing to do at home. They do not let their kids play outdoor for security purposes so at home the kids watch screen for entertainment. According to these two mothers screen is necessary for their kids. Mother from lower income families seemed bit confused when this question was asked. Seemed like they do not understand why children need limitation over screen time. Out of eight mother two said they do limit their children's screen time otherwise they would watch as much as they wish. One mother said she tries but her son does not listen. One mother said her daughter can only go to watch television during evening when she returns home from work.

Four mothers said they do not think it is necessary to limit their children's screen time. One of them said they are poor so by watching TV, their child learns a lot about other countries where they will probably never be able to go. Another mother said due to safety reason they are keeping their children home mostly and at home child has nothing to do so watching screen or TV is the only option. So they let their children watch so that the child gets some entertainment.

4.1.12 Mother Perception of children's screen usage

Benefits: Mothers were asked if they think their children are being benefitted by using gadgets or watching screen. Mother from both groups gave similar answers. They mostly think screen has some educational aspects and it also serves as a fun time pass for children.

Most mothers from lower income group said their children has fun and learn a lot of things by watching television. These mothers said their children can sing and dance like the characters from the television. Some from lower socio-economic families said their children learnt a Hindi language by watching TV. One mother said her daughter is becoming very curious to be a scientist or a police officer due to influence of a Hindi crime show and she thinks it is very beneficial. One mother said her son is becoming very smart because he can use gadgets by himself. Another mother said her son watches news with his father and is gaining knowledge about the world.

Mothers from upper socio-economic class mostly think watching screen is fun and as well as educational for their children. Most mothers said their children learnt rhymes, songs, alphabet, numbers, and colors from screen. One mother said by watching crafting videos her daughter later does at home. She also learnt many rhymes, songs and dancing moves from television. She said she tries to show her daughter mostly educational videos and she does think her

daughter is being benefitted by watching those contents. Only one of the mother from upper socio economic class said that her daughter was not benefitted from watching screen because her daughter watches too much screen. That mother also informed us about her daughter's delayed speech and watching screen has worsened the condition. She does not even recite the rhymes she watches.

Content Selection: We received mixed answers when asked about content selection of children. However, most mothers were aware of what their children are watching on screen or what types of games their children are playing on their gadgets. Five mothers from upper socio-economic class said they do select contents their children watch or investigate before letting their child watch a content or use an application. They said their children watches cartoon, rhymes, songs, creative crafting videos etc. Two of these mothers do not try to select contents but their child mostly watch different cartoon and they do keep an eye on their children's gadget use and contents they watch. One of the mothers said she works full time so it is difficult for her to choose contents her child watches but she is aware that her daughter mostly watches rhymes and songs on You Tube.

All the eight mothers from lower socio economic class said they do not try to select contents because they are either present in the scene or aware of the contents their children watches on television or YouTube. One mother said her daughter watches Hindi crime shows with them. Another mother said her son watches news with his father. Other mother mentioned Bangla or Hindi cinema or serials. So the mother seemed to have knowledge about their children's screen usage but they do not try to select appropriate contents because they think whatever they watches are appropriate for their children too.

Appropriate age of introducing gadgets to children according to mothers: Mothers were asked what age they think is appropriate for children to start watching screen or using gadgets. Surprisingly even most of the mothers think 2 is appropriate age for children to start using gadgets. From both groups out of 16 mothers 10 mother thinks it is okay to give children screen or gadgets by age two. One of them did mention that the contents should be educational, for example rhymes, counting, songs, alphabets etc. Three of the mothers think children should be exposed to gadgets by age 3, two mothers think 4-5 years is appropriate age for gadget exposure and one mother think parents should give their children gadgets when they are 7 years old. The mother who suggested 7 years should be the age for children to start using gadgets thinks that if anyone has caregiver for their children at home then they should avoid giving screen to their children. She has suffered a lot for her daughter's addictive nature of screen usage and she is a full time job holder so regulating her child's screen time is difficult for her.

Screen Time Management: Mothers were asked if they try to manage the time during the day when their children watches screen and why it is necessary for them to maintain the screen time for their children. We received similar response from mothers from both group, for example some mothers from each group mentioned that they try to maintain their children's screen time so that their routine does not get blundered by over watching screen or too much screen at night which will hamper child's sleeping routine as well as it will make the child sleep more the next morning and eventually will make the child late for school. One mother said it is important to maintain screen time of children otherwise too much screen time can become a habit of the child. Some mothers said they work full time so it becomes difficult for her to maintain her child's screen time. Other mothers said they do not try to maintain screen time of their children because it keep their children entertained.

Behavioral outcome: Mothers from both group did notice that screen time does affect their children's behavior. Mothers said children mimics what they watch on screen. Some children acts, sings and dances like their favorite actor, actresses or characters they watch on screen. For example, few mothers from lower socio-economic group said their children sing, dance and utter dialogues form the Bangla or Hindi movies they watch on television. One of the mother from upper socio economic class said, *“My daughter acts as Rapunzel- a Disney character and pretends to have long hair with scarves wrapping around her head.”*

Children sometime throws tantrums for more screen time than he or she is allowed to watch. To avoid this situation where the child can get upset or show anger, some mothers allow them extra time which can be dangerous as days pass and these children become older.

Many mothers from this study said their children watches screen whenever they are eating dinner or lunch. One mother said it is difficult for her to feed her daughter without screen.

From others statement in this study the common time among children's screen use is their meal time. This is concerning because the children won't understand the value of food and will earn to eat not focusing on the food items but to focus on the screen in front of them.

Screen time can create disturbance in regular schedule of children. Too much screen time at night will make the child late for bed. So some mothers said they try not to give their children too much screen time at night or evening because these kids will be tired and fussy the next day when they would go to school.

Screen time can be addictive towards children. Some mothers said their children are addicted towards screen. If screen is not given then child gets uncontrollable and have emotional outburst. One of the mother mentioned an incident where her child watched too much screen when her aunt was getting married. That child was not attended by her parents because they

were busy and after a while when all the functions were over that child got addicted and showed major behavior issues when screen was not given to her. One mother said: *“I wanted her to do activities or to play but she won’t. All she wanted is to watch screen. She was addicted.”*

4.2 DISCUSSIONS

This study has mothers who belong to both upper socio economic class and lower socio economic class of the society. All of these mothers reported to have some sort of screen gadgets in their household to which their children had access to. Mothers reported that their children uses different types of gadgets, TV, cell phones, tablets etc. The picture of device use in western world and Bangladesh is similar. “20% of children’s media consumption in the western countries is from mobile devices, such as cell phone, ipods/MP3 player and video player (Maniccia et al. 2011).”

Duration of screen use among these children were between 1-6 hours. Children mostly watch different types of channels on television which includes cartoon channels, Hindi and Bangla channel. You Tube is a popular application among children to watch different types of video clips. Some mothers also reported that screen is the main source of entertainment for their children. Gadgets are used by children as young as 18 months of age (Anuradha, 2019). In another research this has also been found that, Preschool children spend very little time being active but a substantial amount of time engaged in screen-based entertainment (Hinkley et al., 2012).” Lack of neighborhood friends, play area, safe playground has made it difficult for children to go outdoor for play and socialising with other children. Mothers also seemed to use screen as babysitter to keep children quiet, seated and to feed their children which have negative consequences. Excessive media use has been found to be associated with many

negative behavioral and health consequences (Maniccia et al., 2011).” Sedentary lifestyle and many health issues among children might be occurring in Dhaka due to excessive usage of screen among children.

Mothers mentioned that children are also exposed to television due to adults. When adults are watching, children are also watching. So, adults from both socio economic group are careless about the contents their children are watching. Mother from both socio economic background regardless of their educational background has similar view about limitation of their children’s screen time. Which clearly indicates lack of awareness among mothers about the dark sides of excessive screen time among young children. “Parents who consider the impact of media use to be more positive may create a household environment in which children are welcome to use devices when they have free time, whereas homes in which parents have a less positive attitude about the impact of media use may set the stage for a home environment that is less focused or reliant on media technology (Lauricella et al., 2015). Mothers gave mixed responses about time limitation. There are guidelines for parents on screen usage of their young children. According to Anuradha 2019, “There are guidelines to help. Parents should encourage their child to have at least 20 min (ideally 60) of moderate to vigorous physical activity daily.” In Bangladesh no such guideline have been developed to help parents understand the amount of time they can allow their children to use screen. Some of the mothers said they do not think it is necessary to limit the screen time because their kids have nothing to do during their free times. A very few mothers think it is important to manage the time because it can become a habit which can negatively impact the routine of the child. Most mothers said screen time is beneficial for their children because children learnt different things from contents they watched on screen. Mothers noticed behavior of children gets affected from watching screen, for example, meal time screen viewing, and addiction towards screen.

This study tries to put light on a very important topic of too much screen use by the children which is an emerging threat to the society. Hopefully parents, caregiver, teacher and more over government will be careful and provide a guideline about screen use for young early age children.

This study was initiated to create awareness among Bangladeshi parent about the physical and mental drawbacks of using too much screen among young children. This study also hopes to bring attention of the policy makers and government of Bangladesh on this topic, so that government could take necessary steps to make a guideline for Bangladeshis parents on children's screen use. Mothers mentioned due to lack of proper, safe and secured play area they do not send their children outdoors to play. It is true that we do not see children playing outdoors anymore in the afternoons like before. Government should also promptly build safe playground for children in different communities of Dhaka city where children can freely play and explore the nature instead of staying home and pass time on gadgets. Availability of different gadgets in every house hold has made the children a part of this gadget culture in our country. The rise of screen time and gadget usage among children for past couple of years are now showing the side effects and this epidemic is now being noticed by the adults of the country. Therefore a parental guideline needs to be developed and spread among parents to ensure safe use of gadgets among children of our country. Number of studies on this topic in Dhaka is very low therefore, this study was done to understand the behavior of children towards screen, duration of screen time, contents being watches by children, and mother's attitude towards children's screen time.

4.3 CONCLUSION

Gadget usage by children are increasing all over the world day by day. Building awareness and

guiding children to use gadgets and screen in a healthy way is needed. For this reason, more research is needed and a guideline for parents on this topic is essential. Understanding parent's perception about their children's screen use is important to develop a guideline. Many mental and physical health risks for children are associated with screen usage. For this a guidance for parents is important to regulate children's screen time.

4.4 RECOMMENDATION

To protect Bangladeshi children from negative effects of too much screen use, Government and policy makers need to make a guideline for parents on their children's screen use. More research with larger population is needed as in Bangladesh not very many researches were done on this topic. GO and NGO's need to get involved and raise awareness among families.

Workshops, seminars and other support group need to be formed to spread knowledge among parents as well as to help parents implement rules to regulate their children's gadget use.

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APPENDIX: SURVEY QUESTIONNAIRE

During the survey referral of “Devices” means mobile phones, computers, laptops, tablets, games consoles, smart TVs etc. - any electronic gadgets that has a digital display monitor.

1. What is your name?
2. How old is your child?
3. Is he a girl or boy?
4. What is your profession?
5. What type of gadgets do you have at home?
6. which of these devices your daughter has access to?
7. How much time she spend on screen on a daily basis?
8. What channels or apps do she watches mostly?
9. What type of TV shows or clips she watches on screen?
10. Does she go to school?
11. Do you have any routine that u have set for her to follow?
12. What time she uses screen?
13. The shows she watches do you think they are beneficial for her?
14. Do you select appropriate contents for her?
15. Do you regulate the time she spends in front of the screen?
16. What age she started using devices independently?
17. Do she mimics what she sees on the TV?
18. Does she sometimes wants to watch more than her time limit?
19. is it important to you to maintain the time?
20. Did your daughter met all the milestones on time? Speech, walking etc.

21. What age do you think children should be introduced to screen or gadgets?
22. Do you think it is important for children to learn using gadgets or screen?
23. Do your daughter got benefits from using gadgets?
24. How do you know gadget has caused her speech to delay?
25. Do your child like to play or do other physical activity?
26. Do you let your child go out door to play? Or do you take her to places like park?
27. What do you think about children's gadget use in general?

