

Prolonged Digital Screen Effect on Preschool Children:

An Analysis from the Perception of Parents of Dhaka

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Submitted by

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Declaration

I, the undersigned would like to declare that this paper is solely presented for the thesis works titled as “Prolonged Digital Screen Effect on Preschool Children: An Analysis from the Perception of Parents of Dhaka”. My polite request is to the honorable supervisor to accept this thesis work which is submitted for the degree of “Master of Development Studies (MDS)”. I declare that the work done in this thesis is unique and it is not used elsewhere. I am benefited by the work as I have obtained the knowledge and skill on quantitative research study which will help me to pursue my future research career. I would like to do more investigations in future with this related topic.

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Certificate of Originality by the Supervisor

The research entitled “Prolonged Digital Screen Effect on Preschool Children: An Analysis from the Perception of Parents of Dhaka” has been prepared by Asif Mohaisin Sadri, (ID No. 17162018), BRAC Institute of Governance and Development (BIGD), BRAC University and submitted for the degree of Master of Development Studies (MDS) under my guidance and supervision. To my knowledge the report has been prepared based on original work done by the author. So far as I am aware, he did not submit this report fully or partially as a required subject of study to this university or to any other institution. The report may be accepted for evaluation and completion of the degree.

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The Author

ABSTRACT

Availability of devices with display screen are increasing rapidly even in developing countries like Bangladesh. Little or no concern is usually given to regulate a healthy guidelines for children's device use. Parents are the first educators of their children and they play a primary role in regulating screen time. A perception analysis from parents' observation provides the proper visualization regarding the behavior patterns of device use by children. This study commenced in order to finding out the existing conditions of gadget use by children in Dhaka. Quantitative method was used in this study and data was collected through a developed questionnaire from a sample of parents having young children (between 1 to 10 years old) residing in Dhaka city to investigate the nature of device usage by children. Existing studies show significant link between excessive device usage and health issues in children. Behavior pattern suggested that children use devices almost 2 hours per day and viewing of smartphone and tablets from a close distance is most common in children's of Dhaka. This study showed that parents faced many behavioral issues that link with the existing studies done in different countries. Study findings also reflected the same behavioral issues that arose due to excessive device usage. Parents being properly aware and based on their willingness it is pertinent that there is a need for interventions to create a substantial awareness programs.

Keywords: toddler, gadgets, screen time, electronic devices, display screen, parent's perception. Preschool children, children of Dhaka,

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CHAPTER ONE

INTRODUCTION

Today's life is practically impossible without the use of electronic devices. It is almost unthinkable to spend an hour without electronic devices. Electronic gadgets have played their part in enhancing the personal satisfaction significantly for the people of this century. Electronic gadgets are more broadly utilized especially by youngsters, however little thought is typically given to the health risks they pose. Electronic devices have been linked with many health issues. Safety guidelines that are provided by the manufacturing companies are the least the users can do to keep themselves safe. However, very limited guidelines are available in order to avoid the potential health risk for children who use the electronic devices.

1.1 Background of the Study

Children aged between 3 and 5 years are defined as preschool years. This period is crucial in the foundation of development of health behaviors in children, such as physical activity and engagement in screen based entertainment. Health and social outcomes, such as children's weight status, behavioral problems, educational attainment in adulthood, social competence are linked with their behavior of display screen based device use. Parent's awareness of the adequate levels of appropriate screen-based device usage is very important as they are the key observant and immediate, important guide for their children. This study investigates the duration Dhaka city's preschoolers spend on devices usage. In existing studies the viewing habits of children that were considered was only the television and videos/DVDs. The lack of inclusion of time in other screen-based viewing behaviors may potentially underestimate the total time spent in screen-based device usage. In this study the term 'Devices' referred to all the electronic gadgets that have a digital display monitor, such as, smartphones, smart televisions (TVs), computers, laptops, tablets, games consoles and so on.

Electronic gadgets are becoming more widely used particularly by children but little consideration is usually given to the developmental risks they pose. The foundation of health behaviors in children happen in the Preschool years (aged 3-6). According to a

study in Melbourne, the majority of young children are not participating in adequate amounts of physical activity and in excessive amounts in screen-based entertainments (Hinkley et al. 2011). Similarly, being one of the top ranked (26th) countries with highest number of internet users in the world ("List of countries by number of Internet users," n. d.) children of Bangladesh has higher potential to be exposed to digital screen. Particularly in urban center of the country such as in Dhaka children have the potential to be exposed to digital screens for long hours due to increased social factors such as increased number of nucleus family, working of both partners, increased use of digital instruments in educational institutes, and inadequate opportunities of outdoor sports.

Screen time is primarily sedentary in nature, meaning that children are sitting or lying around while using devices. More time spent sitting leads to weight gain, poor muscle development, and many other physical problems. As for the eyes dry-eye disease has become common issue which happens because of the rate of blinking is reduced as the frequency of viewing of screen increases. The strain of constantly using near point vision on electronic devices is especially problematic for children, many of whom can become nearsighted as a result. In 90 percent studies from 1999 to early 2014 researchers found out that screen time is adversely associated with sleep outcomes (Hale and Guan, 2014). Studies have shown that children with attention deficit hyperactivity disorder (ADHD) symptoms spend more hours engaged in screen time activities than children without ADHD (Holton & Nigg, 2016). As the amount of time spent with devices increases, so do symptoms of ADHD.

Beurkens (2017), a clinical psychologist and nutritionist stated that one of the top concerns raised by the parents at her clinic is the amount of time children spend on electronic devices, and how to manage this issue without the constant fights, arguments, and distress for everyone involved. This demonstrates parents' worrying about the health of their children. However, how many are aware of these adverse effects of digital screen exposure and how many of them take necessary preventive measures to mitigate these are not well-known. In this context, the present study will investigate these issues with particular focus on will be investigated in this research. This study will investigate to what extent screen time is affecting the behavioral dimensions and eye health of young children in Dhaka city.

1.2 Rationale

Electronic gadgets (devices with digital screen. i.e. Smartphone /tablets /television /computer monitor) are becoming more widely used particularly by children but little consideration is usually given to the developmental risks they pose. This study will investigate to what extent it can affect the behavioral health and eyes of young children. Different researches collect data on prolonged use of digital screens by children aged from 3 and above. However, none has focused on the effects on the toddlers (children aged from 12 months to 36 months). This study fills in the gap by showing the current patterns and trends of awareness of parents regarding the use of devices with digital screen.

Nowadays daily life is almost impractical to visualize without the use of electronic devices. As children use gadgets for various purposes like playing games, watching videos, listening songs, chatting with their friends, browsing different websites even often for doing homework or test preparation. They spend most of their time in these activities and hardly focus to their posture, screen brightness, and screen distance from their eyes which ultimately affect their vision and health. Moreover, due to being engaged with the virtual exposure, lack of communication with surrounding real life people triggers the socio behavioral issues for them. Therefore, investigating this from the perception of parents of the city of Dhaka will be important for understanding the issue as well as to find out possible remedy measures from their perspective. Study findings will enable the parents to recognize the present malpractice and respond according to the significant steps with positive intervention.

Eyesight is one of the first issues that are caused by exposure to certain electronic devices. Gazing into electronic devices for two or three hours can cause dryness of the eyes, irritation, dark circles and more. Sedentary lifestyle due to excessive device use is very common in today's world. The constant irritability in children and adolescents aged 6-18 years which are categorized as behavioral problems. Children who spend inordinate amounts of time with electronic gadgets are found to be prone to this condition. With no apparent reason they stay irritated with adults and other children and also have temper outbursts. This condition is very similar to the temper tantrums seen in children with Disruptive Mood Dysregulation Disorder (DMDD). Devices emit a blue light that can

suppress the melatonin hormone release which helps to fall asleep. Night time use of the devices can make sleep cycles irregular. Long use of devices is associated with back pain as longer use of devices in a bad posture creates multiple types of back pains. Longer usage of these devices poses all of these types of effect on health in contrast with little awareness to avoid these in the society. In a developing country like Bangladesh very little attention is given to the health issue awareness on the device use by children. This study was done to investigate the existing conditions of device use in children and the awareness of parents regarding the health issues.

1.3 Research Aim and Objective

The study aims to find the screen time impact on Preschool Children of Dhaka city through the analysis of parents' perception. Following are the objectives to explain the research goal.

- a) To identify the level of awareness among parents in Dhaka city regarding the health and developmental issues of excessive use of devices screen by preschool children
- b) To investigate the behavior pattern of device usage, duration of the use of devices per day and the distance (from eyes to screen) maintained by the children,
- c) To determine the prevalent types of precautionary measures for limiting device use taken by the parents and the effect and consequences of these preventive measures on children.

1.4 Research Questions

The target population of this study was Dhaka and this research tried to determine the level of awareness of the parents of Dhaka city. This study also tried to determine the average duration (hours use per day) and distance maintained (from eyes to screen). Along with these what methods of preventive measure parents are already using to limit the screen time and if these methods have any effects on the children. Based on these dimensions the following two sets of questions have been developed.

- i) To what extent parents are aware about the consequences of too much screen time for their children?
 - a) Are parents aware of the negative consequences of prolonged exposure to digital screens?
 - b) What is the duration of the use of devices by children per day?

- c) What is the distance (from eyes to screen) maintained by the children?
- ii) What are the current trends of limiting their children's screen time by parents?
 - a) What types of precautionary measures are taken by the parents?
 - b) Do they have fights or argue over the precautionary measures?
 - c) Did the preventive measures help their children to spend less time on devices as they grow up?

1.5 Significance of the Study

This research will create an understanding of the proper and adequate measures that should be taken by the parents in order to ensure the good physical health of the children. Significant changes of health due to screen time can be determined by this study which will be given proper attention to avoid the potential health risk.

This study will help increase awareness on the health issues on children from longer use of gadgets. It will contribute to understand the parent's apprehension and awareness of the developmental buildup of their children. The study will help the behavioral health researchers and developmental pediatricians understand the developmental build up in Children.

Particularly, this study will have important understanding for the parents of Bangladesh which is having one of the highest urban growth rate in the world as well as related negative consequences. The related communities such as: education sector, public health organizations can strategize their projects accordingly for the betterment of the future generation. In the social context, this study will help saving the nation's next generation from becoming paralyzed.

1.6 Structure of the Study

This paper is organized into five chapters. First chapter will provide the introduction, relevance and objectives of the study. Second and third chapters cover the literature review and research methodology respectively. Fourth chapter consists of detailed analysis of all the findings of this study. Finally, chapter five comprising the summary, discussions and conclusion of this study with a brief guidelines for device use and way forward for future studies.

CHAPTER TWO

LITERATURE REVIEW: Exposure to Digital Screens and Impacts

We live in a digital world and most children are exposed to digital screens time in their first five years. According to a study sixty 68 percent of children aged under three are exposed to devices screens, such as TV, DVDs and video games, everyday (Duch et al., 2013). They also mentioned that use of devices with screens increase with age and their study pointed that there is a need for appropriate intervention in order to reduce young children's screen time.

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, average time spent with each medium per day increased from 6:21 to 7:38, a total increase of 1 hour and 17 minutes.

2.1 Behavioral Problems

2.1.1 Irritability

Electronic devices have been associated with boundless well-being concerns like damaged immune system, impotence, and hindrance to brain growth of a fetus, genetic damage, DNA alteration and much more. Following the guidelines of safe use of the device announced by the government or even the manufacturers is the minimum one can do to protect themselves. (Abbasi, 2017). 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. Behavioral problem is another issue which can be the persistent impatience in kids and teens aged from six (6) to eighteen (18) years. Children spending excessive

duration of time with electronic devices are found to be disposed to this condition. Without any reason these children remain irritated with grown-ups along with other youngsters. Kids 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.

2.1.2 Aggression

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. Depression is just one of the mental health dangers linked with irregularity in sleep. Moreover, children playing violent games for an extended period of time, tend to be more aggressive.

Bhola (2017), being as a doctor mentioned that lots of kids are exposed to devices under the age of five (5) years. These devices have also become an essential teaching instrument in classrooms. A student aging from eight (8) to eighteen (18) years can be exposed to devices for more than ten (10) hours per day if the school screen time is combined with at-home device use. An early experience with technology might prepare children for prospectus jobs in technology-related areas, or occupations requiring dominance on technological knowhow. But not otherwise, because of the potential threats of many health concerns due to reduced physical movement. However, Sundus (2018) countered that Electronic gadgets have considerably progressive learning alternatives for kids in an enjoyable approach than books or older methods. He reiterated that children have better motor skills, improved cognitive skills while teaching kids in these ways. Technology has turned out to be extremely useful in teaching students. Educational websites are easily accessible to children and they can get thorough info about necessary subject.

2.2 Attention Deficit Hyperactivity Disorder (ADHD)

Holton and Nigg (2017) contended that recent meta-analysis affirms a minor but solid relationship of screen time with manifestations of attention deficit hyperactivity disorder (ADHD) symptoms, which appeared, based on a few experimental and prospective investigations, to have a causal component. Also, a kid having a television in his or her

room has been associated with increased overall screen time by roughly 32%, and the existence of a television in the bedroom has been related with increased sleep complications as well. Current guidelines from the American Academy of Pediatrics recommend less than one (1) hour to two (2) hours of total screen time per day and exclusion of TVs from the bedroom (American Academy of Pediatrics, 2013 as cited in Holton & Nigg, 2017). From this investigation it is vital to note a limitation of the screen time data, since guardians do not directly monitor all screen time that may happen during the day, some screen time, for example, that happening on handheld gadgets amid school hours and screen time on PCs at school are presumably not being reflected in screen time estimations. German specialists have additionally demonstrated that ADHD indications were distinctly connected with television watching; on the other hand, they reported a positive connection with total physical movement (van Egmond-Frohlich et al., 2012 as cited in Holton & Nigg, 2017).

2.3 Physical Health

While considering the early onset of childhood disorder, obesity in ADHD for using smart phone and computer is also significant. Youngsters with ADHD symptoms were probably going to spend more time using a PC amid school days; they were additionally bound to eat while utilizing a PC. Likewise, these youngsters 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. 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. Prolonged screen time exposure increases the danger of obesity in both typical kids and kids with ADHD. Despite the fact that the discoveries in past investigations are opposing, most researchers still emphasize the role of electronic gadgets in inclining youngsters to put on more weight. In the light of conflicting discoveries above and high significance of lifestyle-related practices, it proposed that kids with ADHD which may more likely to expose children into outdoor eating, screen time and restricted physical activities. (Tang, Xiong and Tan, 2016). In addition, Sundus (2018) also examined that Negative effects of gadgets use are learning problems, attention deficits, anxiety, and speech or language delay and childhood depression.

2.3.1 Obesity

A cross-sectional study of the Netherlands Association by Jong et al. (2013) mentioned the connection among television watching and obesity isn't clarified by socio-demographic factors, drinking sweetened beverages and snack intakes. Variables in the home setting impact kids' television watching. Parents have a vital role as they decide the quantity of televisions, guidelines and furthermore their kids' sleep time. Along these lines, mediations to lessen screen time should encourage parents in making home environmental changes, particularly when the kids are young. Studies demonstrate a solid link not just between socio-demographic factors and childhood overweight, yet in addition between socio-demographic factors and television viewing. 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. The outcomes indicates that if intervention at lessening television viewing, it is better to target four (4) to eight (8) year old kids than nine (9) to thirteen (13) year old children. The aim of lessening television viewing and the use of PC should not be to increase physical movement, but rather to increase sleep duration.

2.3.2 Active vs. Sedentary Movement

On the same platform Anderson et al (2008) showed the result that high predominance of childhood obesity underscores the significance of checking people trends in kids' activity and screen time, and portraying relationship with kid's gender, age, weight status and ethnicity/race. Results are reliable with a developing collection of research showing great amounts of TV viewing and use of media in kids in the US and other developed nations. Their study showed that 65 percent of four (4) to eleven (11) year old kids in the US spend more than 2 hours per day on an average in front of a TV or PC screen (high screen time). Also for preschool kids (4 to 5 years), 60 percent of boys and 55 percent of girls had high screen time. Investigations of the US Third National Health and Nutrition Examination Survey 1988–1994, demonstrated that 26 percent of eight (8) to sixteen (16) year old kids watched four (4) or more hours of TV each day. Correspondingly, in the Health Behavior in School-aged Children study (1988), the extent of eleven (11) to fifteen (15) year old youth viewing more than four (4) hours each day of TV was approximately 19 percent in Austria, 21 percent in Norway, 23 percent in Finland, 28

percent in Hungary and Scotland, and 37 percent in Wales. A recent study of NHANES 1999–2002, Mendoza et al. observed preschooler's prior day media use and stated that 31.4 percent of two (2) to five (5) year old children had viewed more than two (2) hours per day of TV/videos on the previous day; when use of PC was incorporated 37.3 percent of preschoolers had more than two (2) hours per day of screen time. Video games and television viewing have links with increased obesity (Tremblay 2005 as cited Rowan, 2014).

These estimates are considerably lower estimate for four (4) to five (5) year old kids of 58 percent having more than two (2) hours per day of screen time; this variance may be due in part to how screen time was evaluated. In the studies by Mendoza et al. and Vandewater et al. (as cited in Anderson et al, 2008) additionally considered that parents were asked to report how much TV, video, and PC time their kid had on the preceding day, whereas estimates by Anderson et al. are based on questions that were asked to parents to state the average hours each day their children viewed or used a PC throughout the preceding thirty (30) days. Between NHANES 1999–2000 and NHANES 2001–2002 the time period referenced in the queries about kids' TV viewing and PC/video use changed from the preceding day to the average of the past thirty (30) days. Research suggests that the relationship between age and screen time may be curvilinear with increasing levels in early childhood, a peak at about age nine (9) to twelve (12) years and declining levels in teenage years. Evidence supports a number of different, yet possibly correlated, systems by which screen time may influence risk for obesity; including divulging children to a superior amount of food advertisement and thus potentially persuading their consumption of energy dense, nutrient poor, snack foods inspiring greater food consumption when kids eat while watching TV and affecting sleep quality or quantity.

2.4 Language Delay

Sachse and Suchodoletz (2007) showed that developmental language disorders are characterized by serious difficulties in language acquisition without a recognizable reason for example physical disability, general mental retardation, hearing impairment, or overall communicative disorder to be at great risk of future academic, behavioral, and social difficulties. At the age of 2 years language delay can be identified. In addition,

language development can be affected by the complex interaction of genetic and environmental influences (Kidsense, 2017).

2.5 Sleep Deprivation

Another research by Hale and Guan (2014) found that Screen time (e.g., TV, PCs, computer games, and cell phones) and sleep outcomes (primarily shortened duration and delayed timing) among school-aged children and adolescents is adversely linked in 90 percent of studies. A portion of the outcomes has shifted by type of screen exposure, age of participant, gender, and day of the week. Youth ought to be guided to limit or lessen screen time exposure, particularly before or during bedtime hours to minimize any dangerous effects of screen time on sleep and health. Over a wide range of screens, they found that 90 percent of published studies demonstrates a noteworthy opposing relationship with at least one of the measured sleep outcomes. Computer use (94 percent of studies), unspecified screen time (91 percent of studies), video games (86 percent of studies), and mobile devices (83 percent of studies) were most reliably detected to be linked with adverse sleep outcomes. The classification of screen which was least likely of having an adverse link with sleep outcomes was TV viewing (76 percent of studies). This ranking is consistent with work hypothesizing that interactive screen time like use of PC is more harmful to sleep than passive screen time like TV viewing.

2.6 Social Behavior

In an Australian recommendation by (Hinkley et al, 2011) Participation in 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 this study shows that preschool children are inadequately active and occupied in extreme amounts of screen-based entertainment. The preschool children require positive interventions in order to regulate healthful amount of physical movement and display based entertainment. As it was clear from their study that preschool kids already occupies themselves in an excessive quantities of screen based entertainment activities in their home environments, they suggested that it would be practical for staff and

teachers at preschools and childcare centers to eliminate any screen based entertainment activities from their everyday curriculums.

2.7 Eyesight / Vision

Beurkens (2017) highlighted that many problems can result from overexposure. Several physical and mental health concerns that can happen to kids, teenagers, and young adults when they invest excessive time in devices with display screens and small amount of time engaging in activities with the people around them. There are numerous areas of well-being and function that can be adversely affected and parents should know about these issues with the intention of setting expectations and boundaries that assists kids to develop healthy device practices. Kids require more sleep than grown-ups. Even a half hour sleep loss can adversely affect their behavior on the following day. Severe sleep deprivation can be caused by disruptions like Notifications, ring tones, and different sounds originating from devices which can result in serious physical and mental health issues. She also argued that increased time with electronic gadgets can prompt a wide variety of severe health complications including obesity, insulin resistance, belly fat increase and greater risk of Type 2 Diabetes. Kids spending more time in TV viewing, movies, and engaging with online media means the more they are exposed to food and restaurant ads directed at kids. The negative effect on our eyes and visual function which is caused by the use of frequent electronic gadgets with display screens is termed as Computer Vision Syndrome. The stress of continuously using near point vision on electronic gadgets is particularly harmful for children, considerably a lot of whom are becoming myopic/nearsighted as a consequence. Vision problems (such as, shifting vision from near to far, and integrating vision and motor skills) in kids also makes it much more challenging for kids to function in classrooms. Many online communities and support groups are accessible where children can benefit from sharing their experiences and receive support from others in related conditions.

2.8 Cyber bullying

Nonetheless, studies determine that increased technology use has the potential to create social detachment, and adversely affect the progress of social and relational skills. Children who are exposed to violent videos games, television programs and movies tend to have more aggressive manners, poorer perspective taking skills and reduced ethical

growth. Excessive amount of screen time prompts a decrease in quality family time and a growth in severe parent-child clashes can result from continuous use of mobile phones and social media. Another important social concern is Cyber bullying, as the anonymity of online communication can lead kids to utilize less self-control and act in ways they would not offline.

One important point is that parents are often unaware that their kids are sufferers of cyber bullying and this is unfortunate as cyber bullying prompts significant long-lasting harmful effects such as anxiety, depression, increased stress, and suicidality. Defending factors against cyber bullying include regular parent monitoring of Internet use, and limits on time spent on the Internet and content consumed.

In terms of cognitive Skills Development and Academic Problems and Learning Challenges Beurkens (2017), also mentioned that exposure to device displays under two (2) years of age adversely effects language and cognitive development, precise learning problems links to increased PC/keyboard usage.

2.9 Cognitive Skills

Kids benefit from handwriting rather than typing, particularly at young ages, as handwriting assists them develops reading skills. Handwriting is more beneficial for refining reading and writing in kids. The additional time children spend typing or using touch screens, the less time they are spending on small motor skills such as forming letters and coloring with crayons or pencils. This negatively affects their mental health and academic functioning.

Lanningham-Foster et al (2006) argued that an imperative factor in understanding sedentariness is the several hours every day that people occupy themselves in seated screen-based activities like TV viewing, video gaming and using a PC. Typical behavior models and substantial quantities of video gaming units and PCs demonstrates that kids are investing more time in front of device displays than they did beforehand. Moreover, estimates show that screen time for kids is probably going to continue to rise rather than lessen. It was considered that changing seat-based screen time to activity-associated screen time is an important method for encouraging an active atmosphere that is also fun for kids.

2.10 Developmental Growth

Rowan (2014) exhibited a whole range of practical reasons to avoid handheld devices like cell phones, internet and iPads as these causes' extreme negative effects in later life. Stimulation to a developing brain triggered by over exposure to devices with display screens has been presented to adversely impact executive functioning and cause cognitive delays, impaired learning, attention deficit, increased impulsivity, and reduced skill to self-regulation e.g. tantrums (Small 2008, Pagini 2010 as cited in Rowan, 2014). Use of technology limits movement, resulting in hindered growth. One in three children nowadays enrolling school developmentally delayed, adversely affecting literacy and academic achievement. Movement of the body enhances responsiveness and learning skills (Ratey 2008as cited in Rowan, 2014). Under the age of twelve (12) years use of devices is harmful to child development and learning (Rowan, 2010). Overuse of technology is also implicated as underlying reason of increasing rates of child depression, anxiety, attachment disorder, attention deficit, autism, bipolar disorder, psychosis, and problematic child behavior (Bristol University 2010; Mentzoni 2011; Shin 2011; Liberatore 2011; Robinson 2008). Moreover, violent media content causes child aggression (Anderson 2007). Another issue is digital dementia that is super-fast media content causes attention deficit, as well as reduced attentiveness and memory, due to the brain pruning neuronal tracks to the frontal cortex (Christakis 2004, Small 2008 as cited in Rowan, 2014). The more parents are attaching to technology the more they are detaching from their kids. If the parental attachment is not available, isolated children attach to devices which results in addiction (Rowan, 2010).

Overall, The Effect of Electronic Device on Human Health is seen as extreme long term negative outcome. Brightness of Electronic Device and Radiation of Electronic Device affect the eyes, disregard of physical fitness, poor diet and hygiene, sleep deficiency and long-lasting exhaustion, emotional distress, depression and anxiety, and relationship difficulties (Krishnan et al, 2017). In addition, the consequences of too much screen time are vision loss for bright LED screen light (Parenting Today Staff, 2017). Negative Effects of Social Networking Sites for Students are loss of motivation in students. Reduced learning and research capabilities also seen as the students practice to kill the boredom in their study time, diverting their attention from their work. In May of 2011, the World

Health Organization classified cell phones (and other wireless devices) as a category 2B risk (possible carcinogen) due to radiation emission (WHO 2011).

Children's exposures to digital screens and impacts on health have been stated mostly based on the various countries. It is generally observed that very few studies have been undertaken on this important aspect of child development in Bangladesh. This study helps understand Bangladeshi urban scenario in this context. Furthermore, the understanding of this issue based on researches carried out in various countries will help frame the present research.

2.11 Conceptual Framework

Electronic devices are becoming widely used mainly by today's younger generation but slight attention is typically given to the well-being risks they pose. According to many types of research on the impact of screen time on children outlays on whole range of hazards like brain health, obesity, behavioral problem, Stress, Depression and Sleep Disorders, Children developmental effect, socially stunt, biggest health issue in Vision, Attention-Deficit, Language Delay, Physical Health Issues, Poor Relationships, Communication Problems, and Social Disconnection, Cognitive Skills Development, Academic Problems and Learning Challenges, Aggression and many other mental illness. Although very limited finding show hardly one or two positive impact of extensive gadget use and prolong screen time in academic study or entertainment; it is less considerable. Therefore, electronic screen continuously for long time causes all developmental delay which is worth restricting and controlling the gadget screen exposure of children.

This examination started with the possibility of venturing out to take the first step to create well-being awareness among the people of Bangladesh. Dhaka, most densely populated urban city which bears more than 23 thousand individuals for every square kilometers are bound to have shortage of play areas for youngsters and they will undoubtedly be bogged down with devices. As there weren't any substantial research done in Dhaka on this subject, the commencement of this study started with the aim to discover the current device usage behavior pattern, duration of utilization, distances maintained by children, preventive steps taken by parents and if the measures had any effects. It is also important to know how far parents are aware of the consequences of excessive use of gadgets in developing countries like Bangladesh. Furthermore, due to

various social factors (i.e. less availability of playground in Dhaka city, less siblings in a nuclear family, less social interaction within neighborhood), it may be assumed that parents are unable to reduce screen time of children.

Most of the time parents think that they are the best judge of their children. It is true that they are in fact very careful about their children. But their negligence to the fact that too much use of gadgets with display screens harm children could lead to major damage on the developmental buildup of the children. Study findings will enable the parents to recognize the present malpractice and respond according to the significant steps with positive intervention.

RESEARCH FRAMEWORK AND METHODOLOGY

3.1 Research Methodology

The impact of prolonged digital screen time adversely effects on the developmental buildup of a children. However, it is very important that the parents are adequately aware of these effects. It is also pertinent that parent's observation of their children's behavior on screen based entertainments can shed a light on the present condition of the children. So through asking questions to the parents will help us analyze the exposure time of their children to the screens of devices. Whether parents take preventive measures to reduce the time or whether they think that this exposure will have a negligible effect on their children's health is also important to be investigated.

Following methodological issues have been undertaken in order to achieve research objectives and address the research questions stated in Section 1.3 and Section 1.4 (perceptions of the parents of Dhaka city and determine their willingness to take precautionary measures).

3.1.1 Study Area (Bangladesh and Dhaka Demography)

Bangladesh is country with an area of 147, 570 square kilometers and a population of 158 million according to the Bangladesh Bureau of Statistics. The population of the country has increased by 8 million after the Census 2011, which has contributed to an annual increase in population of more than 2 million. The country has a population density of 1,070 persons per square kilometer.

Bangladesh has also made immense development in socioeconomic aspects when its Human Development Index increased to 0.570-which is the medium human development category-in 2014 from 0.386 from the 1990. It obtained the 142nd position out of 188 countries and territories. According to 2018 estimate of CIA World Fact Book the 43.5

million children aged between 0-14 years living in Bangladesh of which 22.13 million are boys and 21.37 million girls.

According to the World Population Review 2018, the Greater Dhaka Area which consists of Dhaka and the municipalities has a total population of over eighteen (18) million and the city has shown population growth of about 4.2% annually. It is one of the most densely populated mega cities in the world, with a density of 23,234 people per square kilometer within a total area of 300 square kilometers.

Similar to other cities in the world, the growing population has led to an increase in environmental pollution, traffic congestion and poverty, amongst other problems. With such a high concentration of people living in such a small area there are scarcity of playgrounds in Dhaka.

Children's needs and perceptions regarding play-grounds varied with socio-economic background, age and gender. It was found that 97 percent of playground users and 85 percent of park users are boys. Girls are almost totally excluded from using these facilities. (Ahmed and Sohail, 2008).

Large cities need enough green space but the demand for open spaces in Dhaka city has been ignored by all authorities for decades. This lack of playgrounds plays a key role that the children of Dhaka is bound to play on the streets or confined within four walls.

3.1.2 Research Method

This study has been conducted through quantitative research method. Primary data was collected by using a developed questionnaire. The factor that affects the health of children was used to develop the questionnaire. The questionnaire comprised of different parts which includes the total devices a family owns which is accessible to their children, available devices for children to use as entertainment purpose, duration of time the children are exposed to the devices, the parents awareness to the effects on different aspects of the developmental growth, precautionary measures that are taken at the present time, what are their observations while they take these preventive measure. Both

open and close ended questions were prepared, and an analysis of the responses is given on the findings section. Survey questionnaire is given in Appendix.

3.1.3 Sampling

The sample of the study was the parents of the toddlers (age 1-3) and preschoolers (age 3-5) and primary school children (age 6-10). The sample size was 63 and comprises of parents of primary school going children, preschoolers and toddlers in Dhaka City.

The characteristics of the sample size are:

•**Target population:**

- Parents of children aged one (1) to ten (10) years old in Dhaka city.

•**Age Category of Children:** Parents with children of age 1 to 10 years old:

- Toddler (aged 1 to 3 years)
- Preschoolers (aged 3 to 5 years)
- Primary school going children (aged 6 to 10 years)

•**Gender of Respondents:** Mothers usually monitor children behaviors more than fathers, which is why most respondents selected for this study.

•**Location of Respondents:** As the industrialization and development rate in the Northern part of Dhaka is higher than the Southern part, two-thirds of the respondents were selected from Dhaka North and one-third respondents were selected from Dhaka South.

- Dhaka South City Corporation Area (one-third of the sample)
- Dhaka North City Corporation Area (two-thirds of the sample)

•**Employment Category:**

- Dual-Earner Parents
- Single-Earner Parents

3.1.4 Data Collection Procedure

Respondents of this research were interviewed and the data was collected in a detailed questionnaire. The questionnaire was developed both in Bengali and English language for clarity of understanding. An online survey link was created for the convenience of response collection. Collected responses were mostly in hardcopies (47) and a few of them were filled online (16).

CHAPTER FOUR

ANALYSIS & FINDINGS

4.1 Respondents' Profile

In this study basic information was collected to get a general form of demographics. The questionnaire has a preliminary set of questions which are related to these. From the responses out of the total 63 parent respondents 78 percent (n=49) responders were female/mother and 22 percent (n=14) were male/father. The reason behind taking most of the responses from mothers was based on the assumption that the mothers are most likely to be able to provide more reliable perceptual answers as a mother is more likely to spend time with their children than a father. Furthermore, approximately 66.6 percent (n=42) were from Dhaka North and the remaining 33.3 percent (n=21) from Dhaka South. Figure 4.1 and 4.2 present respondent's gender and location is Dhaka respectively.

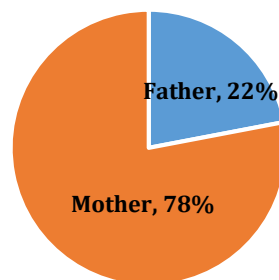


Figure 4. 1 Gender

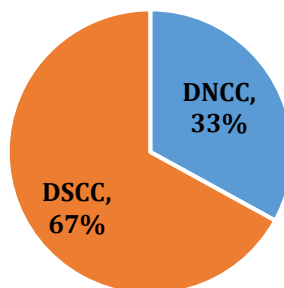


Figure 4. 2 City corporation

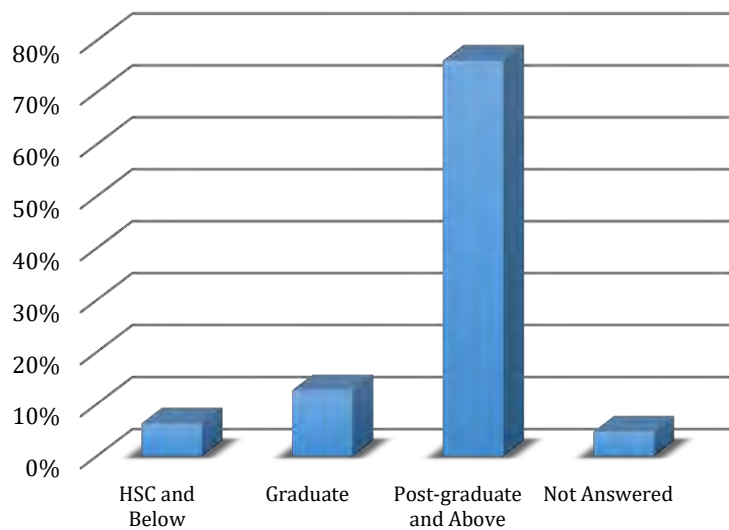


Figure 4. 3 Educational Background

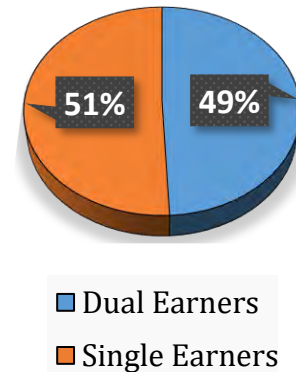


Figure 4. 4 Employment Category

Approximately three-fourth of the respondents had completed post graduate and above education, followed by 19 percent (n=12) of parents having graduate (Figure 4.3). In addition, among the respondents 73 percent (n=46) are professional job holders and 22 percent (n=14) weren't associated with any income related activities (Figure 4.4). There was also a question if their spouses were also income earner, and from their responses out of 55 respondent's 49 percent parents along with their spouse were engaged in income related activities.

4.2 Age group of Children

As this study targeted children aged from one (1) to ten (10) years old. Respondents of this study were asked to answer if they have a child of this age group, what were their ages. The surveyed parents' responses (sample=61) were grouped into three categories (Table 4.1). The groups of Preschoolers and Primary school going children are high percentage thus falling in study target category.

Table 4. 1 Parents having children

Age Group	Respondents
Toddler (aged 1 to 3 years)	14.8 %
Preschoolers (aged 3 to 5 years)	41.9 %
Primary school going children (aged 6 to 10 years)	44.3 %

4.3 Availability of Digital Devices in Households

Table 4.2 demonstrates the number of devices (at least one or more) with display screen that are available in their (sample=63) houses. It is observed that Smartphone and television are available in almost all of the respondents' houses. And this indicates that the children are most exposed to these two types of devices. Laptops and Tablets are also in 3rd and 4th place in terms of exposure.

Table 4. 2 Device availability percentages in households

Type of device	Respondents (in percent)
Smartphone	98.4
Tablets	50.7
TV / Smart TV	82.5
Desktop Computer	34.9
Laptop	68.3
Gaming Console	3.2

4.4 Number of digital devices used by children

Now to answer one of the key questions, that is, the numbers of devices which are frequently used by children are presented in Figure 4.5. It is revealed that 98% children aged under 10 years have access to one or more devices which they are frequently using. 25% kids have one (1) device that they use frequently, 27% kids have two (2) devices, 24% kids have three (3) devices and 22% kids have four (4) or more devices that are frequently used by them.

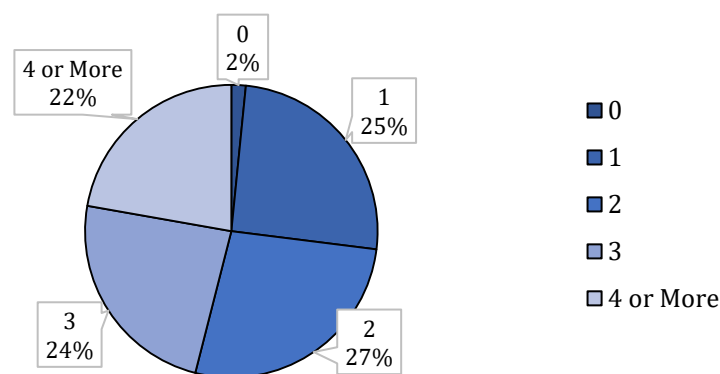


Figure 4. 5 Number of device accessible to children

4.5 Purposes of using digital devices by children

In order to investigate the behavior pattern of the device usage by children, we asked the parents to indicate their children's study and entertainment purpose usage. Table 4.3 shows the children's usage of these devices for study and entertainment purpose.

Table 4. 3 Purposes of using digital devices by children

<u>Type of the Device</u>	<u>Purposes</u>	
	<u>Study (respondents in %)</u>	<u>Entertainment (respondents in %)</u>
Laptop or Computer (Child's Own)	22.22	33.33
Laptop or Computer (Shared with other members)	42.86	33.33
Smartphone	65.08	84.13
TV/Smart TV	38.10	82.54
Other Handheld device (iPod, iPad, Tablets, Tabs)	20.63	28.57

Table 4.3 highlights that the Smartphone and TVs are mostly used by the children. According to 84.13 percent and 65.08 percent respondents, their kids use Smartphone for entertainment and study purposes respectively. In addition, and 82.54 percent respondents say, there kids use TV for the purpose of entertainment.

4.6 Location of using Digital Devices by children

Figure 4.6 presents the place in the household where the children use devices most often. 55% of the respondents said that their kids use devices in a common room shared with other family members. The other locations of use are (a) their own room (24%), (b) internet café (1%), (c) at friend's home (5%), (d) at a relative's home (15%). Findings show that in case of 45% of the respondents, parents cannot monitor the device use by children due to the location of device usage. So emphasizing on the parents perceptions only in order to determine the duration will provide half of the time. Rest criteria's are to be taken into consideration in order to get effective results.

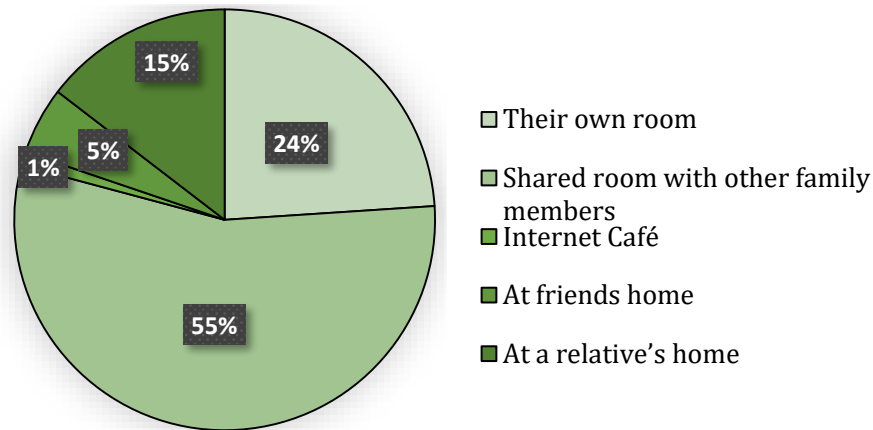


Figure 4. 6 Location of Device Use

4.7 Duration of the device use by children

While calculating the average duration of device usage by children, according to 27 percent of the surveyed parents, their children under age 10 use devices less than 1 hours (60 minutes) per day. This duration is the recommended amount of time many government pediatrics association as well as many pediatric doctor. Conversely, 53 percent parents said that their children are exposed to devices for 1 to 3 hours per day and in case of 19 percent respondents, their children uses devices for more than 3 hours per day. After getting the mean for the grouped data of the sample of 62 parents the average duration was 119.03 minutes per day. Keeping in mind that the options in this question was without an upper bound thus the mean of the grouped data was considered to be 6 hours (360 minutes). The actual data may vary with the setting of correct upper bound of grouped data. Figure 4.7 shows the responses of the duration percentages.

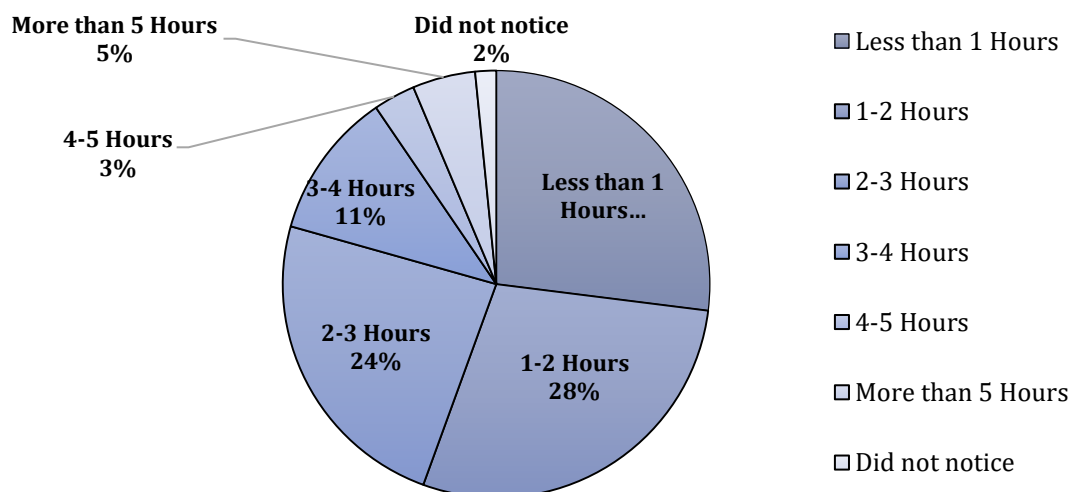


Figure 4. 7 Duration of Device Use

4.8 Frequency of using devices and viewing distance by children

One of the key objectives of this study was to determine that what is the most practiced viewing distance by kids and the following figures will help visualize the current trend of the viewing distances by children of Dhaka city.

These are the remarks regarding the LEGEND of charts in order to understand clearly:

[DNN] = did not notice, [$\frac{1}{2}$ per W] = once or twice per week,

[$\frac{1}{2}$ per M] = once or twice per month, [<1 per M] = less than once per month,

[<1.5] = less than 1.5 times the diagonal screen size,

[1.5 – 2.5] = between 1.5 times to 2.5 times the diagonal screen size,

[2.5<] = more than 2.5 times the diagonal screen size

4.8.1 Frequency of Use and Viewing Distance for TV:

Figure 4.8 and Figure 4.9 are for TV viewing. From the frequency of TV it is clear that 71 percent of the parents said that their children watch TV everyday where 15% of parents did not notice the frequency of their children's TV watching. For the maintained distance (eye to screen) 33% parents reported their children viewed TV from preferred optimum viewing distance and 17% parents said that they did notice the viewing distance. 50% of children watch TV from a far viewing distance (more than 2.5 times the diagonal screen size).

4.8.2 Frequency of Use and Viewing Distance for Tablets:

Figure 4.10 and Figure 4.11 are for Tablets viewing. From the frequency of tablets it can be inferred that according to 29 percent of the parents, their children use the Tablets for daily use and 29% of parents did not notice the frequency of their Tablets viewing. For the maintained distance (eye to screen) 45% parents reported their children viewed tablets from near viewing distance (less than 1.5 times the diagonal screen size) and 32% parents said that they did notice the viewing distance whilst only 16% of children watched tablets from a preferred optimum viewing distance.

4.8.3 Frequency of Use and Viewing Distance for Smartphone:

Smartphone viewing is presented in Figure 4.12 and Figure 4.13. According to 73 percent surveyed parents, their children use the smartphone every day and 3% of parents did not notice the frequency of their smartphone viewing. For the maintained distance (eye to screen) a substantial 56% parents reported their children viewed smartphone from near

viewing distance (less than 1.5 times the diagonal screen size) and 15% parents said that they did notice the viewing distance whilst only 21% of children watched smartphone from a preferred optimum viewing distance.

From the above presentation it is observed that children are watching from a very near viewing distance for Smartphone and tablets. This will expose them long hours to the blue light emitted from the devices that hampers sleep cycle.

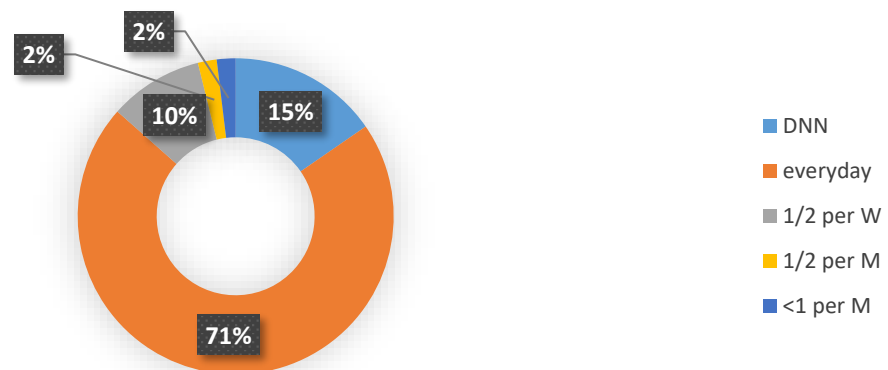


Figure 4. 8 Frequency of TV use

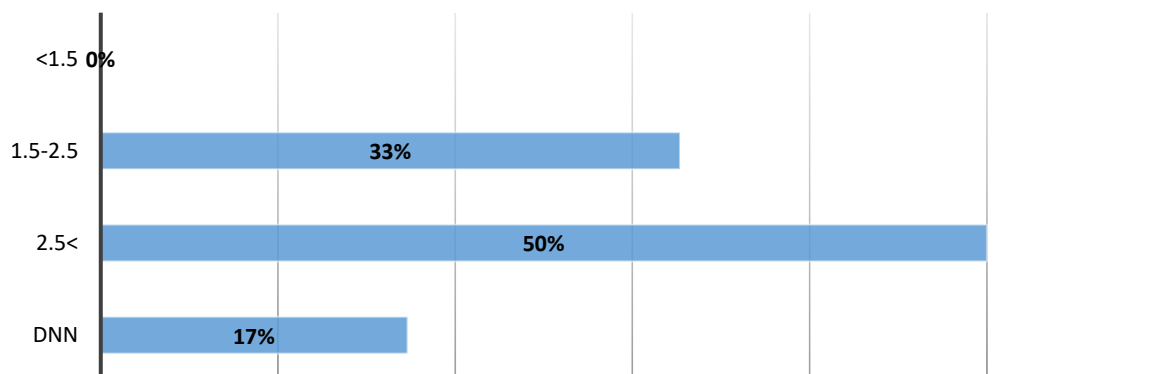


Figure 4. 9 Viewing distance for TV

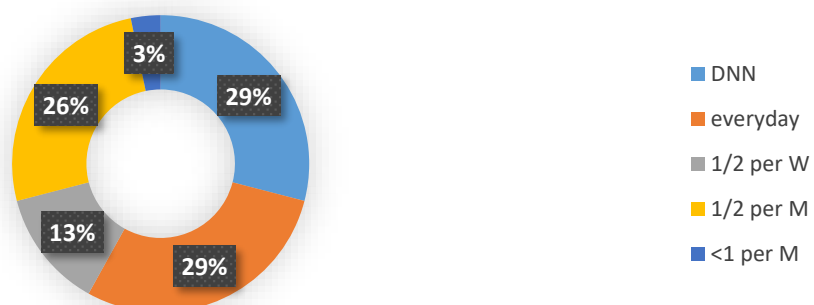


Figure 4. 10 Frequency for Tablets use

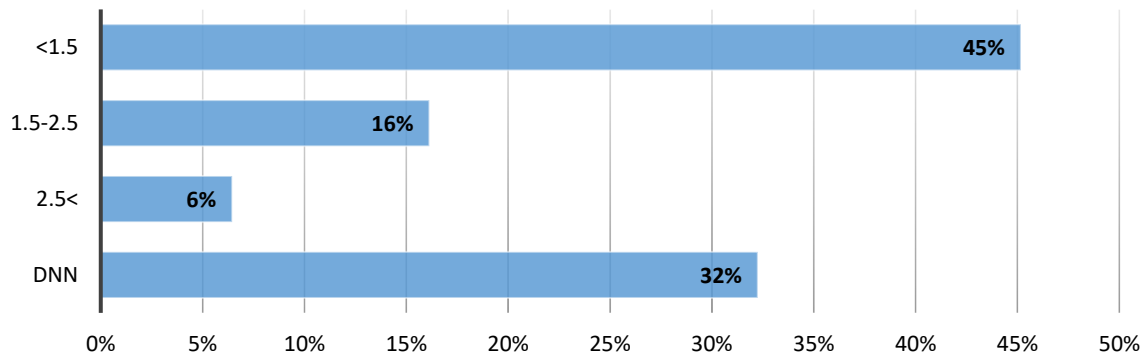


Figure 4. 11 Viewing distance for Tablets



Figure 4. 12 Frequency for Smartphone use

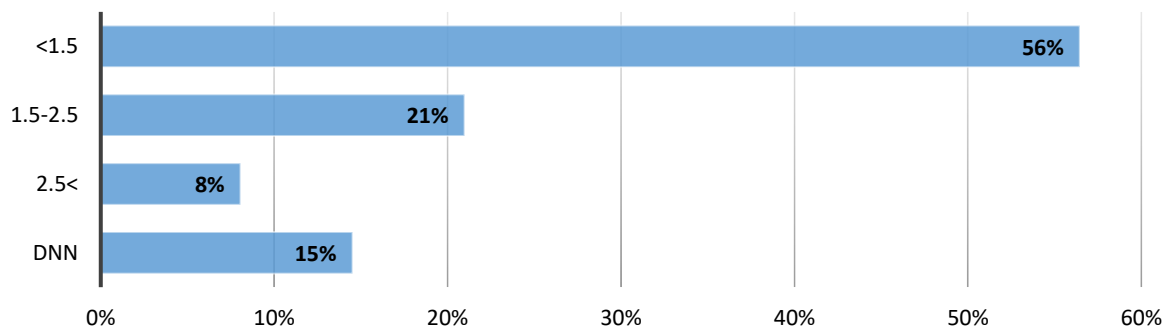


Figure 4. 13 Viewing distance for Smartphone

4.9 Awareness of parents regarding impacts on children for using devices

4.9.1 Physical Health Impacts

Among all the potential physical health impacts due to excessive device exposure the two important impacts that parents observe are Eyesight and Mood Swing Disorder. Most of them are not adequately aware of the other aspects of health impacts resulted from excessive device screen exposure such as, Children Development, Obesity chances,

Language delay etc. It is very imperative to be aware of all the health impacts of prolonged digital screen exposure as parents are the primary actors who play a vital role who can regulate the screen limit measures. Table 4.4 presents the survey findings regarding physical health impacts on children.

Table 4. 4 Parents' awareness regarding physical health impacts on children due to excessive screen exposure

Types of Impacts	Awareness of Parents
Eyesight	75 %
Mood Swing Disorder	54 %
Obesity Chances	38 %
Brain Health	35 %
Stress, Depression and Sleep Disorder	35 %
Children Development	30 %
Back Pain	29 %
Language Delay	27 %

4.9.2 Developmental growth impacts

Parent's awareness on the effect of excessive exposure to digital screens on the developmental growth of children was measured as well. Despite the majority of the parents (89%) claimed that they are at least aware or very much aware of the impacts of devices on children's health. They are mostly aware of Social, Physical and Emotional aspects but they are still imperfectly aware about the Intellectual, Personality, Cognitive and Perceptual aspects of developmental growth of children which can be impacted by excessive exposure to device screens. Table 4.5 provides the details.

Table 4. 5 Parents' awareness regarding developmental growth impacts on children due to excessive screen exposure

Developmental Growth Impacts	Awareness of Parents
Social	70%
Physical	60%
Emotional	60%
Intellectual	54%
Personality	44%
Cognitive	40%
Perceptual	35%

4.10 Practice of Precautionary Measures

All of the respondents are found interested to take precautionary measures to limit device usage in order to ensure the good health of their children. After analyzing the existing precautionary measures it was determined that 94 % parents sometimes or always take precautionary measures to limit the screen time. Table 4.6 shows the most practiced limiting measures from the sample of 63 parents. Here, the data shows that setting an example for children in order to limit screen time has a key significance as the children have a tendency to mimic the action of their environments. Then scheduling family activities and encouraging physical activities have an active movement cycle that keep the children socially aware of their peers as well as reducing the obesity chances if maintained regular intervals.

Table 4. 6 Type of Precautionary Measures taken by parents

Type of precautionary measures	Respondents
Play a part as a Role Model (i.e. you set an example by not watching TV or not using Devices for entertainment purpose etc.)	54%
Encouraging reading books	52%
Encouraging physical activity	48%
Scheduled family activities/ family time (i.e. setting aside a certain family time where the members will have quality family time away from devices)	43%

While practicing these precautionary measures parents encountered the following types of obstacles.

- ❖ 81% of parents sometimes or always have to argue with their children over limiting screen time.
- ❖ 73% of the parents responded that at mealtime, while they are feeding their kids they sometimes or always shows device screen to them in order to keep them occupied or distracted.
- ❖ 68% of parents responded that they sometimes or always avoid setting screen time because they feel too exhausted.
- ❖ 43% of parents stated that they sometimes or always avoid setting screen time because they fear child's reaction.

However, 83% of parents believe that the precautionary measures they have practiced to reduce the device usage eventually helped their kids to spend less time on device (Figure 4.14). Also from the 48 parent respondents who enrolled their children in schools 65% observed positive changes (such as reduce screen time) after the enrollment of their children into schools, 31% parents experience no change and rest of the parents observed negative changes (Figure 4.15).

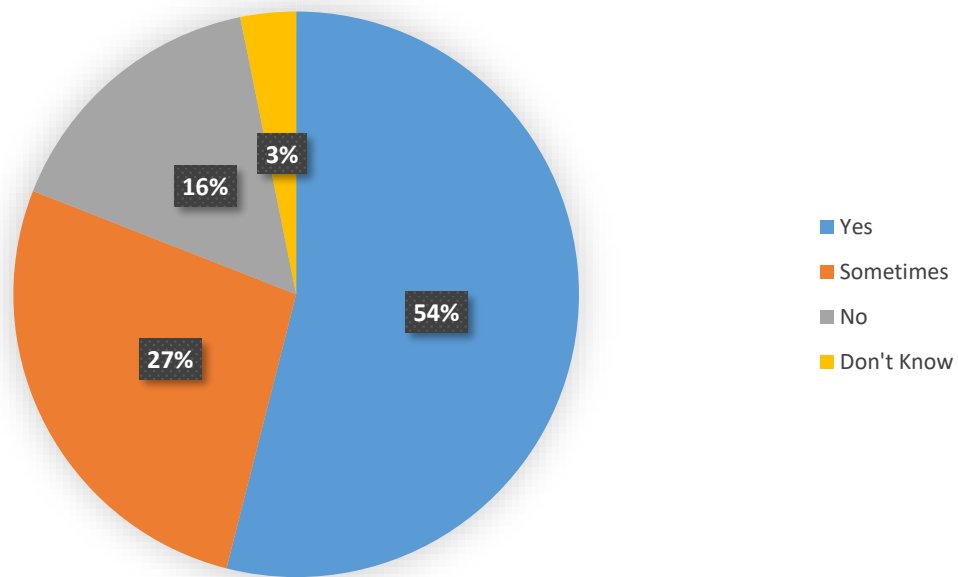


Figure 4. 14 Effect of Precautionary Measures

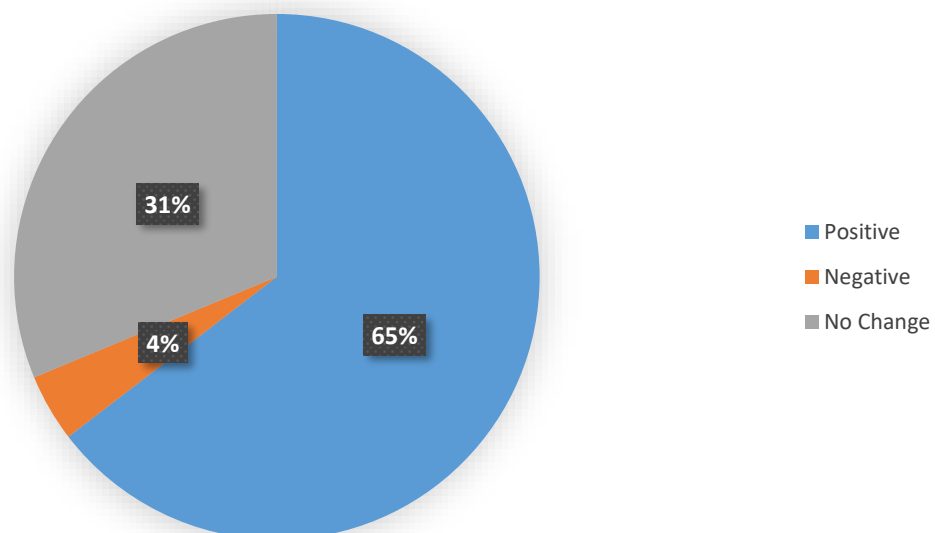


Figure 4. 15 Effect of School enrollment

4.11 Usual Behavior due to Screen Time Limit

The most common behavior patterns faced by parents when they tried to limit the usage of devices are listed in Table 4.7.

Table 4. 7 Common behavior observed due to limiting screen time

Behavior due to limiting screen time	Respondents
Impulsive	48%
Whining	40%
Temper Tantrum	37%
Normal	19%
Defiance	14%
Aggressive	13%
Disrespect	10%
Lying	6%
Don't Know	5%

From Table 4.7 it can be inferred that kids tend to act impulsively and whine while parents try to limit screen time. Most of them throw a temper tantrum which are common in kids under the age of six (6) years and which is also similar to DMDD symptoms. Thus there is a need for intervention in order to ensure good health.

4.12 Physiological Observation of Children by Parents

Physiological Observation part was made with observational questions consisting of ten (10) questions. Figure 4.16 shows the result of physiological observations. This helped in measuring the children's usual behavior in daily life and the consistency of those behaviors. The answers were in a Likert scale of Always, Often, Sometimes, and Never. Considering a 70% threshold to determine the most usual behaviors which are persistent in children nowadays are the Irritability, Defiance and Anger issues. The literature review showed significance in different studies that Irritability, Anger issues are related to prolonged device usage. Thus findings from this study matches with the literature review. As there was limited data available in this study to do a regression study to link this behaviors with the prolonged use, future study on it with sufficient amount of data can provide a correlation between them.

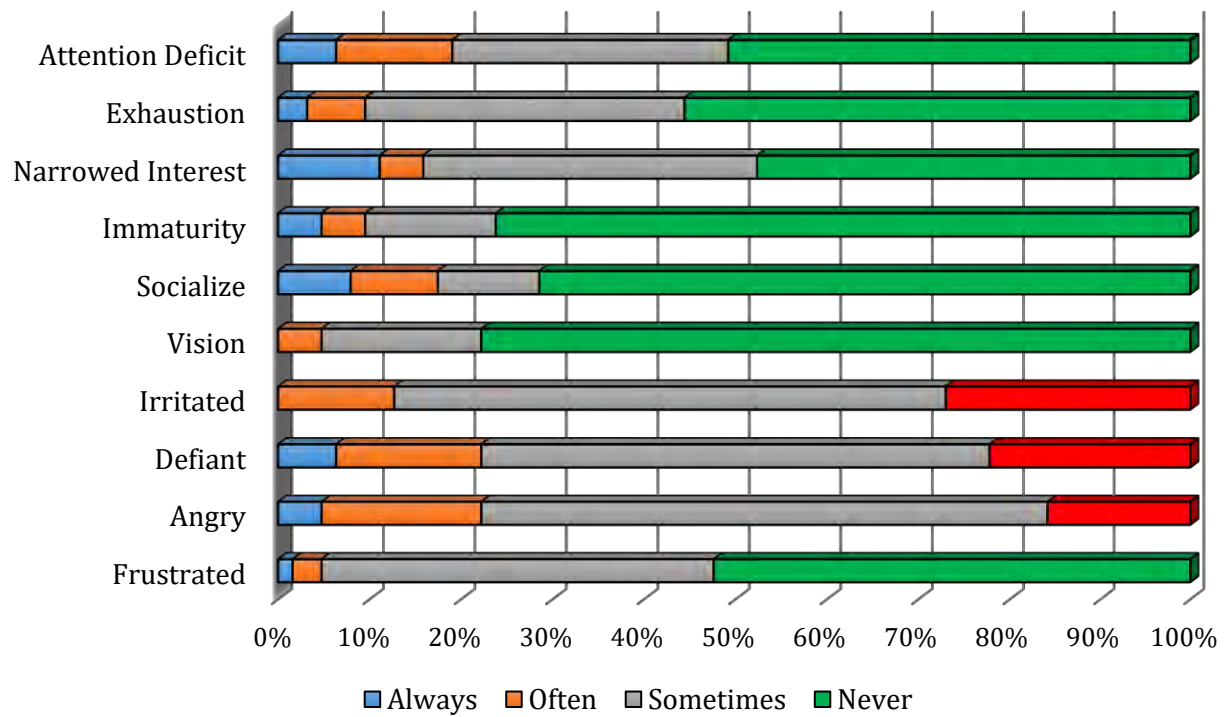


Figure 4. 16 Physiological observation

SUMMARY, DISCUSSION AND CONCLUSION

The study findings showed significant signs of prolonged device use by the children of Dhaka city. This chapter summarizes the whole study along with proper guidelines for parents to follow. From existing literatures it is clear that the excessive exposure to digital screen causes more harm to the children than good. Parents being the only actor regulating screen time restrictions must be aware of all the consequences of prolonged exposure.

5.1 Summary and Discussion

This study was initiated with the thought of taking the first step towards creating health awareness among the citizens of Bangladesh. As we live and breathe different types of change will come. Regulations initially might not be available properly to the citizens yet it is vital that steps should be taken to initiate it. In an urban city which is also the capital of a country bearing more than 23 thousand people per square kilometers will create scarcity of playgrounds and children are bound to be restrained in the four walls. Now with the exponential growth of technology and the easily available cheap electronic devices the children spend tremendous amount of time with gadgets which has grave consequences if proper guidelines are not followed. As there weren't any significant research done in Dhaka on this topic, this research began with the aim to find out the existing behavior pattern, duration of use, distances maintained, precautionary measures taken by parents and if the measures had any impacts. Along with these, crosschecking the level of awareness with actual health impacts gave the idea to relate the behavior issues with the variables of prolonged device usage. The first vital findings showed that on the basis of use of location, parents are only able to monitor 55% of children's total device usage. More than eighty percent of children are using Smartphone and TV for the sole purpose of entertainment. The average duration of usage which was observed by parents is 119.03 minutes (1.98 hours) per day. In the case of Smartphone and tablets kids tend to view it from at a very near distance. 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. Playing part as a role model, encouraging physical activity and reading books, scheduling family time are the most common practice of precautionary measures taken by parents. And more than 80% parents believe they sometimes or always observed a reduced screen time because of the precautionary measures. 81% parents reported that they sometimes or always argued over screen time limits and 73% parents sometimes or always practice showing devices at mealtime to keep them distracted. 65% parents observed significant reduced time of device use after enrolling them to school. Most common behavior observed due to limiting screen time use are impulsive, whining and temper tantrum. Daily physiological behavior by children that are most common and has been observed by parents are irritability, defiance and anger. As study suggests that these behavior has a positive link with the prolonged use of device usage, further studies should be performed to find any existence of correlation between these variables.

Therefore, the results indicate that there is a willingness to take measures. But the inadequacy of their awareness still remains. Almost all parents take measures that will help better their child's health. The proper guidelines of precautionary measures can help parents to suitable implementations of precautionary measures without facing many difficulties.

5.2 Policy Recommendations

The study findings are consistent with the conceptual framework that has been established for the study that the parents of Dhaka city are inadequately aware regarding the consequences of too much screen-time. They have a willingness to take precautionary measures. However, the parents are not aware enough of what should be the proper measures.

Some suggested precautionary measures limiting screen time and encourage children to play outdoors. Not to use gadgets as babysitters and ensuring that the child gets adequate sleep. Asking them to take regular breaks and blink often and ensuring that kids maintain the right distance from the screen forbidding them from using gadgets in the dark or in sunlight. Continuous reminder should be provided to children to maintain a correct posture for handheld device use. Disallow any kind of skipping or delaying of sleep time. Mealtime use of device should be stopped. Sedentary movements must be balanced out by active movements to reduce obesity chances.

Table 5.1 provides guidelines for technology use by children and youth were developed by Cris Rowan, pediatric occupational therapist and, Dr. Andrew Doan neuroscientist and Dr. Hilarie Cash, Director of reSTART Internet Addiction Recovery Program, with contribution from the American Academy of Pediatrics and the Canadian Pediatric Society in an effort to ensure sustainable futures for all children.

Table 5.1: The recommended Technology Use Guidelines for Children and Youth

Developmental Age	How Much?	Non-violent TV	Handheld devices	Non-violent video games	Violent video games	Online violent video games and or pornography
0-2 years	none	never	never	never	never	never
3-5 years	1 hour/day	✓	never	never	never	never
6-12 years	2 hours/day	✓	never	never	never	never
13-18 years	2 hours/day	✓	✓	limit to 30 minutes/day		never

5.3 Research Limitations and Way Forward

As this study was conducted in a short period of time, it involved a very small sample size comprising of only 63 individual parent respondents. The respondents of the study were purposively selected by the researcher on the basis of convenience and accessibility. A study with a larger sample size consisting of randomly selected individuals who fulfill the criteria would be more representative.

Any form of future study on this will help support the claims of this study. This study can give the future studies proper direction for research design. As this study is showing a pattern of behavior relating to device usage which matches with the literature review, the follow-up research of this study can be to correlate the physiological behaviors with the prolonged device usage and for that substantial amount of response data will be required to run the regression analysis and giving a better level of confidence.

5.4 Conclusion

All over the world the use of devices, smart devices and gadgets with display screens are becoming more common. Researches already showed significant connections of health and device use. The implementation of regulated device usage by children can help their health from many risks. Proper importance should be given on this field which will eventually help protect our future generations to become a healthy backbone of the nation.

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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. Are you আপনি একজন:	☐ Male / পুরুষ ☐ Female / মহিলা
2. What is the highest degree or level of school you have completed? আপনার অর্জিত সর্বোচ্চ শিক্ষাগত যোগ্যতা কি?	_____
3. Employment Status: What are you doing currently? কর্মসংস্থান: আপনি বর্তমানে কি করছেন?	_____
4. Are you a: আপনি কি একজন:	☐ Father / পিতা ☐ Mother / মাতা ☐ Guardian (Siblings, Relative)/ অভিভাবক (ভাই, বোন, আত্মীয়স্বজন)
5. Do you have any children aged from 1 to 10 living at home with you, or who you have regular responsibility for? আপনার বাসায় আপনার সাথে কি ১ থেকে ১০ বছর বয়সী কোনও সন্তান বসবাস করছে, অথবা এমন বয়সী কোন শিশু আছে যার নিয়মিত দেখাশোনার জন্য আপনি দায়িত্ব পালন করেন?	☐ Yes /হ্যাঁ ☐ No / না
6. Is your spouse engaged in an income related activities? আপনার স্বামী/স্ত্রী কি কোন উপার্জনমূলক কর্মকাণ্ডের সাথে নিযুক্ত?	_____
7. How many children do you have that you have regular responsibility for? আপনি কয়জন শিশুর নিয়মিত দেখাশোনা করেন?	☐ 1 / ১ ☐ 2 / ২ ☐ 3 / ৩ ☐ 4 or more / ৪ অথবা এর বেশি
8. What is your monthly income? আপনার মাসিক আয় কত?	☐ Tk. 19,999 or less /১৯,৯৯৯ টাকা বা এর কম ☐ Tk. 20,000-49,999 /২০,০০০ – ৪৯,৯৯৯ টাকা ☐ Tk. 50,000-79,999 /৫০,০০০ – ৭৯,৯৯৯ টাকা ☐ Tk. 80,000-109,999 /৮০,০০০ – ১০৯,৯৯৯ টাকা ☐ Tk. 110,000 or more /১১০,০০০ টাকা বা এর বেশি
9. Who is responsible for taking care of your child? / আপনার সন্তানের যত্ন নেওয়ার জন্য কে দায়িত্ব পালন করেন?	☐ I am a single parent / আমি একজন একক অভিভাবক ☐ I share the care of my child with a spouse / আমি আমার সন্তানের যত্ন আমার স্বামী/স্ত্রী এর সাথে ভাগ করি। ☐ I share the care of my child with an ex-spouse/ আমি আমার সন্তানের যত্ন আমার প্রাক্তন স্বামী/ প্রাক্তন স্ত্রী এর সাথে ভাগ করি। ☐ I share the care of my child with a grandparent/relative / আমি আমার সন্তানের যত্ন একজন দাদা/দাদী/নানা/নানি/আত্মীয় এর সাথে ভাগ করি। ☐ I share the care of my child with a paid caregiver (e.g. nanny, childminder) / আমি আমার সন্তানের যত্ন একজন বেতনভুক্ত শিশুপালনকারী (যেমন: আয়া) এর সাথে ভাগ করি ☐ Other... Please Specify / অন্যান্য: উল্লেখ করুন
10. Please fill up the below table based on the information of each of your child/children? / আপনার পরিবারে সন্তান/সন্তানদের সম্পর্কে তথ্য দিয়ে নিম্নোক্ত ছকটি পূরণ করুন।	
Child / শিশু	Age (1 - 10) years / বয়স (১-১০) বছর
Child 1(শিশু ১)	

Child 2(শিশু ২)	
Child 3(শিশু ৩)	
Child 4(শিশু ৪)	

11. Which of the following devices with display screen are in your house? Please write the numbers. / আপনার বাড়িতে কী কী ইলেকট্রনিক ডিভাইসগুলি আছে? সংখ্যাটি লিখুন।

a) Smartphone / স্মার্ট ফোন	
b) Tablets / ট্যাবলেট	
c) Smart TV / স্মার্ট টিভি	
d) Desktop Computer / ডেস্কটপ কম্পিউটার	
e) Laptop / ল্যাপটপ	
f) Gaming Console / গেম কনসোল	

12. How many devices with display screen (gadgets/ smartphones/ tablets/ TV/ computer/ laptop) are in your house, which are frequently used by the children? আপনার বাড়িতে কতগুলি ডিভাইস (গ্যাজেট/স্মার্টফোন/ট্যাবলেট/টিভি/কম্পিউটার/ল্যাপটপ) রয়েছে, যা শিশুদের দ্বারা প্রায়শই ব্যবহৃত হয়?

- ☐ 0 / ০
☐ 1 / ১
☐ 2 / ২
☐ 3 / ৩
☐ 4 or More / ৪ অথবা এর বেশি

13. Which of these devices do your children use for study purposes? Please answer 'Yes' or 'No' to each of the following. / নিম্নোক্ত ডিভাইসগুলির মধ্যে কোণগুলো আপনার সন্তান পড়ালেখার উদ্দেশ্যে ব্যবহার করে? নীচের প্রতিটিতে 'হ্যাঁ' বা 'না' উত্তর দিন।

Personal (Child's) Desktop Computer / Laptop শিশুর ব্যক্তিগত ডেস্কটপ কম্পিউটার / ল্যাপটপ	☐ Yes / হ্যাঁ	☐ No / না
Desktop Computer/Laptop that is shared with other member of the family ডেস্কটপকম্পিউটার/ল্যাপটপযেপরিবারেরঅন্যান্যসদস্যেরসাথেভাগকরাহয়	☐ Yes / হ্যাঁ	☐ No / না
Mobile phone / Smartphone মোবাইল ফোন / স্মার্টফোন	☐ Yes / হ্যাঁ	☐ No / না
Television Set / Smart TV টেলিভিশন সেট / স্মার্ট টিভি	☐ Yes / হ্যাঁ	☐ No / না
Other handheld devices (iPod, iPad, Tablets, Tabs etc.) অন্যান্য হাতেধরা ডিভাইস (আইপড, আইপ্যাড, ট্যাবলেট, ট্যাব ইত্যাদি)	☐ Yes / হ্যাঁ	☐ No / না

14. Which of these devices do your children use for the entertainment purposes? Please answer 'Yes' or 'No' to each of the following. / নিম্নোক্ত ডিভাইসগুলির মধ্যে কোণগুলো আপনার সন্তান বিনোদনের জন্য ব্যবহার করে? নীচের প্রতিটিতে 'হ্যাঁ' বা 'না' উত্তর দিন।

Personal (Child's) Desktop Computer / Laptop শিশুর ব্যক্তিগত ডেস্কটপ কম্পিউটার / ল্যাপটপ	☐ Yes / হ্যাঁ	☐ No / না
Desktop Computer/ Laptop that is shared with other member of the family ডেস্কটপকম্পিউটার / ল্যাপটপযেপরিবারেরঅন্যান্যসদস্যেরসাথেভাগকরাহয়	☐ Yes / হ্যাঁ	☐ No / না
Mobile phone / Smartphone মোবাইল ফোন / স্মার্টফোন	☐ Yes / হ্যাঁ	☐ No / না
Gaming Console (PlayStation/ XBOX etc.) গেমিং কনসোল (এক্সবক্স ইত্যাদি / প্লেস্টেশন)	☐ Yes / হ্যাঁ	☐ No / না
Television Set / Smart TV টেলিভিশন সেট / স্মার্ট টিভি	☐ Yes / হ্যাঁ	☐ No / না
Other handheld devices (iPod, iPad, Tablets, Tabs etc.) অন্যান্য হাতেধরা ডিভাইস (আইপড, আইপ্যাড, ট্যাবলেট, ট্যাব ইত্যাদি)	☐ Yes / হ্যাঁ	☐ No / না

15. Where do your children use/used devices these days? Please answer 'Yes' or 'No' for all that apply / আপনার সন্তান কোন কোন স্থানে ডিভাইস ব্যবহার করে? নীচের প্রতিটিতে 'হ্যাঁ' বা 'না' উত্তর দিন।

Their own room তাদের নিজস্ব রুম	☐ Yes / হ্যাঁ	☐ No / না
Shared room with other family members অন্যান্য পরিবারের সদস্যদের সঙ্গে ভাগ করা রুম	☐ Yes / হ্যাঁ	☐ No / না
Internet Café ইন্টারনেট ক্যাফে	☐ Yes / হ্যাঁ	☐ No / না
At friends home বন্ধুদের বাড়িতে	☐ Yes / হ্যাঁ	☐ No / না

16. Which of the followings do you think affects your children by excessive exposure to devices?
ডিভাইসের অতিরিক্ত ব্যবহারের কারণে আপনার সন্তান নিম্নলিখিত কোন পরিস্থিতিগুলির সম্মুখীন হতে পারে বলে মনে করেন?

- o Eyesight দৃষ্টিশক্তি o Back Pain পিঠে ব্যাথা o Brain Health মস্তিষ্কের স্বাস্থ্য o Language Delay ভাষা বিলম্ব
o Obesity chances স্থূলতার সম্ভাবনা o Children development শিশু উন্নয়ন o Mood Swing disorder ঘনঘন মন মেজাজের পরিবর্তন o Stress, Depression and Sleep Disorders চাপ, বিষণ্ণতা, ঘুমের সমস্যা

17. Which of the followings developmental aspects of children do you think can be affected by excessive exposure to devices? / ডিভাইসের অতিরিক্ত ব্যবহারের কারণে আপনার সন্তানদের বিকাশের ক্ষেত্রে নিম্নলিখিত দিকগুলির মধ্যে কোন কোনটি প্রভাব ফেলতে পারে বলে আপনার মনে হয়?

- o Physical শারীরিক o Intellectual বুদ্ধিমত্তা o Personality ব্যক্তিত্ব o Social সামাজিক
o Cognitive জ্ঞানীয় o Perceptual উপলব্ধিমূলক o Emotional আবেগপ্রবণতা

18. How much interested are you to take measures in order to ensure good health for your child? /আপনি আপনার সন্তানের ভাল স্বাস্থ্য নিশ্চিত করার জন্য পদক্ষেপ নিতে কী পরিমাণ আগ্রহী?

- o Very much interested অত্যন্ত আগ্রহী o Interested আগ্রহী o Neutral নিরপেক্ষ o Uninterested অনাগ্রহী o Highly uninterested অত্যন্ত অনাগ্রহী

19. How often do they use electronic devices that are accessible to them? Based on the frequency of usage please fill up the following table. / আপনার সন্তানদের নাগালেরভিতর থাকা ইলেক্ট্রনিক ডিভাইসসমূহ তারা কত ঘনঘন ব্যবহার করে? ব্যবহারের হারের উপর ভিত্তি করে নিম্নোক্ত ছকটি পূরণ করুন।

Devices /ডিভাইস	Every day or Almost everydayপ্রতিদিন বা প্রায় প্রতিদিন	Once or Twice a weekএক সপ্তাহে একবার বা দুইবার	Once or Twice a monthমাসে এক বা দুই বার	Less than once a monthমাসে একবারের কম	Did not notice পরিলক্ষিত নয়
Smartphoneস্মার্ট ফোন	o	o	o	o	o
Tablets ট্যাবলেট	o	o	o	o	o
Smart TVস্মার্ট টিভি	o	o	o	o	o
Desktop Computer ডেস্কটপ কম্পিউটার	o	o	o	o	o
Laptop ল্যাপটপ	o	o	o	o	o
Gaming Console গেম কনসোল	o	o	o	o	o

20. Specify the average duration of your child's daily device usage? / আপনার সন্তানের প্রতিদিনের ডিভাইস ব্যবহারের গড় সময়কাল উল্লেখ করুন?

- o Less than 1 Hours (<60 Minutes) / ১ ঘন্টার কম (<৬০ মিনিট)
o 1-2 Hours (61 Minutes to 120 Minutes) / ১-২ ঘন্টা (৬১ মিনিট – ১২০ মিনিট)
o 2-3 Hours (121 Minutes to 180 Minutes) / ২-৩ ঘন্টা (১২১ মিনিট - ১৮০ মিনিট)
o 3-4 Hours (181 Minutes to 240 Minutes) / ৩-৪ ঘন্টা (১৮১ মিনিট - ২৪০ মিনিট)
o 4-5 Hours (241 Minutes to 300 Minutes) / ৪-৫ ঘন্টা (২৪১ মিনিট - ৩০০ মিনিট)
o More than 5 Hours (>301 Minutes) / ৫ ঘন্টার বেশি (>৩০১ মিনিট)
o Did not notice / পরিলক্ষিত নয়

21. What is the average distance from eyes to screen maintained by your child while using these devices? (i.e.: for a 40" screen size TV, the observer is watching from at 1.5 times means = 60" (5 feet) distance from the screen.) / এই ডিভাইসগুলি ব্যবহার করার সময় আপনার সন্তানের চোখ থেকে স্ক্রিনের গড় দূরত্ব কত থাকে?

(উদাহরণস্বরূপ: ৪০" স্ক্রীন আকারের টিভির জন্য, পর্যবেক্ষক পর্দা থেকে ১.৫ গুণ মানে = ৬০" (৫ ফুট) দূরত্ব থেকে দেখছেন।)

Devices / ডিভাইস	Distance from the device screen / ডিভাইসের পর্দা থেকে দূরত্ব			
	Less than 1.5 times the screen size পর্দার আকারের ১.৫ গুণের কম দূরত্বে	Between 1.5 to 2.5 times the screen size পর্দার আকারের ১.৫ - ২.৫ গুণের মধ্যে	More than 2.5 times the screen size পর্দার আকারের ২.৫ গুণের বেশি দূরত্বে	Did not notice পরিলক্ষিত নয়
Smartphone স্মার্ট ফোন	0	0	0	0
Tablets ট্যাবলেট	0	0	0	0
Smart TV স্মার্ট টিভি	0	0	0	0
Desktop Computer ডেস্কটপ কম্পিউটার	0	0	0	0
Laptop ল্যাপটপ	0	0	0	0
Gaming Console গেম কনসোল	0	0	0	0

22. Do / did you take any precautionary measures to control your child's device usage? / আপনি কি আপনার সন্তানের ডিভাইসের ব্যবহার নিয়ন্ত্রণের জন্য কোন সতর্কতামূলক ব্যবস্থা গ্রহণ করেন/করেছেন?

- ☐ Yes হ্যাঁ
 ☐ No না
 ☐ Sometimes মাঝেমাঝে
 ☐ Don't know জানিনা
 ☐ Others. Please explain / অন্যান্য: উল্লেখ করুন

23. Which of the following methods you use in order to motivate your child so that your child's device usage is reduced? / নিম্নলিখিত কোনকোন পদ্ধতিগুলো ব্যবহারের মাধ্যমে আপনার সন্তানকে অনুপ্রাণিত করেন যাতে আপনার সন্তানের ডিভাইস ব্যবহারের পরিমাণ কমে যায়?

☐ Play a part as a Role Model (i.e. you set an example by not watching TV or not using Devices for entertainment purpose etc.) / নিজেই পশ্চিকৃৎ হিসেবে ভূমিকা পালন করেন (অর্থাৎ আপনি, নিজে টিভি না দেখে বা বিনোদনের উদ্দেশ্যে ডিভাইসগুলি ব্যবহার না করে একটি উদাহরণ তৈরি করেন।)	☐ Scheduled family activities/ family time (i.e. setting aside a certain family time where the members will have quality family time away from devices) / নির্ধারিত পারিবারিক কার্যক্রম / পারিবারিক সময় (যেমন, একটি নির্দিষ্ট পারিবারিক সময় সেট করে রাখেন যেখানে গুণগত পারিবারিক সময় উপভোগ করার জন্য সদস্যদের ডিভাইস ব্যবহার থেকে বিরত রাখেন।)
☐ Restrict your child from playing violent video games. / সহিংস ভিডিও গেম খেলা থেকে আপনার সন্তানকে বিরত রাখেন।	☐ Use of tracking app to monitor overuse of devices / ডিভাইসগুলির অত্যধিক ব্যবহার পর্যবেক্ষণের জন্য ট্র্যাকিং অ্যাপ্লিকেশন ব্যবহার করেন।
☐ Disallowing device use during mealtime / খাবার সময় ডিভাইস ব্যবহার নিষিদ্ধ করেন	☐ Encouraging physical activity/ শারীরিক কার্যকলাপের প্রতি উৎসাহিত করেন।
☐ Encouraging reading books/ বই পড়ার জন্য উৎসাহিত করেন।	☐ Other. Please explain / অন্যান্য: উল্লেখ করুন

24. Do you and your child argue over the limiting of device usage on a regular basis? / আপনার এবং আপনার সন্তানের মধ্যে কি ডিভাইস ব্যবহার সীমিতকরণ নিয়ে নিয়মিত তর্ক হয়ে থাকে?

- ☐ Yes হ্যাঁ
 ☐ No না
 ☐ Sometimes মাঝেমাঝে
 ☐ Don't know জানিনা
 ☐ Others. Please explain / অন্যান্য: উল্লেখ করুন

25. At mealtime, while you are feeding your child do you show device screen to them in order to keep them occupied or distracted? / আপনার সন্তানকে খাবার খাওয়ানোর সময় আপনি কি তাকে/তাদেরকে ভুলিয়ে রাখার জন্য তাদের কাছে কি ডিভাইস স্ক্রিন প্রদর্শন করেন?

- ☐ Yes হ্যাঁ
 ☐ No না
 ☐ Sometimes মাঝেমাঝে
 ☐ Don't know জানিনা
 ☐ Others. Please explain / অন্যান্য: উল্লেখ করুন

26. Do you avoid setting screen-time limits because you fear your child's reaction? / আপনি কি আপনার সন্তানের প্রতিক্রিয়ার ভয়ে কি কখনও আপনি ডিভাইস ব্যবহার সীমিতকরণ কৌশলগুলি এড়িয়ে যান?

- ☐ Yes হ্যাঁ ☐ No না ☐ Sometimes মাঝেমধ্যে ☐ Don't know জানিনা ☐ Others. Please explain / অন্যান্য: উল্লেখ করুন

27. Do you avoid setting screen-time limits because you're too exhausted? / আপনি খুব ক্লান্তি অনুভব করছেন দেখে কি কখনও আপনি ডিভাইস ব্যবহার সীমিতকরণ কৌশলগুলি এড়িয়ে যান?

- ☐ Yes হ্যাঁ ☐ No না ☐ Sometimes মাঝেমধ্যে ☐ Don't know জানিনা ☐ Others. Please explain / অন্যান্য: উল্লেখ করুন

28. Do you think that the precautionary measures you have taken to reduce the device usage eventually helped your child to spend less time on device? / আপনি কি মনে করেন যে ডিভাইস ব্যবহারকে কমাতে আপনি যে সতর্কতামূলক ব্যবস্থা গ্রহণ করেছেন তা অবশেষে আপনার সন্তানকে ডিভাইসে কম সময় ব্যয় করতে সহায়তা করেছে?

- ☐ Yes হ্যাঁ ☐ No না ☐ Sometimes মাঝেমধ্যে ☐ Don't know জানিনা ☐ Others. Please explain / অন্যান্য: উল্লেখ করুন

29. Did you observe any changes in your children's habit in using devices after they are enrolled in school? Please state the change: / আপনার সন্তান কে স্কুলে ভর্তি করানোর পর ডিভাইস ব্যবহার করার ক্ষেত্রে আপনার সন্তানদের অভ্যাসে কোন পরিবর্তন দেখেছেন?

- ☐ Positive Change ইতিবাচক পরিবর্তন ☐ Negative Change নেতিবাচক পরিবর্তন ☐ No Change পরিবর্তন নেই ☐ Don't know জানিনা ☐ Others. Please explain অন্যান্য: উল্লেখ করুন

30. How well do you think you are aware of the consequences of excessive device screen-time on children? / শিশুদের উপর অত্যধিক ডিভাইস স্ক্রীন-টাইমের পরিণতি সম্পর্কে আপনি নিজেকে কতটাসচেতন মনে করেন?

- ☐ Very much aware অনেক সচেতন ☐ Aware সচেতন ☐ Neutral নিরপেক্ষ ☐ Unaware অসচেতন ☐ Very much unaware অনেক অসচেতন

31. Please select the usual behaviors your child does in a situation when you restrict or prohibit their use of Devices? / আপনার সন্তানের ডিভাইসগুলির ব্যবহার সীমিত বা নিষিদ্ধ করার সময় আপনার সন্তানের আচরণগুলো নির্দেশ করুন।

- ☐ Lying মিথ্যাচার ☐ Defiance হুন্ডাওক ☐ Disrespectful Behavior অসম্মানমূলক আচরণ ☐ Whining ঘেঙানি ☐ Impulsive Behavior আবেগপ্রবণ আচরণ
- ☐ Aggression আক্রমণাত্মক ☐ Temper Tantrum বদমেজাজীভাব ☐ Normal Behavior স্বাভাবিক আচরণ ☐ Don't know জানিনা ☐ Others. Please explain অন্যান্য: উল্লেখ করুন

32. Observations / পর্যবেক্ষণ:	Always সবসময়	Often প্রায়ই	Sometimes মাঝেমধ্যে	Never কখনই না
Does your child have frustrations? / আপনার সন্তান কি হতাশাগ্রস্ত হয়?	☐	☐	☐	☐
Does your child get angry over small issues? / আপনার সন্তান কি সামান্য বিষয়ে অনেক রেগে যায়?	☐	☐	☐	☐
Is your child becoming more and more stubborn and defiant? আপনার সন্তান কি একরোখা ও জেদি আচরণ করছে?	☐	☐	☐	☐
Does your child become irritable when told it's time to stop playing video games or to get off the computer?	☐	☐	☐	☐

ভিডিও গেম খেলা বন্ধ করতে বললে বা কম্পিউটার বন্ধ করতে বললে কি আপনার সন্তান উত্তেজিত হয়ে যায়?				
Is your child complaining about his/her vision recently? / আপনার সন্তান কি দর্শনানুভূতির ব্যাপারে সাম্প্রতিক সময়ে কোন অভিযোগ করছে?	0	0	0	0
Is your child having problems participating in daily normal activities? (e.g. sports, social gatherings with peers) আপনার সন্তান কি দৈনন্দিন স্বাভাবিক কর্মকাণ্ডে অংশগ্রহণ করতে সমস্যার সম্মুখীন হয়? (যেমন: খেলাধুলা, সমবয়সীদের সাথে সামাজিক মেলামেশা)	0	0	0	0
Does your child have trouble making or keeping friends because of immature behavior? অস্বাভাবিক আচরণের কারণে আপনার সন্তানের কি বন্ধুত্ব করতে বা বন্ধুত্ব রাখতে সমস্যা হয়?	0	0	0	0
Is your child's interests becoming limited to electronic devices? আপনার সন্তানের আগ্রহের ক্ষেত্র গুলো কি দিনদিন ইলেক্ট্রনিক ডিভাইসের প্রতি সীমিত হয়ে যাচ্ছে?	0	0	0	0
Does your child seem extremely "tired and exhausted"? আপনার সন্তান কে কি অতিরিক্ত "ক্লান্ত এবং পরিশ্রান্ত" বলে মনে হয়?	0	0	0	0
Does your child seem unmotivated and have poor attention to detail? আপনার সন্তান কে কি উদাসীন অথবা অমনোযোগী বলে মনে হয়?	0	0	0	0

33. Please provide your comments on this topic. / এই বিষয়ে আপনার মন্তব্যপ্রদান করুন।