

Addis Ababa University
College of Education and Behavioral Studies
School of Psychology

Parent-Child Communication Strategies with Screen time
Experiences of Addis Ababa Preschoolers

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January, 2023
Addis Ababa, Ethiopia

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**A Thesis Submitted to School of Psychology Addis Ababa University
in Partial Fulfillment of the Requirements for the Degree of Master
of Arts in Developmental Psychology**

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January, 2023

Declaration

I, Heyrenas Abdela, hereby declare that the thesis entitled: “Parent-Child Communication Strategies with Screen time Experiences of Addis Ababa Preschoolers” submitted by me to be awarded with Degree of Master of Arts in Developmental Psychology at Addis Ababa University. It is a product of my original work and no part of it is copied from elsewhere, it has not been presented for the award of any other Degree, Diploma, and Fellowship of any other university or institution.

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Acknowledgements

I want to start by expressing my gratitude to my almighty God Allah for guiding me throughout my life and enabling me to complete this research.

Then, I would like to express my sincere gratitude and appreciation to my advisor, Dr. Endalkachew Tesera, for his insightful criticism and guidance during the entire thesis-writing process. I sincerely appreciate his quick response and insightful advice.

My dear family deserves special thanks for supporting me throughout my academic career and for their constant love, moral support, and help from the beginning to the end of this thesis work.

Additionally, I would like to express my gratitude to the employees of All-star Psychological Service PLC and my friends, particularly Daniel Mulugeta and Kristin Pipo, as well as everyone else who helped me during the data collection process. Finally, I want to express my gratitude to everyone who supported me while I was conducting this research.

Table of Contents

	Page
Acknowledgements.....	i
Table of Contents.....	ii
List of Tables	iv
Acronyms and Abbreviations	v
Abstract.....	vi
Chapter One	1
Introduction.....	1
1.1 Background.....	1
1.2 Statement of the Problem	4
1.3 Research Questions.....	6
1.4 Significance of the Study.....	6
1.5 Operational Definition of Basic Terms	6
Chapter Two.....	7
Review of Related Literature	7
2.1 Introduction	7
2.2 Global Prevalence of communication Delay	7
2.3 Early Language Delay among children	10
2.3.1 Causes of Early Language Delay	10
2.3.2 Speech and Language Delay	11
2.3.3 Primary and Secondary Delay	11
2.3.4 Factors Affecting Language Development	13
2.4 Average Screen time Among Preschool Children.....	14
2.5 Reasons Why Parents Let Their Children to Use Screen	15
2.6 The Link between Screen time and Expressive language among Children	16
2.7 Gender Differences on communication skill among children	18
2.8 The Impacts of Screen Media on Development	20
2.8.1 Potential Benefits of Screen Media for Development.....	21
2.8.2 Potential Risk of Screen Media for Development.....	22
2.8.3 The Psychosocial Impacts of Screen Media	22
2.8.3.1 Potential Psychosocial Benefits of Screen Media.....	23
2.8.3.2 Psychosocial Risks of Screen Media	23
Chapter Three.....	25
Methodology	25
3.1 Research Design	25
3.2 Research Site, Population and sampling.....	25
3.2.1 Population.....	25
3.2.2 Sampling.....	26
3.2.2.1 Inclusion and Exclusion Criteria	27

3.3 Data Collection Instruments	27
3.4 Validity and Reliability of the Instruments	28
3.5 Data Collection Procedures	29
3.6 Methods of Data Analysis	30
3.7 Ethical Consideration	30
Chapter Four	31
Results.....	31
4.1 Demographic characteristics of parents and children.....	31
4.2 Average screen duration of parents	32
4.3 Gender difference in screen time between parents.....	33
4.5 Responses of Parents about the Benefit of using Screen for children	34
4.6 Reported wakeful Time of children with parents	35
4.7 Parent’s response about limiting children screen time	35
4.8 Strategies parents use to enhance communication skill of their child	36
4.9 Estimated Daily Screen Time of Children on Week Days as Reported By parents	37
4.10 Estimated Daily Screen Time of children on Holidays Including (Weekend) as reported by parents.....	37
4.11 Gender Difference in communication skill of children as reported parent	38
4.12 Mean difference in children screen time as reported by parents	39
Chapter Five.....	40
Discussion	40
5.1 Times parents let their children spend time on screen.....	41
5.2 Parent’s response about the benefit of screen use for children.....	42
5.3 Average time parents spend with child at home.....	43
5.4 Parent’s response about limiting children’s screen time	44
5.5 Screen Duration of children as reported by parents	45
5.6 Gender Difference in communication skill between boys and girls as reported by parents	47
5.7 General Experience during Data Collection.....	48
Chapter Six.....	50
Summery Conclusion and Recommendation.....	50
6.1 Summery.....	50
6.2 Conclusion	51
6.3 Recommendations	52
References.....	54
Appendices.....	68
Appendix A: English version of questionnaire.....	68
Annex B: Amharic version of questionnaire	73
Annex C: Improvements made on the Tools and Pilot Test Report.....	78

List of Tables

Page

Table 1: Demographic characteristics of parents and children	31
Table 2: Average screen duration of parents	32
Table 3: Differences of screen time between male and female parents.....	33
Table 4: Times that children are allowed to spend time on screen as reported by parents.....	34
Table 5: Responses of parents about the benefit of screen for children	34
Table 6: Reported time parents spent with the child when children are wakeful	35
Table 7: Parent's response about limiting children screen time	36
Table 8: Strategies parents use to enhance communication skill of their child	36
Table 9: Estimated daily screen time on week days as reported by parents	37
Table 10: Estimated daily screen time of children on holidays including (weekend) as reported by parents	38
Table 11: Differences of communication skill between boys and girls as reported by parents....	38
Table 12: Differences of screen time between boys and girls as reported parents	39

Acronyms and Abbreviations

AAP	American Academy of Pediatric
CS	Communication Skill
CSM	Central Statistics Management
DSEQ	Digital Screen Exposure Questionnaire
LD	Language delay
SLD	Speech and Language Delay
ST	Screen Time
TV	Television
WHO	World Health Organization

Abstract

The focus of this study was to investigate Parent-Child Communication Strategies with Screen time Experiences of Addis Ababa Preschoolers. The study conducted using descriptive research design. The Digital Screen Exposure Questionnaire (DSEQ) and Social Communication Skills – The Pragmatics Checklist were utilized to collect data from 52 parents of children with language delay in four therapy centers in Addis Ababa. The study used questionnaires and it was conducted using convenience sampling technique. Results indicated that parents were between the ages of 24 and above 45years ($M=33$ years and $SD=1.2$). The minimum daily screen time of parents were less than 1 hour and the maximum were 3 hours ($M= 1.4$ hour and $SD=0.87$). As reported by parents, their children were between age 3 to 6 ($M=4.54$ years and $SD=1$). Their language delayed children spent 2.9 hours on screen every day on average. More than 57% of their children use smartphones and TV. The average amounts of time participants spent with their children were 4.4 hours, with a standard deviation of 1.5. Mealtimes and other regular times set by the parents themselves were the main reasons (periods) why they permitted their child to use screen. The majority of participants who responded said that children will benefit from screen by learning academics and language. There was no statistically significant mean difference in parents screen time between males and females and children communication skill between boys and girls. The study concluded that parents who believe screen time has positive impact let their children to spend more time on screen. Future research is recommended for a contextualized understanding of the impact of screen devices on communication skill, as children's prolonged screen exposure has become an emerging societal concern in Ethiopia.

Key words: Screen time, Communication skill, TV and smartphone

Chapter One

Introduction

1.1 Background

Children's screen use has become increasingly common in many parts of the world in the last few decades. That is, more and more children are spending too much time on television, computer, tablet, cellular phones and other screen media at the expense of other growth enhancing activities.

The literature defines screen use as accessing the media through television, mobile phone, tablets and video game (Helena, Duch, Fisher, Ensari, Font, Harrington, Taromino, & Rodriguez, 2013). Among these, televisions are categorized as the most commonly used by children, followed by tablets (Barr & Lerner, 2014). Evidence suggests that many children start using screen media during infancy and maximize their screen use through childhood (Rideout, 2003).

Often parent fail to understand that although watching television may have a calming effect on children, spending too much time on it is considered a bad habit and it may negatively influence children's language development (Rideout, 2003)

The American Academy of Pediatrics (AAP) advisory board in 2016 policy statement, advocated for no screen time in children below the age of two years other than video chatting and to limit screen time to not more than 1 hour per day of high quality content programming and applications for children in the age range of 2-5 years because of the negative impact it might have on children's developing brain. They also suggested parents co-view and co-use media, do not allow using screen in during meals and for one hour before time of bed and avoid putting TV and other screen devices in the bedrooms of children.

However, according to study by Courage and Howe (2010) only 32% of parents with children below age 2 years complied with AAP's recommendation. Scholars recommend parents to spend more time with their children in activities such as reading, singing, teaching and playing because activities like these will help children to develop their abilities in language, socialization and cognitive functioning.

A typical American child under the age of five watches 5 hours of television every day (Christakis, 2011). Several parents believe that screen media have a positive impact on the mental development of their child since several programs promote it as a benefit (Rideout, 2003). An interview with a group of Hispanic families found limited knowledge among parents about the potential risks of too much screen time exposure, but the parents also reported they would reduce their children's screen time if they were better educated about this issue (Beck, 2015). Parents who think television programs or other screen media is educational or significant to healthy development are twice as likely to have the TV on for prolonged time (Vandewater, 2005).

Chonchaiya (2008) found that children who viewed TV alone were 8.5 times more likely to develop a delay in language. In a similar way, Tanimura, Okuma, and Kyoshima (2007) found that when television is on, parents converse and interact less with their children. In one observational study conducted in Japan, parents frequently spoke in shorter, one-word sentences and spoke less words overall to their children when the television was on.

A population-based cross-sectional research in Ceará, Brazil, found that 69% of children between the ages of 0–5 years of age had overall screen time in excess of WHO recommendations and the proportion of children with elevated screen time increased with the child's age. The study also showed that prolonged screen time was linked with lower child communication skill (Hermano, Lima, Luciano, Márcian, Ana, Sabrina, Anamaria & Christopher, 2021).

Regarding daily exposure to television by children, a study conducted in Egypt by Eman and Somaya (2019), on 100 children between the ages of 3-6 years, found that two third of children who are below two years of age viewed TV and the mean of the time spent watching television daily was 2.72 hours for children less than 2 years old and 0.23 hours for children from 2 to 6 years. In line with this, a research conducted in Indonesia by Nirwana and Chairunnisa (2018), reported that screen media devices can affect speaking ability of children. According to the same source, children who watch screen every day will experience delays in language when they reach the age of 3 years. In addition, these children also experienced attention problems during interactions with other people.

A number of studies show that there is an association between language delay and prolonged use of screen among children under the age of six (Chonchaiya & Pruksananonda, 2008; Duch, 2013; Lin, 2015). In this regard, one quasi-experimental study by Lin, Cherng, Chen and Yang (2015), found that watching television for long time is correlated with a high risk of delay on language in young children between the ages of 15 to 35 months old.

Other researchers also confirmed how long screen time affects language development by studying the communication between young children and their parent (Chonchaiya & Pruksananonda, 2008; Christakis, 2009; Tanimura, Okuma, & Kyoshima, 2007). Christakis (2009) indicated that verbal conversation between parents and children while viewing TV are limited. They made observational research to determine the association between amount of time viewing television and the quantity of child-parent communication in a group of 325 children ages twenty-four to thirty-six months. For every one hour of TV viewed, the children were exposed to 500 to 1000 fewer words. The researchers also discovered that significant reductions for child vocalizations and conversational turns were correlated with more time spent viewing TV. These decreased experiences for parent-child interactive language learning and it may affect typical language development.

Unfortunately, children in Ethiopia are not exceptions to this problem. From the observation and professional experience of this researcher, some young children particularly those who are not yet enrolled in school or daycare spend long hours on screen. Information obtained from language therapy service providers in Addis Ababa also suggests that many children diagnosed with language delay tend to have a history of spending a lot of time on screen each day as reported by parents.

The prevalence of communication or related issues in Ethiopian children is unknown, however abnormal speech accounting for 2.8% of the disorders (Tadesse, Kebede, Tegegne, and Alem, 1999). Celeste (2019) wrote about communication and neurological disorder in Ethiopia, but there was no mention of the incidence of language delays. According to Moges (2014), Communication delays affect 14.63%, 5.3%, 5.84%, 6.49%, 7.19%, 7.24% and 3.16% of infants and young children aged 9, 12, 18, 24, 30, 36 and 48 months respectively. According to Yekoyealem, O'Connell, Michael & Wiium (2021), Ethiopian children watch 2.32 hours

(SD±1.70) of television per day on average and parents are concerned about the negative effect of television on children.

Studies have found that utilizing a screen for an extended period of time has been identified as a major risk factor for communication delay. However, in Africa and Sub-Saharan region, the topic has received insufficient attention. Celeste (2019); Moges (2014) and Yekoyealem et.al (2021) did research in Ethiopia on issues such as TV viewing and communication disorders and delays.

There have been studies on the link between screen use and overall developmental delay. The impact of screen time on communication skill of preschool children has not been examined in Ethiopian studies. As a result it is important to have a study on the issue. This study intends to focus on Parent-Child Communication Strategies with Screen time Experiences of Addis Ababa Preschoolers

1.2 Statement of the Problem

Studies showed that prolonged screen has an impact on communication skill of children under the age of six, for example; a study by Nirwan and Chairunnisa (2018); Eman and Somaya (2019); Chonchaiya and Pruksananonda (2008); Duch, (2013) and Lin, Cherng et.al (2015), revealed the negative effect of prolonged screen time on communication, cognitive functioning, and social skill development. According to the researcher's desk review of clinical documents, many children diagnosed with language delay had a background long screen time. Additional to this among some parents lack of parental education about the adverse effects of prolonged screen time increased the problem.

Parents who think television programs or other screen media is educational or significant, more likely let their children use screen for long time (Vandewater, 2005). Based on the researcher's observation, in Addis Ababa, it seems some parents believe that screen media has a constructive effect for their children and because of this children are allowed to spend long hours on the screen. The researcher have seen that care givers give mobile phones and other screen devices to their children to calm them down, keep them busy, get them to eat their food and even sleep easily.

It appears that some parents do not understand the importance of spending quality time with their children talking playing and doing other related joint activities. Additionally some parents are busy with their work and after work, they may use screen devices for long period of time which minimizes parent child interaction and as a result children's communication skill might be affected.

Children who are enrolled in school or daycare are more likely to communicate and interact due to the exposure to their same-age peers. However it is reported that, young children in daycares may be exposed to the screen for prolonged time and those who attend school may use screen for long time on weekend days. As a result of community's perception that gadgets prepared for academic purposes are beneficial, some parents have failed to control their children's screen use.

A few studies have been conducted in Ethiopia regarding screen time and communication skill of preschool children. A study by Celeste (2019), entitled *Communication Disorders in Ethiopia: Emerging Needs and New Models of Development*, discusses about communication disorder by relating it with neurological problems. The author discusses about the disorders. Other doctoral Dissertation submitted to Addis Ababa University School of psychology entitled *Developmental Delays among Infants and Young Children in Addis Ababa*, by Moges (2014), showed the prevalence of communication delay. In this dissertation the author discusses in general about communication delay, which is not specifically discuss about its relation with prolonged screen time.

According to Yekoyalem et.al (2021), entitled *Parenting of school children's television viewing in Addis Ababa, Ethiopia*, discussed about the average time children spend on TV and parents concern about the negative effect. The impact of Television viewing on communication skill is not examined in this study, which focuses on parental responses and practices related to schoolchildren's television viewing. All of the above mentioned studies conducted in Ethiopia do not clearly tell us about the impact of screen time and communication skill of preschool children.

The number of children admitted for speech therapy in Ethiopia is rising and many parents are concerned about their children's use of screens. Furthermore, there is no published study on the issue in Ethiopia. Because of the increased use of screen in children under the age of six and lack of research in this area, this study aimed to gain understanding about screen time and

communication skill of language delayed preschool children. Thus, this research intended to answer the following research questions.

1.3 Research Questions

- a) When do parents generally let their children spend time on screen?
- b) What is parent's response about the benefit of screen use for children?
- c) What is the average time parents spend with child at home?
- d) Do parents limit how much time their children can spend on screen?
- e) What strategies do parents use to enhance communication skill of their children?

1.4 Significance of the Study

In Ethiopia, screen time and communication skill of preschool children has not been sufficiently studied. It appears that there is a misconception by parents regarding screen use. In this regard, providing accurate information to parents about the adverse effect of prolonged screen use is very important. The report of language therapy centers showed that in Addis Ababa the number of children diagnosed with language delay has increased compared to the previous years.

This study will help parents to comprehend knowledge regarding the impact of prolonged screen time and communication skill of children. Similarly, the study will guide parents to limit their children's screen time. Most parents are not aware about the negative effects of prolonged screen time on their children's communication skill. Therefore, the study will create awareness for parents in order to limit their children's screen time. The study will use as an implication for language delay among preschool children. Finally, because the issue has not been adequately researched in Ethiopia, this study will pave the way for future research on the topic.

1.5 Operational Definition of Basic Terms

Screen time: Media accessed through television, cell phones, tablets, computers, and video games as measured by (DSEQ).

Communication skill: In this research it refers to the daily appropriate use of language in social context as measured by Social Communication Skills- The Pragmatic checklist.

Chapter Two

Review of Related Literature

2.1 Introduction

This section reviewed researches related to screen time and communication skill of preschool children. Main issues included in the review were global prevalence of speech and language delay, average screen duration of children per day, reasons why parents should permit their children to use screen, gender difference in children language skill and the impact of screen media on development. The chapter ends with a summary of the researcher's understanding of this final area derived from the literature and concludes with the research questions that are addressed in the study.

2.2 Global Prevalence of communication Delay

There have been numerous attempts to compile the body of research on the prevalence of speech and language delays since the publication of a note on the prevalence of speech and language problems (Rutter and Martin, 1972). Most often, they are just lists of prevalence figures based on various access strategies used to reach the public at large and based on various techniques used to determine the skills of the children in question. The data in the current review were categorized by the linguistic domains measured and the age of the children in the sample in order to represent its diversity (Paul, 1992). Delays in expressive and receptive language, as well as speech, are included.

The group with both speech and language impairments is the most crucial one to define in terms of the viability of screening. The median prevalence in this group, as determined by speech and/or language estimates, is 5.9 percent (Paul, 1992). But when extrapolating from this kind of data synthesis to generate a single composite prevalence estimate, extreme caution must be exercised. The most obvious characteristic of these data is their variability.

The majority of research utilized diagnostic assessment score cut-offs between -2 and -1.5 SDs below the mean for the standardization sample on the measure used, which results in prevalence rates between 2.28 percent and 6.68 percent when taking speech and language delay as a single

construct (Paul, 1992). The findings, which range from 1.35 percent to 19 percent, are typically greater than would be predicted based on this information. The more lenient cut-off of -1 SD was applied in the one study with a prevalence rate of 19 percent. According to Paul and colleagues' study from 1992, these numbers were substantially lower (1.35 percent for mild, moderate, and severe cases, and 0.65 percent for only moderate and severe or "serious" cases).

These numbers come from a study where case status was determined more by objective clinical judgment criteria than by performance on a standardized test of speech and language ability. Such stringent criteria may be a result of the study's location in a developing nation with scant resources for assisting children with speech and language delays.

Children with either expressive or receptive language difficulties have been grouped together in certain studies. With a range of 2.02 percent to 19.00 percent, this variability is quite considerable (Tomblin, 1997). In one instance, children had to obtain two low test scores to qualify as cases, hence using a cut-off that would have predicted a larger prevalence figure (-1.25 SD) led to a convergent prevalence estimate of 7.4 percent (Tomblin, 1997). Due to the strict cut-off scores used in these researches, there is little fluctuation in the data for expressive and receptive language delays within a small range.

Variable statistics for speech delay only range from 2.3 percent to 24.6 percent. It is interesting that pre-school age speech delay has not typically been a focus of prevalence investigations. The figures provided by Warr-Leeper (1979) and colleagues, Stewart (1986) and colleagues, and Tuomi and Ivanoff (1977) were not based on predetermined cut-offs, therefore so obtained relatively low quality rankings together with the Harasty and Reed (1994) study. Using a -2 SD cut-off, Kirkpatrick and Ward (1984) detected 4.6 percent. Similar to this, Beitchman and colleagues (1986) established a -2 SD cut-off on specific sub-tests to arrive at their 6.4 percent speech prevalence estimate.

Only expressive language skill deficits were identified in three investigations. While two of them (Rescorla, 1993; Stevenson and Richman, 1976) exclusively utilized an expressive language test, the third (Silva, 1983) aimed to identify expressive delay in the absence of receptive language skills delay. It stands to reason that some kids who score poorly on an expressive language test will also have trouble in receptive language. The percentages reported by Stevenson and

Richman, Silva and colleagues, and these authors ranged from 2.34 to 4.27 percent for children between the ages of 3 and 7. Rescorla and coworkers' (1993) study stands out as the only outlier, with screen cut-off figures of 8 percent, 16 percent, and 19 percent.

Instead of using a diagnostic test performance, as was the case in the previous trials, these data was calculated from a single vocabulary checklist (i.e. the range of reported prevalence reflects the screening stage of this study). Alternative prevalence estimates that take into account the reference measure can be calculated and result in 9.8% and 13%. Finally, Rescorla's study's age range was at least a year lower than that of the other research, and it's possible that the somewhat younger age group has a particularly wide range of expressive vocabulary development.

Receptive delay estimates range from 2.63 percent to 3.95 percent and are once more closely grouped. These numbers are all from the Dunedin research (Silva, 1983). An earlier clinical study's findings, which revealed that just two out of 74 delayed infants had isolated receptive delays, suggested that the prevalence of receptive delay is significantly higher than would be predicted from the data (Morley, 1965). It's unlikely that the kids in the Silva research will fit the Morley's diagnosis criteria. Children who truly have expressive receptive language delays but only passed the expressive language exam because they failed the receptive test may be included in Silva's figures in this case. The results could therefore be an example of a cutoff in a psychometric test confounding the clinical perception.

It's also worth looking into the prevalence of communication or related issues in Ethiopian children. Tadesse, Kebede, Tegegne, and Alem (1999) surveyed 1,440 households in the Ambo district of western Ethiopia to determine the prevalence of childhood behavioral disorders. They questioned mothers of children aged 5 to 15 to report on whether their children had odd speech, bad sleep patterns, fits or falls, frequent headaches, anxiousness, or a lack of interest in playing with other children. Notably, all interviews took place in person and were done by native speakers of Oromifa (the local language) and Amharic. Tadesse et al. (1999) discovered a 17.7% overall prevalence rate for behavioral problems in these children, with abnormal speech accounting for 2.8 percent of the disorders.

2.3 Early Language Delay among children

While many preschoolers learn to speak with ease, others have difficulty developing oral language abilities. These children, who are frequently described as being 'language delayed' or having a 'language delay,' may struggle to grasp what is said to them, to take up new vocabulary, to sequence words into sentences, and to pronounce words clearly.

One of the characteristics of early language delay is that it is considerably more common in children from low-income families, where there are fewer resources, parental education is often lacking, and children's possibilities are limited. Children from the most socioeconomically deprived groups are twice as likely to develop language delay, according to the Millennium Cohort Study of 18,000 children in the United Kingdom.

A child's readiness for school, as well as their academic achievement as they progress through the school years, is jeopardized by language delay. Low language skills are linked to a lack of school readiness as well as poor reading and writing abilities (High, 2008). While some children outgrow their language delay, it appears to have a lasting influence on many other far into adults, affecting not only later language skills but also literacy, quality of life, mental health, and life prospects in general (Marmot Review Team [MRT], 2010). There is also a growing recognition that communication skills are required for employment in the white collar sector (Ruben, 2000).

2.3.1 Causes of Early Language Delay

When there is a family history of language delay, reading, writing, or learning challenges, the chances of a kid having language delay is increase (Campbell, 2003). Social variables are likely to exacerbate genetic effects throughout childhood, especially for children from low-income families (Close, 2004). But what exactly is it about the environment that is so crucial? Lower parental education levels have been linked to lower oral language skills in children (Close, 2004). They are also linked to lower parental engagement and fewer social opportunities for the child.

Concerns about modern lifestyle issues (such as the effects of watching television and using computers) are common, but they are not simple to address. According to some research, children who watch television for long time have poorer communication skill, while others

suggest that television can be a beneficial element and provide vital opportunities for children to verbally communicate with others (Close, 2004). While the family environment may be more influential during the preschool years, neighborhood variables become more important as the children grows older (Campbell, 2003).

2.3.2 Speech and Language Delay

To comprehend a child's speech or language delay, we must first understand the distinction between speech and language. Speech refers to the vocal form of communication, while language encompasses the entire system of communication, whether spoken or written, verbal or nonverbal. A child with a language delay may be able to pronounce words correctly but only be able to put two words together. A child with a speech delay may use words and phrases to communicate thoughts, but they may be difficult to comprehend (Rowan, 2009). These two issues frequently overlap, as does speech delay, sometimes known as alalia. Many researchers have looked at it and come up with a variety of theories.

2.3.3 Primary and Secondary Delay

Speech and language delay is a broad phrase that refers to a variety of disorders that affect children in their early years. Primary and secondary delays are the two types of delays that are commonly used. In the absence of a specific explanation, primary delay occurs when a child's speech and language skills are delayed relative to other skills. Secondary delay occurs when speech and language skills lag behind other skills, usually as a result of a known cause, most typically a general learning deficit or hearing loss (Rowan, 2009). The focus of this paper is on children who have a primary speech and language delay.

It excludes speech and language delays caused by other developmental diseases, such as autism, cerebral palsy, hearing loss, cleft palate, stammering, and selective mutism, in which speech and language delays are a symptom. It also excludes medical diseases that typically co-occur with speech and language deficits, such as mental disturbance or high risk neo-natal history.

The term delay implies that this group of children can be classified along a single axis. Speech and language, in fact, are a complicated interaction of functions. Children can present with varying degrees of delay as well as qualitative variances in their symptoms. For instance, while

some children's speech is impaired solely, others may experience difficulties with expressive language and/or verbal comprehension (Curtiss, 1992).

The distinction between delayed speech and language, which follows the typical pattern and has a more benign end, and deviant or disordered speech and language, which does not follow the normal pattern and has a more adverse outcome, is sometimes mentioned. Recent developments have revealed that the difference between delay and disorder is not clear (Curtiss, 1992). Some authors have used the term speech and language impairment to describe the problem's constitutional nature. Also used is the term specific speech and language disorder.

Throughout this study, the term "speech and language delay" will be used. The study focuses on children who have speech and language deficits. Early childhood coincides with the period when linguistic development is most active, and it is during this period that professional organizations working with these children up to this point have paid the most attention (The Department for Education, 1994).

In the early years, there is a large range of diversity in both the pace and quality of language acquisition. However, for some children, this variation results in a delay in the acquisition of speech and language skills, which has an impact on performance and causes concern among people around the child. The issue is that such delays impede the child's ability to develop on a personal and social level, and that the challenges may lead to educational and social disadvantages (Bishop, 1992).

There has been a lot of debate over the nature of the underlying problems that children with primary language delays face. Much of debate revolves around whether or not it is possible to identify a specific intrinsic mechanism or series of mechanisms that are shared by all such children, or whether it is preferable to search for extrinsic causes. Some researchers believe that both specific language delays and dyslexia are caused by a highly specialized auditory processing disorder (Tallal and Piercy, 1973; Wright, 1997). Others have cast doubt on the evidence and proposed alternative interpretations (Bishop, 1992).

Epidemiological evidence suggests a distinct picture, with significant levels of co-morbidity linked to speech and language delays. Other issues confront these children on a regular basis.

Neurodevelopmental delays, poor attachment to the primary caregiver, behavioral and psychiatric problems, and otitis media are all common in these children (Bax, 1990), and some authors have suggested that a more general neurodevelopmental delay may account for most speech and language delays in the young child (Bax, 1990).

Despite this level of linkage, speech and language delays may still be regarded primary rather than secondary because speech and language difficulties are the most easily identified obstacle. Primary speech and language delay in early children might be viewed as a societal construct to this extent. Specific mechanism may become more obvious when the 'noise' of normal development fades with age.

2.3.4 Factors Affecting Language Development

The extent to which delays in speech and language development can be linked to extrinsic factors like social class has gotten a lot of attention. The 'verbal deprivation theory' proposed that children with low language skills had inadequate models in their environment. As an explanation for disparities in speech and language performance, this interpretation is now universally disregarded (Wells, 1985). Many children from lower socioeconomic homes, on the other hand, show a significant difference in performance between home and school/nursery environments, implying that they do not have the requisite language skills but do not demonstrate them in less familiar contexts (Wells, 1985).

Furthermore, parents' responses to their children's communication attempts are inconsistent (Wells, 1985). The primary problem in this topic is the extent to which parents are able to meet the speech and language requirements of children who are behind in their speech and language development. Children who have difficulty understanding and constructing language require communicative partners who are responsive and ready to reinforce their attempts to communicate.

2.4 Average Screen time Among Preschool Children

Wei, Fairuz, and Noorul (2021) estimate that, children spent an average of 2.26 ± 1.98 hours a day watching screens, with 36.3 percent spending more than 2 hours. Parental screen time and child screen time were moderately linked ($r_s = 0.479$). The amount of time parents and children spent watching screens was positively connected with household income ($r_s = 0.43$). Screen time among youngsters was higher according to parents who intended to limit it (Wei et.al, 2021). In a different study by Heuvel et al. (2019), the median daily use of mobile media devices was 15.7 minutes among children whose parents reported any use of mobile media devices (22.4 percent).

From the Panel Study on Korean Children (PSKC), which was conducted in 2010, Byeon and Hong (2015) obtained data on 1,778 healthy young children between the ages of 24 and 30 months who did not have any acquired or congenital abnormalities or abnormal growth. Using the Korean-Ages and Stages Questionnaire, a screening for speech delay in children was conducted (K-ASQ). Language development delay was defined as a score of less than -2 SD. They looked at the general average time spent watching television, which was 1.21 hours, and found that 32.6 percent of those toddlers watched for longer than 2 hours.

A study carried out in India 89.4% of the 189 study participants had excessive screen time (defined as more than one hour per day), with an average of 2.14 hours. 45.0 percent of parents irregularly monitored their children's screen time (self-reported). Screen time during meals, on-demand viewing, and utilizing devices other than computers were all strongly linked to excessive screen time in preschoolers. Additionally, there was a significant increase in the likelihood of suspected attention, IQ, and social skills deficiencies among kids who had inconsistently monitored screen time (Jijo, Reny, Alice, Ann, Kalyan and Lisa, 2021).

Approximately 98 percent of youngsters in the US between the ages of 0 and 8 spend more than 2 hours each day using screens. For the study, Birken's team gathered and assessed close to 900 infants between the ages of 6 and 24 months. By the time they reached their 18-month checks, 20% of the kids were daily using mobile devices for an average of 28 minutes. They discovered that kids who used handheld devices more frequently were more likely to show symptoms of an expressive speech delay. Another study revealed that at the age of 18 months, 20% of kids were spending an average of 28 minutes per day on screens (Birken, 2017). There was a 49% higher

likelihood of expressive language delay for every additional 30 minutes of screen use (Birken, 2017).

2.5 Reasons Why Parents Let Their Children to Use Screen

Parental attitude is a key factor in determining whether young children will watch more screens (Hill, 2016). According to Lauricella (2015), parents should allow their children to use digital media devices like televisions, laptops, and smart gadgets if they believe that doing so helps children learn in affective, cognitive, and physical ways. Some of the reasons why parents permit their children to use screens were highlighted by studies. It also mentions that caregivers often offer their kids smartphones and other screens to help them relax, stay occupied, eat their meals, and even fall asleep (Hill, 2016).

Moreover Hinkley and Jennifer (2018) found that 25% of parents thought screen time was either as important to active play or important on its own. As this mother states: "I do think that it's going to be important that he does know how to use a computer; by the time he reaches school he'll probably be doing a lot of computer-based learning," parents who held these views primarily thought it was important to give children opportunities to learn how to use technology. As demonstrated by the following mother: "Other benefits are also things that he learns, like vocabulary. Sometimes he comes out with words and I wonder, "Wow, where did he get that from?" or his words, or even the manner he says things. And I can actually connect that to a movie he's seen". Screen time, as claimed by 82 percent of parents, provides possibilities for learning and education (Hinkley and Jennifer, 2018).

Like this mother, who mentioned "educational games, and getting him to read and write, doing interactive (online) books that help him to recognize words and do matching colors and those sorts of things," many parents (18 percent) believed that screen time improved cognitive outcomes in their children. Screen time was considered important for relaxation by half of the parents surveyed. We don't necessarily want her to sleep because it would disrupt her nighttime sleep patterns, so it's a nice way for her to chill out, according to her father, so it's a good way for her to have a rest and some downtime (Hinkley and Jennifer 2018).

Additionally, screen time was said to be helpful as a substitute babysitter so that parents could attend to other obligations or take a break (32 percent of parents reported this). One mother said, for instance, "We are delighted that he goes and sits in front of the TV some afternoons... because it means that we can go do what we need to, or we can sit down and have a break for five minutes." Only 7% of parents indicated that they thought screen time had no positive effects at all on their young children (Hinkley and Jennifer, 2018).

The parenting style and attitude toward using digital gadgets is likely to influence the children's behavior (Lauricella, 2015). According to Bronfenbrenner's (1994) EST, the microsystem has a direct impact on children, while the mesosystem, exosystem, and macrosystem have an indirect impact. Children's learning is impacted by the macrosystem, which includes the attitude, values, and beliefs of parents and neighbors. About 70% of US parents believed that computers helped their children learn. However, their perception of touchscreen tablets and cellphones had not been sufficiently investigated (Lauricella, 2015).

2.6 The Link between Screen time and Expressive language among Children

Researchers discovered that the more time children spend on smartphones, tablets, electronic games, and other handheld devices, the more likely they are to suffer expressive speech delays. Interactions with others will teach children how to talk and communicate (Subrahmanyama, 2001). This is how children will learn to speak effectively; without communication, they would not learn. Every minute your child spends in front of the screen is a minute he is not speaking or learning with others (Jonathan, 2016).

Screen time refers to how much time your child spends in front of a screen, whether it is a television or another device. Screen time deprives a child of time that may be spent conversing and interacting with others. An example of this would be if you were traveling in a car with your children. As well as your child has a screen in front of him, which he is using to watch his favorite television show or play a game. So you won't interrupt him by talking or asking a question; on the other hand, if he didn't have any device in front of him, he would most likely be communicating with you (Subrahmanyama, 2001).

Researchers discovered that the more handheld screen time a child's parent reported, the more likely the child was to have expressive speech delays, finding that a child was 49% more likely to be at risk of expressive speech delay for every 30-minute increase in screen time (Jonathan, 2016). The more time toddlers aged six months to two years spent using handheld screens such as smart phones, tablets, and electronic games, the more likely they were to develop speech delays, according to a study by Jonathan (2016).

According to researchers expressive language is the mostly affected aspect of language (Whitehurst, 1991). Expressive language delay may contribute to difficulties learning spoken language (ELD). Compared to receptive language abilities and nonverbal intelligence, ELD is a disadvantage in the development of spoken language (Whitehurst, 1991). According to estimates, 10 to 15 percent of early toddlers have expressive language delays or disorders that are unrelated to any other recognized diagnoses (Desmarais et al., 2008; Paul, Looney, & Dahm, 1991). Other terms have been used in the research and in clinical practice, despite the fact that ELD is a highly general word that covers children with expressive language deficiencies. Children with ELD, for instance, are frequently referred to as "Late Talkers" or "Children with Specific Language Impairment" (SLI).

In a recent study, the Hospital for Sick Children in Canada tracked nearly 900 infants and toddlers between the ages of six months and two years. They discovered that toddlers who spent more time using handheld screens were more likely to have delayed expressive language skills, or a child's inability to speak in complete sentences. Additionally, they discovered that the risk of expressive language delay rose by 49% for every 30-minute increase in daily handheld screen use (AAP, 2017). Another study found that toddlers with speech delays who spend too much time gazing at screens may have difficulties developing expressive language. This is demonstrated by the respondents' increased use of significant expressive language following a decrease in their typical level of screen use (Radesky et al., 2016).

According to a study by Radesky et al. (2016), screen device users' expressive speech delays are significantly correlated with their use of screens. In the fully adjusted model, there was a higher likelihood of a parent-reported expressive speech delay for every additional 30 minutes of screen time on a mobile device. Over 1,000 parents of young children were surveyed for a different

study (Zimmerman, Christakis, & Meltzoff, 2007). Toddlers who viewed more videos spoke fewer words, according to their research. Eight to sixteen-month-old infants spoke, on average, six to eight fewer words for each hour of video they viewed in a day. These recent studies demonstrated that exposure to more screens puts newborns at danger for expressive language delays and can cause young children to speak less (Kamtini, 2019).

If your child has expressive language delays, you might want to consider allowing them to use mobile media devices and "educational applications" more often in the hopes that they would be able to learn from them. This is another explanation for the link between screen time and expressive speech delay (Radesky, Eisenberg and Gross, 2016). In a qualitative study by Radesky et al. (2016), caregivers with little income thought that because children are encouraged to use educational apps, their children could learn more from them than from toys. Finally, new research showed a link between toddlers' usage of mobile media devices and less sleep, which may possibly be associated to less favorable results for child development (Cheung, Bedford and Saez, 2017).

The risk of expressive speech delay is higher in infants who spend more time using handheld devices. There is a significant link between using handheld devices and having delays in expressive speech this association is stronger in kids who use handheld devices at all (Susan, Lisa and Laura, 2017).

2.7 Gender Differences on communication skill among children

Children with language delays and problems exhibit gender disparities, just as we see gender differences in children whose growth is regular. According to age, different proportions of males and girls experience linguistic problems. Youngsters with "late language emergence" or "late talkers" are often referred to as children between the ages of 24 and 36 months who have delayed language development. Children, who start talking later than other children, utilize fewer words, and fewer word combinations. These children may use fewer words or understand fewer words than other children their age. According to studies, as many as 13% of kids are regarded as late talkers (Eriksson, Marschik, Tulviste, Almgren, Pérez Pereira, Wehberg, & Gallego, 2012).

Boys than girls have late language emergence significantly more frequently. Around 2.5 to 3 boys are present for every female. By age five, roughly 60% of late talkers will catch up, while 40% will still have below-average language skills (Eriksson et.al, 2013). Later on, a language delay diagnosis could be made for these children. Our understanding of how or why some kids with delayed language emergence catch up to their peers is limited. Additionally, we cannot understand why other kids do not catch up. According to several studies, having a family history of language and learning issues may have a role (Lange, Euler, & Zaretsky, 2016).

At the time of enrollment into school, 7 to 11 percent of children exhibit linguistic delays. As children get older and enter school, the gender gap for kids with language delays narrows, just like it does for kids whose language is developing normally. Males and females are affected by language delay at a rate of 1.3:1, which is almost equal. The intensity of the language delay symptoms does not appear to differ between boys and girls. This is distinct from children who simultaneously have a medical diagnosis and have language problems (ADHD, autism, Down syndrome, etc.). Around 3 males are affected for every 1 female in these populations, which is a significantly higher rate than that of females (Lange et.al, 2016).

Boys and girls both have a high prevalence of language delay, yet neither gender receives assistance at the same rate. Boys are frequently overrepresented in the caseloads of speech-language pathologists. Boys are around 1.7 times more likely than girls to get language therapy treatments between the ages of two and five. Boys with language delays are 1.5–2 times more likely than girls to receive services in kindergarten. Since studies have not consistently revealed gender disparities for the severity of language impairment, the gender disparity for receiving services is not attributable to variations in severity levels. Teachers and other professionals' unconscious biases may be a contributing factor.

The disparity between males and girls in terms of services may also be a result of behavioral differences. Boys and girls may respond differently, for instance, to difficulties associated with attempting to understand and be understood by others. Boys with language delays may exhibit aggressive behavior or take on the role of the class clown more frequently as a group. In contrast, it's possible that language-delayed girls as a whole are more inclined to retreat socially and academically (Lange et.al, 2016).

These behavioral variations may cause teachers to pay greater attention to boys who have language delays while ignoring girls. Another factor might be the varied communication expectations parents and instructors have for males and girls. In a recent study, it was discovered that boys were twice as likely as girls to have language delays on teacher rating scales. However, independent testing revealed that there are almost as many boys and girls with language delays. This disparity, however, indicates that many girls with language delays are not receiving the support they need to succeed (Ash, Redmond, Timler, & Kean, 2017).

Based on average group performance, researchers demonstrate gender variations in the language and behavior of children with speech and language delays. But it's crucial to remember that every child with a speech and language delay is different (Ash, 2017).

Even though females often acquire speech and language abilities earlier than boys do, the reason for this is more complex than just the fact that they mature more swiftly in general (Whitehouse, 2010). Gender and sexuality actually only have a minimal impact on whether a person may have speech and language delays among many other contributing factors. In general, boys are more likely than girls to experience a speech or language delay (Whitehouse, 2010).

According to British research, girl often have a much broader vocabulary, pick up new words and skills more quickly, and are more skilled at gesturing than boy. In general, girls start talking a month earlier than boys do. It's crucial to remember that these disparities can be slight, virtually insignificant, and do not always indicate that boys are behind girls in terms of development (Ash, 2017).

While it is true that more boys than girls experience a speech or language delay, it's vital to remember that boys who are having trouble speaking may not automatically require help because they are boys. The rate of acquisition and development of speech and language abilities is influenced by a variety of factors. For many reasons, girls may mature more quickly than boys (Ash, 2017).

2.8 The Impacts of Screen Media on Development

It's unclear if early exposure to screen media affects the growing brain, and published research on how and how much children under the age of 5 learn from screens is limited (Lerner, 2014).

Despite the fact that children do not acquire content from television, studies demonstrate that it can capture and maintain their interest. Between the ages of 6 and 14 months, they can reproduce certain behaviors they watch on screen, and by the age of 18 month, they can remember lengthy sequences (Lerner, 2014). By the end of their second year, children have begun to comprehend content (Duch, 2013).

Infants and toddlers have been shown to have trouble transferring new learning from a 2D representation to a 3D object (e.g., from screen to real life) and are unlikely to learn from television at this age (Lerner, 2014). Face-to-face contact with parents and caregivers, on the other hand, is where children learn the most (AAP, 2016).

Adults can make connections between what they are watching with real life, as well as develop linguistic and cognitive skills like attention, memory, and reasoning (Lerner, 2014). The disadvantages of solitary viewing are also avoided when screen time is shared. Prioritize instructional content or apps for children's screen time and avoid mainstream or commercial programming. Use a touch screen combining with creative or active play (Marsh, 2017).

2.8.1 Potential Benefits of Screen Media for Development

Quality television well-designed, age-appropriate shows with specific educational goals can provide an extra avenue to early language and literacy for children starting around the age of two (Linebarger, 2010). Aspects of cognitive development, such as favorable racial attitudes and imaginative play, are also aided by good programming (Thakkar, 2006). Early evidence suggests that interactive media, particularly applications that need a contingent response from an adult (i.e., timely responses to what a child says or does) can help children remember what they have been taught.

When this responsiveness is combined with age-appropriate material, timing, and intensity of action, to 24-month-olds can learn new words (Radesky, 2015). Early evidence suggests that interactive 'learn-to-read' applications and e-books can help children develop early reading skills by giving them experience with letters, phonics, and word identification (Radesky, 2015). While quality content co-viewed and discussed with parent or caregiver can aid with language

development (Linebarger, 2005), preschoolers learn best (in terms of expressive vocabulary words) through live, direct, and dynamic interactions with caring adults (Courage, 2010).

2.8.2 Potential Risk of Screen Media for Development

Background television has been shown to have a negative impact on language usage and acquisition, attention, cognitive development, and executive function in children under the age of five. It also distracts from play and reduces the amount and quality of parent–child interaction (Lapierre, 2012). Parents appear to utilize fewer reading skills during these interactions, despite the fact that e-books have been found to improve children's reading engagement. Furthermore, when compared to paper books, e-book sound effects and animation can interfere with story comprehension and event sequencing in preschoolers (Radesky, 2015).

According to Central Statistical Management (CSM) (2013), Long-term TV viewing has been linked to lower cognitive capacities, particularly in terms of short-term memory, early reading and math skills, and language development. Executive function can be negatively impacted by fast-paced or violent content (Duch, 2013), and the effects can be cumulative. The incapacity of young children (particularly those under the age of two years) to differentiate everyday reality from what happens on screen, as well as their attempts to make sense of competing experience domains, may hinder and impair executive function (Lerner, 2014).

For infants and toddlers, there are no demonstrated benefits and some known developmental threats associated with media exposure. Lin (2015), advises parents to limit their children's screen time when they are young. By reducing screen usage, more time is available for face-to-face interactions, which is beneficial. Screen time may be a beneficial learning experience when children watch informative, age-appropriate content with an engaged adult (Lin, 2015).

2.8.3 The Psychosocial Impacts of Screen Media

Co-viewing high-quality screen content can have an impact on more than just the learning of children. Parents can positively influence their children's social adaptive skills, sleep patterns, and behaviors by being involved in and placing limitations on their screen use (Courage, 2010). According to Ribner, (2017) socioeconomic characteristics influence the content and mediation

of screen use. Furthermore, it has been discovered that television consumption is negatively linked with school readiness skills, particularly when family income decreases.

However, watching time is consistent across different middle-income households (Lerner, 2017). In fact, it appears that socio- economic status has little influence on how closely families adhere to current screen guidelines (Hinkley, 2013). It is critical for all families, regardless of economic conditions, to raise awareness about how children learn best and the need for screen time limitations.

2.8.3.1 Potential Psychosocial Benefits of Screen Media

Quality content can help all children aged 2 and above improve their social and language abilities, especially those who live in poverty or are otherwise disadvantaged (AAP, 2016). Children can learn anti-violence attitudes, empathy, tolerance, and respect through well-designed, age-appropriate educational programs and screen activities (Thakkar, 2006).

When handled correctly, screen time can help to calm a child who is overly excited or worried for example, during a medical treatment (Roy, 2015). However, because screen learning can have a positive or bad impact on behavior, it is critical to ensure that the content is of high quality (Christakis, 2013). Creating a 'media action plan' for the family can help protect and reinforce quality family time (AAP, 2017).

Setting meaningful limitations with young children and communicating them as a family is significantly easier than reducing screen usage with older children. Parents' comfort level with saying "no" to their children's requests to play video games, as well as their own media-related beliefs, intentions, and attitudes, have been proven to be important components of constructive, positive limit-setting (Hamilton, 2016). Off-screen time is vital for developing essential life skills such as self-regulation creativity, and learning through physical and imaginative play for both children and parents (Radesky, 2014).

2.8.3.2 Psychosocial Risks of Screen Media

Recent studies demonstrate a strong relation between parents' and children's screen time (Lauricella, 2015). According to a recent research on smartphone use at fast-food restaurants, the amount of time parents spent on their phones increased the risk of their children acting out to get

attention, which often resulted in negative interactions (Lerner, 2017). Another study indicated that parents who frequently let their 1- to 4-year-old children to use their smartphones are more likely to use the phone as a reward or distraction. As a result, their children are more likely to beg for the phone and feel unhappy if it is not given to them (Roy, 2015).

Mobile technology, according to parents, requires more intensive attention than traditional diversions like reading books or watching TV. Smartphones blur the link between home life and work. In a recent research, parents said that shifting their attention between screens and family life is stressful, exhausting, and limit their capacity to communicate with their children “in the moment” (Radesky, 2016).

Excessive TV viewing (more than two hours per day) has been linked to early children self-control difficulties (AAP, 2016). Such effects may be more prominent in children with behavioral issue, and they may be self-perpetuating since parents are more inclined to utilize screen media to calm a child who is exhibiting problematic behaviors (Courage, 2010). According to studies, excessive screen media exposure is linked to low levels of stimulation in the home and limited parental participation rather than socioeconomic status (Lerner, 2017).

According to a large-scale US study published in 2013, the rise of mobile devices had no effect on the amount or frequency of reading by young children. However, it was discovered that reading was the least popular activity among children who used tablets or mobile devices (CSM, 2013). According to other studies, parents viewed reading to their children from an e-book to be a less enjoyable and educational experience than sharing a physical book (Roy, 2015). Even the most engaging e-books cannot assist abilities like page-turning or provide the same sensory sensations as traditional books (Zimmerman, 2007), which can be carried around and manipulated affectionately.

Chapter Three

Methodology

3.1 Research Design

In order to achieve the main goal the study descriptive research design was implemented. As presented in chapter one, the main objectives of this study was to describe about screen time and communication skill of language delayed preschool children as reported by parents. Descriptive research design is method that attempts to collect quantifiable information to be used for statistical analysis of the sample. It is research method that describes the characteristics of the population or phenomenon that is being studied. The design used to describe individuals, events, or conditions by studying them as they are in nature (Stangor and Wallings, 2014)

Quantitative method was considered appropriate for this study because it allowed a formal and a systematic approach to collect information about screen time and communication skill of preschool children.

3.2 Research Site, Population and sampling

3.2.1 Population

The target population of the study was parents of children between the ages 3-6 years who were diagnosed with language delay. Parents of children diagnosed with language delay participated in the study before children was receiving therapy or any form of intervention such as speech therapy or other interventions like minimizing screen time.

There were a few places that provide services for language delays. Hence the study targeted parents of children in four language therapy centers in Addis Ababa. While three of these centers are private, only one of them is owned by government. These were Allstar Psychological Service, Yekatit 12 Hospital, Dr. Yared Pediatric Clinic and Physiomed Rehabilitation and Physiotherapy Clinic.

3.2.2 Sampling

In Ethiopia, the issue of diagnosing and making an intervention on language delay was a recent phenomenon as a result there was no separate language therapy center which means professionals provide the service under pediatric hospitals, some others provide the service under governmental hospitals and the rest are providing it under psychological services.

Some of these centers were therapy centers for other kinds of children and adults problems as well. According to the data, received in January 2022 from service providers themselves, it is reported that from the total cases they assesses each month 10-20 children were diagnosed with language delay in each of the four centers. Based on this data, fifteen is taken as an average bringing it to sixty cases from four places. Parents of children that were diagnosed with language delays in the month of August 2022 were taken as a sample for this study.

Parents of diagnosed children in four therapy centers were included in the study. Considering the accessibility of participants, convenience sampling technique was selected. Because the sampling frame is small, Simplified Formula for Proportions developed by Yamane (1967) was used. It was simplified formula to calculate sample sizes. A 95% confidence level and $P = .5$ are assumed. Based on the sample size determination formula, 52 sample parents of children were selected to participate in the study.

$$\frac{n}{1+N(e)^2} = \frac{N}{1+N(e)^2}$$

$$n = \frac{60}{1+60(0.05)^2}$$

$$n = 52.18$$

Where n is the sample size,
 N is the population size, and
 e is the level of precision.

3.2.2.1 Inclusion and Exclusion Criteria

Inclusion and exclusion criteria were used in this research. Parents of children between the ages of 3-6 must meet the inclusion criteria; their child needs to have delay in language along with normal behavioral, hearing, motor, cognitive, and emotional development. Participants were also limited in terms of where they live. The participants were only people that live in Addis Ababa. The research took place in outpatient therapy centers. The research was conducted utilizing a questionnaire administered on parents. Parents of children with developmental delays such as motor delay, cognitive delay, or hearing loss were an exclusion condition. Parents of children with hereditary disorders were also excluded from the research.

3.3 Data Collection Instruments

The researcher used quantitative types of data gathering instrument (checklist and questionnaire). The first tool is named “Social Communication Skills – The Pragmatics Checklist”, Goberis D. (1999), is author of the checklist (adapted from Simon, C.S., 1984). Because the psychometric qualities of this tool have not been reported, a pilot test was conducted after making necessary changes, such as removing items that are not culturally acceptable and adding necessary items, to determine the checklist’s reliability. The instrument assessed communication skill of children as reported by parents. It has six domains (Instrumental, Regulatory, Personal, Interactional, Wants explanation, and Share knowledge and Imaginations). The total number of items on the checklist was 45, with a different item for each age group, Age 3: 20 of 45 items; Age 4: 43 of 45 items; Age 5: 44 of 45 items; Age 6: 45 items. The response mode is (not present, uses no words, uses 1-3 words and use complex language).

The other tool which used to measure screen use is called “Digital Screen Exposure Questionnaire” (DSEQ); it is developed by Kaur, Gupta, Kiran, Malhi and Grover (2021). This instrument was adapted and pilot tested to check the cultural appropriateness of the items in the questionnaire. The domains of the questionnaire are screen time exposure and home media environment and media related behavior.

The instrument was used to collect data to answer the following research questions “When do parents generally let their children spend time on screen? What is parent’s response about the

benefit of screen use for children? What is the average time parents spend with child at home? Do parents set a time limit for their children's use of screen? The DSEQ has satisfactory evidence of internal consistency and test retest reliability, as well as strong face and content validity. It has an intra-class coefficient of 0.62- 0.99 (0.05), DSEQ was shown dependable. The domains ranging from (Cronback's alpha of 0.73-0.82) have a high level of internal consistency (Kaur et.al, 2021).

Research was conducted using the above mentioned tools in United Kingdom by Barber , Kelly , Collings, Nagy, Bywater, Wright (2017), in China by Wu , Fowler, Lam, Wong, Yuen (2014), and in India by Avasthi (2010). As to the knowledge of the researcher in this study, it appears there is no published research on this issue in Ethiopia; it is assumed the instruments have ever been in use for research purpose. At the beginning of the questionnaire, demographic characteristics of the parents and children such as Age, Gender, Socio-economic status and other open ended questions were included.

3.4 Validity and Reliability of the Instruments

First both the questionnaire (Digital Screen Exposure Questionnaire) and Social Communication Skills – The Pragmatics Checklist was translated into Amharic language by language expert secondly; another independent language expert translated the questionnaire and checklist back into the original language (English). A group of therapists, including the researcher, worked to resolve the discrepancy between the two translators. The translations were compared and some of the items' wording was improved.

The improved version was then forwarded to subject matter experts (Thesis Advisor). There is no guarantee that this newly translated version will have the same psychometric properties as the original one, even after careful translating and back translating the items. Then the instruments were tested on 30 parents of children. The purpose of the pilot study was to collect data that would be used for screening items measuring screen time and communication skill of language delayed preschool children as reported by parents.

It was also to find out if the wording, instruction and response categories of the instrument as a whole were clear and comprehensible to respondents. Face to face contacts with parents of

children was done and parents were asked to comment on any ambiguous word, phrase or sentence. The researcher also noted respondent's levels of understanding the questions while reading and questions who were frequently asked for further clarification were improved. Finally, the responses of the pilot group were subjected to item analysis. Correlation of items with the overall total was computed and the results of the item analyses were presented.

Different people proposed different index value as a criterion values for judging whether the item is valid or not. For instance, Garret and wood worth (1967) have suggested that as a general rule, items with validity indexes (DI) of 0.20 or more are regarded as satisfactory. In the present study therefore, the criterion value for the discrimination index was set as $r=0.20$. And items with correlation coefficient of 0.18-0.19 were used by making modifications. The item-total correlation for each the scales are given.

Reliability of the instruments was assessed by Chronbach alpha using the data collected during the pilot survey. The computation yielded reliability coefficient of 0.782 and 0.867 for the DSEQ and Social Communication Skills – The Pragmatics Checklist respectively. The above coefficients of reliability clearly showed that the instruments seem to be highly reliable. But, some important modifications were made after the pretest in the wording and arrangement of the instrument.

3.5 Data Collection Procedures

The researcher decided the month and the date in which the questionnaire will be distributed. The questionnaire was available in Amharic language. Parents of the children completed the questionnaire and the researcher was reading the items for parents who are not literate.

The researcher went to Head of School of Psychology and requested a support letter. The support letter was approved legality during the time of data collection. The researcher met parents in therapy centers when they brought their children for services and parents took the questionnaire home to fill out. Parents were informed about the purpose and objective of the study and informed consent was requested to participate in the study. Parents who agreed to complete the questionnaire were continued.

The questionnaire was administered on parents of children. A total of 52 questionnaires were distributed to parents of children between the age of three and six. This age group was chosen to participate in the study because of their high screen usage compared to other age groups.

3.6 Methods of Data Analysis

Descriptive statistical tools such as Frequency distribution, mean, median, percentage and standard deviation used to measure and describe demographic variables such as gender, age, socioeconomic status and the following research questions: When do parents generally let their children spend time on screen? What is parent's response about the benefit of screen use for children? What is the average time parents spend with child at home? Do parents set a time limit for their children's use of screen? What strategies do parents use to enhance communication skill of their children? Independent sample t-test was calculated to measure mean difference in children communication skill and parents screen time. To make the above statistical procedure SPSS version 25 software was used.

3.7 Ethical Consideration

The American Psychological Association (APA) research ethical regulation declared that, when making study on human or non-human participant the researcher must protect the participant from research related risk whether physical or psychological (APA, 2002). Accordingly, prior to collecting data the researcher provided the full information about the research purpose as well as their right to refuse participation and to stop participation after the study has begun. After this, parents were requested to give consent to participate in the study.

After they agreed to participate in the study, they were informed that the reporting will be anonymous and the data will be used solely for academic purpose. It was stated at the beginning of the questionnaire that the collected data will be kept confidential and respondents not required writing their names. Confidentiality, privacy and dignity of participants were respected.

Chapter Four

Results

This chapter presents the main findings regarding Parent-Child Communication Strategies with Screen time Experiences of Addis Ababa Preschoolers. First, we look at the demographic characteristics of the parents and children followed by the reason why parents generally let their children spend time on screen. Then response of parent about the benefit of screen for children and average time parents spend with child at home.

4.1 Demographic characteristics of parents and children

In this section parents were asked to report their and their child's general information such as gender age and socio-economic status. Parents were between the ages of 24 and above 45 ($M=33$ and $SD=1.2$). Their response was summarized in the table.

Table 1:

Demographic characteristics of parents and children

		Frequency	Percent
Gender of Parents	Male	17	32.7
	Female	35	67.3
	Total	52	100.0
Parents Age	Below 25	2	3.8
	25-30	10	19.2
	30-35	14	26.9
	35-40	18	34.6
	40-45	5	9.6
	Above 45	3	5.8
	Total	52	100.0
Socio-Economic Status of parents	Low	7	13.5
	Medium	34	65.4
	High	11	21.2
	Total	52	100.0
Gender of the childrens	Male	37	71.2
	female	15	28.8
	total	52	100
Age of childrens	3 years	9	17.3
	4years	17	32.7
	5years	15	28.8
	6years	11	21.2
	Total	52	100

Table 1 showed that 67.3% of parents were female and the remaining 32.7% were male. Majority of parents (61.5) % were between the ages of 30 to 40 ($M=33$ and $SD=1.2$). In terms of

socio economic status of parents 13.5% of the parents had low socioeconomic status, followed by 21.2% that had high socioeconomic status and 65.4% had middle status. Their children diagnosed with language delay were between the ages of 3 to 6. The majority of children were between the age of 4 and 5 ($M=4.5$ years and $SD=1$). Around 71.2% of the children were boys and the remaining 28.8% were girls as reported by parents.

When it comes to childcare facilities or services the children received parents reported that more than a third 36.5% was being cared by their own parent's fulltime, followed by daycare 21.2% and approximately 19.2% of the children attended a child care service by their Parent, Grandparent, and Daycare, 15.4% Nanny and daycare 5.8% Nannies only and 1.9% of the children were attended a child care service by Grandparent.

4.2 Average screen duration of parents

Parents in four therapy centers were asked to report their daily screen time. Majority of parents had screen time between 1 to 3 hours per day. The minimum screen duration was less than 1 hour and the maximum were 3 hours per day ($M=1.4$ hour and $SD=0.87$).

Table 2:

Average screen duration of parents

	Frequency	Percent
Below one hour	7	13.5
1 hour	24	46.2
2 hours	15	28.8
3 hours	6	11.5
Total	52	100.0

As table 2 indicated more than half of the parents 86.5 % reported they used screen time for 1 to 3 hours per day. The rest 13.5 % had screen time less than 1 hour per day.

4.3 Gender difference in screen time between parents

An independent sample t-test was conducted to compare the screen duration of male and female parents. There was no significant differences $t(df) = 50$ $p=0.7$ in the scores with mean score for males $M=1.70$, $SD=0.85$ and female $M= 1.22$, $SD= 0.84$. The magnitude of the differences in the mean (mean difference) = 0.47, 95% CI: -0.24 to 0.97. In this result there is a mean difference in parents screen time but the difference was not statistically significant.

Table 3:

Differences of screen time between male and female parents

Variable	Male		Female		t(50)	p	95% CI		Cohn's d
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			<i>LL</i>	<i>UL</i>	
Scores	1.70	0.85	1.22	0.84	1.91	0.77	-0.24	0.97	0.56

Note. *M*=mean, *SD*=standard deviation, *CI*=confidence interval, *LL*=lower limit, *UL*= upper limit

4.4 Times that Children are allowed to Spend Time on Screen as reported by parents

In this section parents were asked to report about their reason to let their child spent time on screen and they reported that they let their child to spent time on screen for different purposes. Majority of parents are cognizant of the advantages of screen time for their child's development and some are also aware of the negative effects of excessive screen time, particularly with regard to communication skill. Majority of children are allowed to spend time on screen during mealtimes and at regular times as specified parents. The following table provided a summary of parent's report.

Table 4:*Times that children are allowed to spend time on screen as reported by parents*

	Frequency	Percent
During mealtimes	11	21.2
Any time when the child wants (request)	7	13.5
At regular times as specified parents	12	23.1
When parents are working/busy	10	19.2
When showing the signs of boredom	2	3.8
To comfort when crying	10	19.2
Total	52	100.0

Table 6 indicated times children allowed to spend using screen. Thus, 21.2% children allowed screen during meal times, 13.5% allowed to use screen any time when the child wants, 23.1% of children allowed at regular times as specified parents, 19.2% allowed when parents are working or busy, 3.8% of children allowed when showing sign of boredom and 19.2% of children allowed to comfort when crying.

4.5 Responses of Parents about the Benefit of using Screen for children

In this section of study parents of children were asked to report the benefit of using screen for their children and most of parents assumed that screen time has benefit for their child such as children may learn language and academics through screen devices. Parent's response about the benefit of screen for children was summarized in the following table.

Table 5:*Responses of parents about the benefit of screen for children*

	Frequency	Percent
Learn Music/songs	6	11.5
Enjoyment	11	21.2
Academics (Letters, Numbers, Shapes and colors etc.)	22	42.3
Play skills	2	3.8
Learn language	7	13.5
Positive Behavior	4	7.6
Total	52	100.0

Table 5 described parent's response about what children benefit from screen. Thus, majority of parents 42.3% indicated that their children should learn academics, while 11.5% of parents indicated that their children should learn music or song, 21.2% indicated enjoyment, 3.8% indicated Play skill, 13.5% indicated learn language and 7.6% indicated learn positive behavior.

4.6 Reported wakeful Time of children with parents

In this part of the study parents were asked to report the estimated time they spent with the child when the child was wakeful. In this section, the topic was centered on children's waking hours because some parents come at home after the child has gone to sleep. The minimum hour parents spent with the child was 1 and the maximum was more than 6 hours ($M = 4.4$ hours and $SD = 1.5$).

Table 6:

Reported time parents spent with the child when children were wakeful

Duration (Hrs.)	Frequency	Percent
One	1	1.9
Two	4	7.7
Three	11	21.2
Four	10	19.2
Five	13	25.0
Six	6	11.5
Above six	7	13.5
Total	52	100.0

As table 5 indicated around 70% of parents spent more than three hours per day when children were wakeful, the rest 30% spent one to three hours per day.

4.7 Parent's response about limiting children screen time

In this section parents were asked about limiting the children's screen time and their response was summarized in the table.

Table 7:*Parent's response about limiting children screen time*

	Frequency	Percent
Limited screen time and the child respect it	10	19.2
Unlimited screen time	18	34.6
Limited screen time but not-respected	24	46.2
Total	52	100.0

Table 7 indicated that 19.2% of parents limited their child's screen time and the child respected the limit, 34.6% of parent did not limit their child's screen time. The rest 46.2% of parents set a limit for screen time of their child but it was not respected.

4.8 Strategies parents use to enhance communication skill of their child

In this section parent were asked to report about the strategies they used to enhance the communication skill of their child. The following table summarized parent's response.

Table 8:*Strategies parents use to enhance communication skill of their child*

	Frequency	Percent
Play with child	14	26.9
Let the child to use videos in other language	7	13.5
Let the child to play outside with friends	16	30.8
Read a story to the child	8	15.4
Play with the child and let child to play with friends	7	13.4
Total	52	100.0

Table 8 described parent's response about the strategies they used to enhance communication skill of their child. Thus, 26.9% indicated play with the child, 30.8% let the child play with friends, 15.4% of parents indicated read a story to the child, and 13.5% indicated let the child use videos in other language. The rest 13.4% indicated both play with the child and let child to play with friends.

4.9 Estimated Daily Screen Time of Children on Week Days as Reported By parents

Parents in four therapy centers were asked to report the estimated daily screen time of their child. Majority of the children has screen time between 1 to 3 hours per day. The minimum screen duration was less than 1 hour and the maximum was 6 hour (M=2.87hours and SD=1.6).

Table 9:

Estimated daily screen time on week days as reported by parents

Duration (Hrs.)	Frequency	Percent
Less than 1 hour	1	1.9
One	12	23.1
Two	12	23.1
Three	10	19.2
Four	5	9.6
Five	9	17.3
Six	3	5.8
Total	52	100.0

As table 9 indicated more than half of the parent 65.4 % reported that children used screen time for 1 to 3 hours per day, followed by 32.7% of children who had daily screen time more than 3 hours per day. The rest 1.9% had screen time less than1 hour per day.

4.10 Estimated Daily Screen Time of children on Holidays Including (Weekend) as reported by parents

Parents were asked to report the estimated daily screen time of the child on holidays including (weekend). It is assumed that children will have a longer screen time on weekend day compared to school days. The maximum screen duration was 6 hour per day and the minimum was 1 hour (M= 3hours and SD= 1.7).

Table 10:

Estimated daily screen time of children on holidays including (weekend) as reported by parents

Duration (Hrs.)	Frequency	Percent
One	12	23.1
Two	14	26.9
Three	7	13.5
Four	5	9.6
Five	8	15.4
Six	6	11.5
Total	52	100.0

As table 10 indicated majority of children 63.5% had screen time between one to three hours per day and the rest 36.5% had screen time more than three hours.

4.11 Gender Difference in communication skill of children as reported parent

In this section of study parents of children with language delay were asked to report their children's communication skill. An independent sample t-test was conducted to compare the communication skill of boys and girls. There was no significant differences $t(df) = 43$ $p=0.1$ in the scores with mean score for boys $M=84.56$, $SD=19.15$ and girls $M= 82.46$, $SD= 14.45$. The magnitude of the differences in the mean (mean difference) $=2.10$, 95% CI: -9.81 to 14.02 . In this study there is a mean difference in communication skill but the difference was not statistically significant.

Table 11:

Differences of communication skill between boys and girls as reported by parents

Variable	Male		Female		$t(43)$	p	95% CI		Cos
	M	SD	M	SD			LL	UL	
Scores	84.56	19.15	82.46	14.45	0.35	0.1	-9.81	14.02	0.12

Note. M =mean, SD =standard deviation, CI =confidence interval, LL =lower limit, UL = upper limit

The result in table 8 indicated there is no statistically significant difference between boys and girls in communication skill.

4.12 Mean difference in children screen time as reported by parents

An independent sample t-test was conducted to compare the screen time of boys and girls. There was no significant differences $t(df) = 50$ $p=0.59$ in the scores with mean score for boys $M=1.68$, $SD=0.74$ and girls $M=2.27$, $SD= 0.88$. The magnitude of the differences in the mean (mean difference) = -0.59, 95% CI: -1.07 to -0.10. In this study there is a mean difference in screen time of children but the difference was not statistically significant.

Table 12:

Differences of screen time between boys and girls as reported parents

Variable	Male		Female		t(50)	p	95% CI		Cohn's d
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			<i>LL</i>	<i>UL</i>	
Scores	1.68	0.74	2.27	0.88	-2.45	0.59	-1.07	-0.10	0.72

Note. *M*=mean, *SD*=standard deviation, *CI*=confidence interval, *LL*=lower limit, *UL*= upper limit

The result in table 8 indicated there is no statistically significant difference between boys and girls in screen time.

Chapter Five

Discussion

The main question this study sought out to address includes the following research questions. The reason parents let their children spend time on screen, the response of parent about the benefit of screen for children; average time parents spend with child at home, Parent's opinions about limiting children's screen use and finally the strategies parents use to enhance communication skill of their children.

Parents of children who were accepted for language therapy at centers in Addis Ababa represented our sample. The daily screen use for children was found to between 1 and 6 hour ($M=2.9$ hours and $SD=1.6$). Other studies by Rutvi, Nisha, Apurv and Ajay, (2019); Shrestha, Khatri and Majhi, (2021); Alph and Santha, (2019), revealed rates that are very similar. The majority of media exposure was through television.

The study found that 86.5% of preschool children aged 3-6 years had screen time exposure of more than 1 hour per day that exceeded the WHO and AAP Recommendations for this age group. These findings are similar to studies done in India by Shah, Fahey, Soni, Phatak and Nimbalkar (2019) and South Africa by Tomaz, Hinkley, Jones, Watson, Twine, Kahn, Norris, and Draper, (2020) showed >80% and 67% respectively of preschool children exceeded the screen time recommendations. It also compares to a study done in Kenya among preschoolers showed that 80.7% of them spent more than 2 hours per day watching TV (Gitahi, 2011), however, the study only focused on TV unlike this study which looked at screen time involving several screen devices.

In this study, children had a higher screen time on the weekends (3 hours/day) than on the weekday (2.8 hours/day). The percentage of children with >1hr of screen time was higher on weekend days than weekdays. This compares to a study done in Czech Republic which showed significantly more screen time at weekends than on weekdays (Sigmundova, Vokáčová Trhlíková, and Bucksch 2016). Another study done in Brazil showed that the percentage of children with ≥ 3 hrs of screen time was significantly higher on weekend days than weekdays (Goncalves, Bryne, Viana and Trost, 2019).

In this study parental screen time was not found to be significantly associated with the child's screen time. This finding is not consistent with previous studies done in other countries. A study done in Brazil showed that parental screen time was positively associated with children's screen time, either directly or indirectly through the effects of reduced self-efficacy to limit screen time (Goncalves, et.al 2019). Another cross-sectional study from Canada found that parental screen time was a positive predictor of the child's screen time (Carson and Janssen, 2012). This could be due to the fact that children mostly rely on the parents for access to screen devices.

This study found that a majority (88.5%) of children started screen use before 2 years of age. A similar study done in India among preschoolers 2-6 years of age showed that 87.2% of the children started screen use by the age of 2. This compares to a study done in India that showed that half of the parents in that study had introduced screens to children by 2 years of age (Shah, et.al, 2019).

Children who always or often had their meals while using screen devices were more likely to have higher screen time than those who never or rarely had their meals while using screen devices. These findings are comparable to a study done in Lithuania which showed that screen use during meals in early childhood was associated with overall screen time and longer daily screen time was found to be a significant predictor of occasional use of screens during meals (Jusienė and Urbonas, 2019). Another study done in India showed that children who watch TV while eating had almost 80% greater odds of having high categories of screen time exposure (Shah, et.al, 2019). Both the American academy of Pediatrics (AAP) and the Canadian Pediatric society recommend avoiding screen use during meal times.

Our study also found that children who requested their parents to use any of the screen devices had a higher screen time than those children who did not make such requests. This compares to a study that was done in India which showed association of request to use phone by children was significantly positively associated with screen time use (Shah, et.al, 2019).

5.1 Times parents let their children spend time on screen

Parental attitude is a key factor in determining whether young children will watch more screens (Hill, 2016). Parents should allow their children to use digital media devices like televisions, laptops, and smart gadgets if they believe that doing so helps children learn in affective,

cognitive, and physical ways. Some of the reasons why parents permit their children to use screens were highlighted by studies. It also mentions that caregivers often offer their kids smartphones and other screens to help them relax, stay occupied, eat their meals, and even fall asleep.

According to one study 38% of children were found to frequently watch TV during meals. Parents believed that their children would eat more while being watched a gadget. Many children's guardians believe that when the gadget is taken, the children immediately cry and shout, so they are allowed to spend more time.

In our study, 21.2% of parents allowed their children to watch screen during mealtime, 13.5% of them reported they gave their children the device whenever they asked for it (request), 23.1% reported they let the children watch screen at times they set for them, and 19.2% reported they allowed screen when they were working (busy). When their children exhibited signs of boredom and when they needed comforting while crying, other parents let their children to use screen. Some studies such as Sundus (2018) revealed using technology in early childhood has benefits for the development of the child's imagination, intelligence, self-confidence, and reading, math, and problem-solving abilities.

According to some study 38% percent of children were reported to frequently watch TV during meals. Parents thought that they will eat more when the watched gadget. According to the report of some parents whenever the gadget is taken from children, they will immediately cry and scream, as a result they let them to spend more time.

5.2 Parent's response about the benefit of screen use for children

Despite the reported disadvantages, many parents reported some benefits of the children's exposure to screens, namely the ease of access to information, which promotes knowledge on specific contents and enhances learning, which has also been reported in a previous study.

The findings of this study showed that parents reported that children should benefit from screen the following skills; Learn Music/songs, Enjoyment, Academics (Letters, Numbers, Shapes and colors etc.), Play skills, Learn language and Positive Behavior. More than 55% of parents reported children should benefit by learning academic and additional languages from screen.

Majority of them believed that screen use can have benefits and harms. Screen technologies have the potential to offer critical learning opportunities to children, especially those in a disadvantaged environment. This view is supported by the fact that parents have been lately recommended to co-use media technologies with their young children (Connell et al., 2015). Besides, it is necessary to note that the effect of screen use can change depending on age or over the years (Segev et al 2015).

In general, parents thought that by using mediation strategies, such as ensuring their children viewed appropriate content, setting time limits for their children's use of devices, and continuously monitoring their children while they used a device, they could ensure that their children primarily benefited from using screen devices. Although research exploring parental mediation strategies in the context of screen technologies is still limited, the forms of mediation practices parents in our study described using are consistent with those found in the limited but growing body of research on screen technologies and young children (e.g., Beyens and Beullens, 2017; Tang et al., 2018; Domoff et al., 2019), and those found in the extensive research on TV, which have been primarily been conducted among middle-class, White parents (Nathanson, 1999, 2001; Warren, 2003; Collier et al., 2016; Piotrowski, 2017).

Specifically, viewing age-appropriate and educational content has been associated with children's letter recognition, numeric skills, vocabulary, behavior, and cognitive scores (Linebarger and Walker, 2005; Tomopoulos et al., 2010).

5.3 Average time parents spend with child at home

Children typically spend a large part of their wakeful time at either daycare or school and also much of their spare time with friends. However, parents are the most important caretaker in children's lives. Children need to spend a sufficient amount of time with their parents who can respond to their emotional needs (Ahnet&Lamb, 2003). The result of our study showed that The minimum hour parents spent with the child was 1 and the maximum was more than 6 hours ($M=4.4$ hours and $SD=1.5$). Around 70% of parents spent more than three hours per day when children were wakeful, the rest 30% spent one to three hours per day.

Other study showed that the older the children, the less time they tend to spend with their parents. Many parents in Finland report that they do not have enough time for their children (Salmi, 2001). In one study fathers reported that they spent less time with their children than mothers did. Additionally Jonsson (2001) and Flood and Grasjo (1997) revealed that on average, mothers reported spending 4.4 hr. and fathers 3 hr. actively with their children per day. This result was very close to our study's result. The concept of active quality time is also subjective and may be understood differently by children.

The results of this study may be compared with those of Yeung, et.al (2001), who found that American fathers at an average spend 1hr and 13 min during weekdays and 3.3 hours on weekend days in interaction with their children. This brings the daily total time of engagement to 2.5 hour it is considerably less time than in the present study, perhaps indicating cultural differences in this respect. More cross sectional comparison with identical operationalization and methods of measurements would be value able to investigate this matter further (yeung, et.al 2001).

5.4 Parent's response about limiting children's screen time

One of the biggest challenges facing parents today is how and how much to reduce the amount of time their children spend on electronic devices such as cell phones, tablets, video games, TV, and computers. On the other hand, De Decker et al, (2015) put forward that the availability of the screen rule for children has an impact on the amount of screen viewing among children. The attitude of a person on a subject may not always predict their behaviors regarding that subject. In this sense, numerous factors such as the content, accessibility of the attitude, the belief in and strength of the attitude influence to what extent we can predict the behavior based on the attitude (Aronson et al., 2012, p. 393–398; Hogg & Vaughan, 2007, p. 181–182; Kağıtçıbaşı, 1999, p. 109–115).

The finding of this study showed that 19.2% of parents limited their child's screen time and the child respected the limit, 34.6% of parent did not limite their child's screen time. The rest 46.2% of parents set a limit for screen time of their child but it was not respected. Further, Jago et al. (2016) suggested that setting screen-viewing limits, collaborative rule setting, monitoring that involves mothers, fathers and the child, developing a family specific set of alternative activities

to screen viewing and developing a child's ability to self-monitor their own screen viewing are the potential strategies to reduce screen viewing.

Several reports on children screen usage advise parents to limit the amount of time their children are permitted to spend on their phones, laptops, tablets and video games, irrespective of how entertaining and educational they are or help in keeping children occupied.

The mediation strategy by parents saw setting time limits as a way to maximize the learning benefits of the device while minimizing its detriments. For example, Chayo, a low-income monolingual Spanish-speaking mother with an elementary school education, gave the following response when asked if she thought mobile devices could benefit her children's learning "I think that...it would help them a little bit but not a lot. I think that certain...half an hour...um... but not too much time. It would help them a little bit" (Ahnet & Lamb, 2003). Similarly, most parents also mentioned limiting the amount of time or the frequency of device use by their child

5.5 Screen Duration of children as reported parents

Our study result showed children's screen time ranges from 1 to 6 hours per day with 40% of the children spent time below 1 hour per day, 36.5% of children 2 to 3 hours and 21.2% of children spent time 4 to 6 hours per day. The mean screen duration of children in our study was 2.9 hours per day. Our study is close to the result of Helina et al. (2013) indicate that in the USA although the average daily screen usage was 3 hours.

Studies in Ethiopia concerning this subject are relatively lacking. Our results showed that parents in this study watched one and half hours of television every day and the children, on average, over two and a half hours daily. Notably, the children's viewing time is significantly more than the AAP's recommendation. The result was also consistent with Yekoyealem, et.al, (2021), Ethiopian children watch 2.32 hours ($SD \pm 1.70$) of television per day on average.

Additionally the result is consistent with an earlier study on viewing habits of children in Addis Ababa (Gizachew, 2014). Gizachew (2014) indicated that children in Addis Ababa not only watched television more than the recommended time, but they were also exposed to inappropriate television content.

A study in Brazil by Juliana et.al, (2019) the study looked at how children between the ages of 24 and 42 months and their screen time. According to the survey, 63.3% of children had more than two hours of screen time per day, which is in line with reports from Common Sense Media (CSM, 2011) and the Read Aloud Survey Report (RASR, 2016), both of which also found a child exposure time value higher than two hours daily. Additionally, research conducted in Singapore by Bernard, (2017) revealed that young children were exposed to more than two hours every day, this also in agreement with our study.

The mean age of children in this study is 4.54 as reported by parents, most children in our study first exposed to screen before turning age 1, this result also in agreement with a study by Jessica, (2016). Despite the fact that the children in Jessica's study were, on average 37.9 months old, Jessica (2016) reports that the average age at which they were first exposed to or started using technology was 14.4 months, with 7 months being the youngest and 21 months being the oldest. Parents of children's said that, on average, their children spend between 0 and 120 minutes each day interacting with technology of some kind.

Similarly a study in Malaysia by Raj, Mohd, Mohd, and Ahmad (2022) the findings showed that in Selangor, Malaysia, more than 90% of children under the age of five exceeded the WHO recommended daily screen time limit. Another study in Indonesia found a consistent result with our study, in the Indonesian study, participants who had delayed language development watched TV on average for 4.4 hours each day (Silva, 2017). In Indonesia, 20 percent of the children used screen devices for at least 28 minutes each day.

A study in Egypt conducted on children ages from three to six. Compared to childrens in our study children's in Egypt spend more time with screen. The findings of the study in Egypt showed that the average daily exposure to electronic media for children under the age of two was 3.74 hours, for children between the ages of two and four it was 3.81 hours, and for children between the ages of four and six it was 3.41 hours. This outcome was in line with the findings of Hayes (2015), who reviewed the research on the effects of screen media use on young children's language development.

Moreover different studies revealed a similar result with our study such as study by Duch et al. (2013) on Hispanic toddlers revealed that early children engaged with screen media for an

average of 3.29 hours daily. Another study present a high screen time by Yasin et al. (2017), who conducted a retrospective chart review of cases of speech and language delay in children, daily exposure to television, tablets, and smartphones was 5.3 hours.

On the other hand some studies are not in agreement with our study regarding the amount of time speech delayed children spent watching television each day; study in Egypt showed that, on average, children aged 2 to 6 watched television for 0.23 hours per day. These findings agreed with of Byeon and Hong (2015), who looked at the connection between watching television and language delay.

Other survey indicated small screen time such as a study in Egypt slightly more than 25% of children less than two years old used smartphones, more than 42% of children between the ages of 2 and 4, and that the average daily exposure to smartphones was 0.92 hours for younger children and 2.88 hours for older ones. This finding was in line with Jessica's (2017) finding that 20% of young children were using touch screens for almost 30 minutes per day.

According to a recent survey conducted in Italy, one in five kids used a smartphone for the first time in the first year of life. In addition, 4/5 of children between the ages of 3 and 5 can use their parent's smartphone (Dusi, 2017). In comparison to other electronic media devices, the researchers believed that smartphones are easier to use anywhere.

5.6 Gender Difference in communication skill between boys and girls as reported by parents

Boys were found to be having difficulties at a higher rate than girls. Boys made up 64.4% of the group of children who were found to have difficulty speaking and pronouncing words, whereas they made up approximately 46.8% of the children who are not even found to have similar problems. Boys constituted 49.8% of the group of children who were not classified as having these difficulties, compared to 64.5% of the group of children who had trouble understanding what was said. There is no significant gender difference in our sample in communication skill between boys and girls.

In all, 22.3% of boys were at risk of having a language problem detected. In the previous year,

about 16% of children used or sought out speech-language pathology services (Lewis, 2000).

Boys are three to four times more likely than females to have the problem. In Pondicherry, India, the rate of communication delays is 9.54 percent; the largest delay is recorded at age 4; males are more affected. Boys and immigrant children in Germany seem to be at a higher risk of developmental delays, which may call for targeted intervention efforts.

Children with language delay exhibit gender differences on communication skill, just as we see gender differences in children whose growth is normal. According to studies, up to 13% of children are considered late talkers. Boys than girls have late language emergence significantly more frequently. Around 2.5 to 3 boys are present for every female. By age five, 60% of late talkers will have caught up, while just 40% will still have below-average language abilities. A family history of language and learning issues may play a role, according to some study. In our study significant mean difference was not observed in children's communication skill between boys and girls.

5.7 General Experience during Data Collection

Many parents allow their children to spend plenty of time watching television and using smart phones because they think it's good for their children. During the data collection period, I spoke with a few parents, and they reported that children could acquire new languages from screen devices. According to some parents children eat better when eat watching screen. In addition, some parents of children with language problems don't understand the effects of prolonged screen usage before knowing it from the therapist.

One interesting finding is that many parents of children who implemented the clinician's recommendation to minimize screen time saw improvements in their children' language skills when they returned for another assessment session within two weeks. Minimizing screen time is one of the first pieces of advice that clinicians give to parents of children who are evaluated for language delays.

Current study indicates that frequent exposure to screen device can impact communication skill, cognitive and social skills development. Additionally, it's important to give parents and teachers,

up-to-date and accurate information on how screen time affects children's communication skill development and how much and what kind of screen time is best.

Since there appear to be several misunderstandings in some people whether screen time might be useful or harmful for young children's overall development, disseminating correct information is extremely important.

I interact with families that have children between the ages of three and six who are undergoing an initial evaluation as an Early Childhood Special Needs Therapist. I have seen that children are less willing to participate in the evaluation process when the television is on or when their parents' smartphones or tablets are in clear view. When the television is turned off or the phone or tablet is taken away from the child, they frequently become upset or agitated. The child needs more time to learn how to control their emotions and get ready to interact with the assessment items.

Many of the parents I encountered during data collection time work are unaware of the implications of prolonged screen usage or seeing content not fit for their child's age, but it could have effect on their child's communication skill.

Chapter Six

Summery Conclusion and Recommendation

6.1 Summery

The purpose of this study was to describe about Parent-Child Communication Strategies with Screen time Experiences of Addis Ababa Preschoolers. The study used questionnaires to assess children's communication skill and screen usage. Prior to the gathering of the primary data, a pilot study was carried out to determine the instrument reliability and to make any necessary improvements. The study was conducted on parents of children between the ages of 3 and 6 in four language therapy centers in Addis Ababa. Fifty two parents of children who have been diagnosed with language delays answered the questionnaire. Descriptive research design was implemented and Convenience sampling technique was used to gather data. The analysis was done after the questionnaires had been properly returned.

Both descriptive and inferential statistical analyses were done to examine the data that had been gathered. The study's findings were described using descriptive statistics and the statistical significance of the tests was evaluated using inferential statistics. To investigate whether there is a gender difference in screen time between male and female parents and to investigate a gender difference in children communication skill and screen time between boys and girls an independent sample t-test was utilized. The mean, standard deviation and percentage were calculated to examine demographic characteristics of the parents and children, the reason why parents generally let their children spend time on screen, the response of parent about the benefit of screen for children, average time parents spent with child at home and the strategies parents use to enhance communication skill of the child.

Participants were between the ages of 24 and above 45 ($M=33$ years and $SD=1.2$). Majority of participants (61.5%) were between the ages of 30 to 40. Their children were between the ages of 3 to 6. Around 67.3% of parents were females and the remaining 32.7% were males. In terms of socio economic status of parents 13.5% of the parents had low, 21.2% high and 65.4% had middle status. Participants screen duration was between less than 1 and 3 hours ($M= 1.4$ hour

SD=0.87). Majority of parents had screen time between 1 to 3 hours per day. There is no statistically significant gender difference in parents screen time between male and female.

Majority of parents 42.3% reported that their children should learn academics through screen. Parents spent 1 to more than 6 hours per day with their children (M=4.4 hours and SD=1.5). Around 70% of parents reported they spent time with their children more than 3 hours per day when children are wakeful. Majority of parents (46.2%) set a limit for screen usage but it was not respected. Parents reported that they use different strategies to enhance communication skill of their children such as play with the child, let the child play with friends, Read a story to the child, and let the child use videos in other language.

With new screen technologies being developed all the time, children are being pushed more and deeper into the digital world. Numerous studies have demonstrated that too much screen time raises health hazards, particularly in young children, when face-to-face human interaction is essential for language development. Since the Task Force for Children and Television was established in 1984, members of the AAP have published recommendations on the effects of children's screen media usage.

6.2 Conclusion

Young children's lives continue to be significantly influenced by screen media. This study's main goal was to describe about screen time and communication skill of preschool children reported by their parents. By gathering information from the sample, the researcher was able to find the answer to study's question. The content on the screen that children are viewing and the environment in which they are doing so are among the most crucial issues.

Due to the high level of variation between screen activities in relation to features, it is no longer possible to consider the singular effect of all screen types on the developing child. Recent research in the field suggests that the quality of the content, parental engagement and monitoring and the inclusion of interactive elements are all factors that influence the effect screen use has on early development.

Parents concerned that exposure to screens might be changing children's patterns of playing and development. Despite the benefits it might provide, like promoting children's knowledge and motivating them to learn, the increase of exposure to screens also seems to be negatively influencing children playing patterns and language development. It is reflected in an increase in the number of children with needs of a speech therapist intervention. This is a recent phenomenon that is raising concerns among parents and pediatricians and should be a focus of further research.

According to the study's findings, majority of parents had screen time between 1 to 3 hours per day. Also parents reported their children should learn language and academics through screen. Parents spent 1 to more than 6 hours per day with their child. Most parents set a limit for screen usage but it was not respected. Parents reported that they use different strategies to enhance. Male and female parents not showed significant variation from one another in their screen time.

This study suggest that, if children used screen devices in a constructive way and for a set period of time no more than one hour per day they might not be generally harmful. The study concluded that parents who believe screen time has positive impact let their children to spend more time on screen.

6.3 Recommendations

On the basis of the study's findings, the following recommendations are presented forth:

Recommendations for practice

- Pediatric organizations and early childhood centers should provide families with alternatives to media use in their lives, such as guidance on parent-child play activities that support positive development.
- Parents need to give young children communication opportunities other than using screen media, including reading books or playing.
- This research provides strong evidence from observations that conversations between adults and children are a crucial part of a child's language development. Parents should

still be encouraged to talk to their children, read to them, and tell them stories in order to help them develop their communication skill. Questions and discussions should be mixed with reading and storytelling and it would be appropriate to recommend parents to promote parent-child talks.

- Parents should make an effort to read to and converse with their children rather than just doing so. The best parent-child interactions involve mutual communication.
- Supervising children's media usage is an important undertaking that must be reinforced to reduce the negative effects of media and support the development of responsible citizens.
- All families should receive anticipatory guidance on the evidence linking media exposure in infancy and toddlerhood with negative developmental outcomes.

Recommendations for future research

- Longitudinal researches are needed to investigate the link between screen use and communication skill.

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Appendices

Appendix A: English version of questionnaire

Addis Ababa University
College of Education and Behavioral Studies
School of Psychology

Questionnaire to be filled by parents or guardians about children

Introduction

The main objective of this study is to describe about screen time and communication skill of preschool children. The results of this study will be used as a resource for those working to find out what kind of impact children's long-term use Screen devices has on their language development.

Dear participants of the study, thank you for your willingness to fill out this questionnaire. Your answers to the included questions will greatly contribute to the success of this study. Therefore, I respectfully request you to respond accordingly. Any information you provide in this questionnaire will not be passed on to any other party and will only be used for the purpose of the study. It is not necessary to write your name in any part of the questionnaire to help the confidentiality of the information.

I. Personal information please tick (✓) sign the box that corresponds to your answer

1. Gender of parent? _____
2. Age of parent? _____
3. Socio -economic status A. low ☐ B. Middle ☐ C. High ☐
4. Average screen duration of the parent? _____

General information about the child

5. Age of the child? _____
6. Gender of the child? _____

7. Who is the primary caregiver of the child?

A. Mother ☐ B. Father ☐ C. Grandfather ☐ D. Grandmother ☐ E. other (specify)

8. Is there a playground for your child near your yard or home? A. Yes ☐ B. No ☐

9. Child care services your child receives or is currently receiving (more than one answer is possible)

A. Informal child care (Nanny) ☐ C. Formal care (daycare, preschool etc.) ☐

B. With the parents at home ☐ D. Care by grandparents or other relatives ☐

Part II. Item regarding the use of Screen and other electronic devices in the home.

1. Does your child use screen devices like (television, phone, iPad?)

A. Yes, he/she uses ☐ B. No, he/she does not use ☐

2. What age did your child start using screen device? _____

3. Which screens do your children have access to? (more than one answer is possible)

A. TV ☐ D. I pad / Tablet ☐

B. Smart phone ☐ E. Games Console ☐

C. Computer / laptop ☐ F. other specify _____

4. Is the gadget usually placed in the room where the child sleeps/ plays?

A. Yes ☐ B. No ☐

5. Have you set a time limit for your child's use of screen if you do, will your child respect this limit?

A. I set a limit and my child respects it. ☐

B. I have not set any time limit ☐

C. Even if I set a time limit, my child does not respect it. ☐

6. Which of the following does your child do while watching TV or after watching it?

A. Talks about the program/ film. ☐ D. Talks about other things. ☐

B. Talks to the character on the screen ☐ E. Sings. ☐

C. Acts out the story/ role-play a character. ☐

7. What Strategies do you use to enhance communication skill of your child? you can give more than one answer.

- A. Play with him/her ☐ B. let him/her to watch vides in other language ☐
- C. let him/her to play with friends ☐ D. Read him/her a story ☐
- D. other specify ☐

8. Average screen duration on working/ school days per day? _____

9. Average screen duration on holidays (weekend) per day? _____

10. Average time you spent with the child at home? _____

11. When do you allow your children to spend time on screen? _____

12. What children benefit from screen? _____

PART III. Answer your response to the media-related behaviors presented in the table below by placing a (√) next to each skill.

No	How often in a week does your child use media gadgets do the things listed below?	Never	Rarely (less than once)	Seldom (1-2 times)	Sometimes (3-4 times)	Often (5 times or more)
1	The child uses for completing their homework assignments?					
2	The child uses video calling applications to talk to the family/ friends (Skype, whatsapp etc.)					
3	The child uses for learning ABC: maths, numbers, shapes/ sounds/ colors etc. online					
4	The child plays video-games?					
5	The child uses digital media gadgets to watch stories?					
6	The child uses to watch adult programs (soap opera, news, sports, movies etc.)					
7	The child uses to learns letters, words, vocabulary, language online					
8	The child uses to watch random things for enjoyment (music, advertisements, baby TV, click photos etc.)					

IV. The following questions measure the child's pragmatic skills. Give your answer by placing this (✓) mark parallel to the question

No	Pragmatic Objective	Not Present	Gestures Only (No Signs/ Words)	Uses 1 to 3 Words/Signs	Uses 4+ word sentences
State Needs (I want...)					
1	Makes polite requests				
2	Makes choices				
3	Gives description of an object wanted				
4	Expresses a specific personal need				
5	Requests help				
Gives Commands (Do as I tell you...)					
6	Gives directions to play a game				
7	Gives directions to make something				
8	Changes the style of commands or requests depending on who the child is speaking to and what the child wants				
Personal (Expresses feelings...)					
9	Identifies feelings (I'm happy.)				
10	Explains feelings (I'm happy because it's my birthday.)				
11	Provides excuses or reasons				
12	Offers an opinion with support				
13	Complains				
14	Blames others				
15	Provides pertinent information on request (2 or more of the following: name, address, phone number, birthdate)				
Interactional (Me and you...)					
16	Interacts with others in a polite manner				
17	Uses appropriate social rules such as greetings, farewells, thank you, getting attention				
18	Attends to the speaker				
19	Revises/repairs an incomplete message				

	Pragmatic Objective	Not Present	Gestures Only (No Signs/ Words)	Uses 1 to 3 Words/Signs	Uses 4+ word sentences
20	Introduces new topics in conversations appropriately (does not just start talking in the middle of a topic)				
Dear participant of the study, the following questions will be answered only if your child is over three years old.					
21	Maintains a conversation (able to keep it going)				
22	Ends a conversation (doesn't just walk away)				
23	Interjects appropriately into an already established conversation with others				
24	Makes apologies or gives explanations of behavior				
25	Requests clarification				
26	States a problem				
27	Criticizes others				
28	Disagrees with others				
29	Compliments others				
30	Makes promises				

	Wants Explanations (Tell me why...)				
31	Asks questions to get more information				
32	Asks questions to systematically gather information				
33	Asks questions because of curiosity				
34	Asks questions to problem solve (What should I do...? How do I know...?)				
35	Asks questions to make predictions (What will happen if...)				

	Shares Knowledge and Imaginations (I've got something to tell you ...)				
36	Role plays as/with different characters				
37	Role plays with props (e.g., banana as a phone)				
38	Provides a description of a situation which describes the main events				
39	Correctly re-tells a story which has been told to him/her				
40	Analyze the story content of 4-6 pictures and what happened in each picture				
41	Creating a new story with a beginning, next event, and conclusion				
42	Explains the relationship between two objects, actions or situations				
43	Compares and contrasts qualities of two objects, actions or situations				
Dear participant of the study, the following questions will be answered only if your child is over four years old.					
44	Tells a lie				
45	Expresses humor/sarcasm				

Annex B: Amharic version of questionnaire

አዲስ አበባ የኒሽርሲቲ
የትምህርት እና ባሕርይ ጥናት ኮሌጅ
የሳይኮሎጂ ትምህርት ቤት

ልጆችን አስመልክቶ በወላጆች ወይም በአሳዳጊዎች የሚሞላ መጠይቅ

መግቢያ

የዚህ መጠይቅ ዋና ዓላማ ወላጆች እድሜያቸው ከ3-6 ያሉ ልጆች እንደ ቴሌቪዥን፣ ስልክ፣ አይፓድ ላሉ መገልገያዎች ያላቸውን ተጋላጭነት እና የተግባቦት ብቃትን መለካት ነው። ከዚህ ጥናት የሚገኘው ውጤት ወላጆች ልጆች ለረጅም ጊዜ እንደ ቴሌቪዥን፣ ስልክ፣ አይፓድ ያሉ መገልገያዎችን መጠቀም በቋንቋ እድገታቸው ላይ ምን ዓይነት ተፅዕኖ እንደሚያሳድር እንዲገነዘቡ ለማድረግ ለሚሰሩ አካላት እንደ ግብአት በመሆን ያገለግላል፡

ውድ የጥናቱ ተሳታፊዎች ይህን መጠይቅ ለመሙላት ፈቃደኛ ስለሆናችሁ እያመሰገንኩ በመጠይቁ ውስጥ “ለተካተቱት ጥያቄዎች የምትሰጡት መልስ ለዚህ ጥናት መሳካት ክፍተኛ አስተዋፅኦ አለው። ስለሆነም ተገቢውን ምላሽ እንድትሰጡ በአክብሮት እጠይቃለሁ። በዚህ መጠይቅ ውስጥ የምትሰጡት ማንኛውም መረጃ ለሌላ አካል ተላልፎ የማይሰጥና ለጥናቱ ዓላማ ብቻ የሚውል መሆኑን አረጋግጥኋለሁ። ለመረጃው ሚስጥራዊነት እንዲረዳም ስማችሁን በየትኛውም የመጠይቁ ክፍል ላይ መጻፍ አስፍላጊ አይደለም።

ሀ. ግላዊ መረጃን የተመለከቱ እባክዎ ከመልስዎ ጋር የሚዛመድ ሳጥን ላይ የ(✓) ምልክት ያድርጉ፡

1. የወላጅ ጾታ? _____

2. የወላጅ ዕድሜ? _____

3. ኢኮኖሚያዊ ደረጃ ሀ. ዝቅተኛ ☐ ለ. መካከለኛ ☐ ሐ. ከፍተኛ ☐

4. የወላጅ በቀን እንደ ቴሌቪዥን፣ ስልክ፣ አይፓድ ያሉ መገልገያዎች የመጠቀሚያ ሰዓት ? _____

ስለ ልጁ አጠቃላይ መረጃ

5. የልጅዎ ዕድሜ? _____

6. የልጅዎ ጾታ? _____

7. በዋነኛነት የልጅዎ የየአለት ተንከባካቢ/አሳዳጊ ማነው?

ሀ. እናት ☐ ለ. አባት ☐ ሐ. ወንድ አያት ☐ መ. ሴት አያት ☐ ሰ. ሌላ ይጠቀስ _____

8. በግቢዎ ወይም በመኖሪያ ቤትዎ አቅራቢያ ለልጅዎ የመጫወቻ ስፍራ አለ?

ሀ. አዎ ☐ ለ. አይ ☐

9. ልጅዎ የሚያገኛቸው የልጆች እንክብካቤ አገልግሎቶች ወይም እያገኛቸው ያሉ ግልጋሎቶች(ከአንድ በላይ ምላሽ መስጠት ይቻላል)

ሀ. መደበኛ ያልሆነ የልጆች እንክብካቤ (ሞግዚት) ☐ ሐ. መደበኛ እንክብካቤ (መዋለ ሕጻናት፣ ቅድመ ትምህርት ቤት) ☐

ለ. ወላጅ በቤት ውስጥ ሆኖ የሚሰጠው እንክብካቤ ☐ መ. በአያት ወይም በቅርብ ዘመድ የሚሰጥ እንክብካቤ ☐

ለ. እንደ ቴሌቪዥን፣ ስልክ፣ አይፓድ ያሉ መገልገያዎች እና ሌሎች በቤት ውስጥ ያሉ የኤሌክትሮኒክስ መገልገያዎች አጠቃቀም የተመለከቱ፡፡

1. ልጅዎ እንደ ቴሌቪዥን፣ ስልክ፣ አይፓድ ያሉ መገልገያዎችን ይጠቀማል/ትጠቀማለች?

ሀ. አዎ ይጠቀማል/ትጠቀማለች ☐ ለ. አይደለም/አትጠቀምም ☐

2. ልጅዎ እንደ ቴሌቪዥን፣ ስልክ፣ አይፓድ ያሉ መገልገያዎችን መጠቀም የጀመረው/ችው በስንት አመቱ/ቷ ነው? _____

3. ልጅዎ የሚጠቀምባቸው/የምትጠቀምባቸው የትኞቹን መገልገያዎች ነው?(ከ አንድ በላይ ምላሽ መስጠት ይቻላል)

ሀ. ቲቪ ☐ መ. አይፓድ/ታብሌት ☐

ለ. ዘመናዊ/ስማርት ስልኮች ☐ ሰ. ጌም መጫወቻዎች ☐

ሐ. ኮምፒውተር/ ላፕቶፕ ☐ ረ. ሌላ (ይጠቀስ) _____

4. እንደ ቴሌቪዥን፣ ስልክ፣ አይፓድ ያሉ መገልገያዎችን ብዙ ጊዜ የሚቀመጠው በልጁ/ልጅቷ መተኛ/መጫወቻ ክፍል ነው? ሀ. አዎ ☐ ለ. አይደለም ☐

5. ልጅዎ እንደ ቴሌቪዥን፣ ስልክ፣ አይፓድ ያሉ መገልገያዎችን የሚጠቀምበት/የምትጠቀምበት የሰዓት ገደብ አስቀምጠዋል? ካስቀመጡ ልጅዎ ይህን ገደብ ያከብራል/ታከብራለች?

ሀ. ገደብ አስቀምጧልሁ ልጄም ይህን ያከብራል/ታከብራለች ☐

ለ. ምንም የሰዓት ገደብ አላስቀመጥኩም ☐

ሐ. የሰዓት ገደብ ባስቀምጥም ልጄ ይህን አያከብርም/አታከብርም ☐

6. ልጅዎ ቴሌቪዥን ሲመለከት/ስትመለከት ወይም ከተመለከተ/ከተመለከተች በኋላ ከሚከተሉት የትኛውን ያደርጋል/ታደርጋለች?

ሀ. ስለዝግጅቱ/ፊልሙ ያወራል/ ታወራለች ☐ መ. ስለሌላ ነገር ያወራል/ታወራለች ☐

ለ. በሚታየው ነገር ውስጥ ካሉ ተዋናዮች ጋር ያወራል/ታወራለች ☐ ሰ. ይዘፍናል/ትዘፍናለች ☐

ሐ. ታሪኩን አስመስሎ ለማቅረብ/ተዋናዩን ለማስመሰል ይሞክራል/ትሞክራለች ☐

7. የልጅዎን የመግባቢያ ችሎታ ለማሳደግ ምን ዓይነት ስልቶችን ይጠቀማሉ?

ሀ. ከልጄ ጋር እጫወታለሁ ☐ መ. በሌላ ቋንቋ የተዘጋጁ ቪዲዮዎችን እንዲመለከት አደርጋለሁ ☐

ለ. ልጄ ከጓደኞች ጋር እንዲጫወቱ አደርጋለሁ ☐ ሐ. ሌላ ይግለፅ _____

ሐ. ታሪክ አነብለታለሁ ☐

8. የልጅዎ በትምህርት ቀን አማካይ እንደ ቴሌቪዥን፣ ስልክ፣ አይፓድ ያሉ መገልገያዎችን መጠቀሚያ ሰዓት? _____

9. የልጅዎ በዕረፍት ቀናት (በሳምንቱ መጨረሻ ቀናት) አማካይ እንደ ቴሌቪዥን፣ ስልክ፣ አይፓድ ያሉ መገልገያዎችን መጠቀሚያ ሰዓት ሰዓት? _____

10. በቀን ውስጥ ከልጁ ጋር የሚያሳልፉት አማካይ ሰዓት? _____

11. ልጅዎ እንደ ቴሌቪዥን፣ ስልክ፣ አይፓድ የመሳሰሉ መገልገያዎች ላይ ጊዜ እንዲያሳልፉ የሚፈቅዱት መቼ መቼ ነው? _____

12. ልጅዎ እንደ ቴሌቪዥን፣ ስልክ፣ አይፓድ ከመሳሰሉ መገልገያዎችን ምን ይጠቀማል ወይም ያገኛል ብለዉ ያስባሉ? _____

ሐ. ቀጥሎ በስንጠረዥ ውስጥ ለቀረቡት ከሚዲያ ጋር የተያያዙ ሀሳቦች የእርስዎን ምላሽ ይህን የ(✓) ምልክት በእያንዳንዱ ክህሎት ትይዩ በማስቀመጥ ይመልሱ፡፡

ተ.ቁ	ልጅዎ በሳምንት ዉስጥ እንደ ቴሌቪዥን፣ ስልክ፣ አይፓድ ባሉ መገልገያዎችን ከዚህ በታች የቀረቡትን ነገሮች ለማድረግ ምን ያህል አዘውትሮ/አዘወትራ ይጠቀማል/ትጠቀማለች	በጭራሽ	ከሰዓት አንድ (ከአንድ ያነሰ ጊዜ)	አልፎ አልፎ (1-2 ጊዜ)	አንዳንድ ጊዜ (3-4 ጊዜ)	በተደጋጋሚ (5 ጊዜ ወይም ከዛ በላይ)
1	የቤት ስራን ለመስራት					
2	በስልክ መደወያ መተግበሪያዎች (ለምሳሌ ዋትሳ፣ቴሌግራም፣ ስኬፕ) ቤተሰብ/ጓደኛ ለማናገር					
3	ትምህርታዊ ለሆኑ ጉዳዮች(ፊደላት/ ABC ሂሳብ፣ ቁጥሮች፣ ቅርጾችን፣ ድምጾችን፣ ቀለሞችን እና የመሳሰሉትን ከኢንተርኔት ላይ ለመማር)					
4	ቪዲዮ ጌም ለመጫወት					
5	የተለያዩ ታሪኮችን ለማጥናት ወይም ለማወቅ					
6	ለአዋቂዎች ተብለው የተዘጋጁ ዝግጅቶችን ለማየት (ተከታትይ ድራማ፣ ዜና፣ ስፖርት፣ ፊልሞች፣ ወዘተ.)					
7	ቃላትን፣ የቃላትን ፍቺ፣ ቋንቋ ከኢንተርኔት ላይ ለመማር					
8	ለመዝናናት የተለያዩ ነገሮችን ለማየት (ሙዚቃ፣ ማስታወቂያዎች፣ መዝሙር ፣ ፎቶዎች፣ ወዘተ.)					

መ. ተከታዮቹ ጥያቄዎች የልጅዎን አሁኖዊ የተግባባት ከህሎት የሚለኩ ናቸው ፡፡ የእርስዎን ምላሽ ይህን የ(✓) ምልክት ከመልስዎ ግርጌ በጥያቄው ትይዩ በማስቀመጥ ይመልሱ፡፡

	የልጅ/ልጅቷ የተግባባት ችሎታ	የለም/ በፍፁም	አካላዊ ገለጻ ብቻ(ምንም ምልክት/ ቃል የለም)	ከ1 እስከ 3 ቃላት/ምልክቶች በመጠቀም	ከ4 በላይ ቃላቶች በመጠቀም
የሚያስፈልገውን ነገር በመግለጽ መጠየቅ (እኔ...እፈልጋለሁ)					
1	የሚፈልገውን/የምትፈልገውን ነገር በትህትና ይጠይቃል/ትጠይቃለች				
2	የሚፈልገውን/የምትፈልገውን ትመርጣለች/ይመርጣል				
3	የሚፈልገውን/የምትፈልገውን ቁስ በገለጻ ያስረዳል/ታስረዳለች				
4	የግል ምርጫዋን/ምርጫውን ይገልጻል/ትገልጻለች				
5	እርዳታ ትጠይቃለች/ይጠይቃል				

ትዕዛዝ መስጠት (እኔ እንደምላችሁ አድርጉ...)					
6	ጫወታ የመጫወቻ መንገዶችን/ አጨዋዎቶችን ያስረዳል/ታስረዳለች				
7	የአንድን ነገር የአሰራር መንገድ ያስረዳል/ታስረዳለች				
8	በምታናግረው/በሚያናግረው ህጻን ማንነት እና ፍላጎት ላይ በመመርኮዝ የትዕዛዝ አሰጣጥን ወይም የአጠያየቅ ስልትን ያስተካክላል/ታስተካክላለች				

የራሱ (ስሜትን መግለፅ...)					
9	ስሜትን ለይቶ/ታ ያውቃል/ታውቃለች (ደስተኛ ነኝ።)				
10	ስሜቱን/ቷን ያስረዳል/ታስረዳለች (ልደቴ ስለሆነ ደስ ብሎኛል።)				
11	ለነገሮች ምክንያቶችን ያቀርባል/ታቀርባለች				
12	የግል ሃሳብን በመረጃ ያስደግፋል/ታስደግፋለች				
13	ቅሬታ ያሰማል/ታሰማለች				
14	ሌሎችን ይወቅሳል/ትወቅሳለች				
15	ለሚጠየቀው/ለምትጠየቀው ነገር አስፈላጊ መረጃ ያቀርባል/ታቀርባለች (ከሚከተሉት 2 ወይም ከዛ በላይ፡ ስም፣ አድራሻ፣ ስልክ ቁጥር የልደት ቀን)				

ከሌሎች ጋር የሚደረግ ተግባባት (እኔ እና አንተ/አንቺ...)					
16	ከሌሎች ጋር ስርዓት ባለው መንገድ ይግባባል/ትግባባለች				
17	እንደ ሰላምታ፣ ስንብት፣ ምስጋና፣ ትኩረት ማግኘትን የተመለከቱ አግባብነት ያላቸው ማህበራዊ ህጎችን ይጠቀማል/ትጠቀማለች				
18	ተናጋሪውን በትኩረት ይከታተላል/ትከታተላለች				
19	ያልተሟላ መልዕክትን በማስተካከል ያሟላል/ታሟላለች				

	የልጁ/ልጅቷ የተግባቦት ችሎታ	የለም/ በፍፁም	አካላዊ ገለጻ ብቻ(ምንም ምልክት/ ቃል የለም)	ከ1 እስከ 3 ቃላት/ምልክቶች በመጠቀም	ከ4 በላይ ቃላቶች በመጠቀም
20	በንግግር ወቅት አዳዲስ ርዕሶችን በሚገባ ያስተዋውቃል/ታስተዋውቃለች(በተጀመረ ወሬ መካከል ጣልቃ በድንገት በአዲስ ርዕስ ላይ መናገር አይጀምርም/አትጀምርም)				
ውድ የጥናቱ ተሳታፊ የሚቀጥሉት ጥያቄዎች የሚመለሱት ልጅዎ ከሶስት አመት በላይ ከሆነ ብቻ ነው ::					
21	ንግግርን ያስቀጥላል/ታስቀጥላለች (እንዲቀጥል ማድረግ ይችላል/ትችላለች)				
22	ንግግርን ትቋጫለች/ይቋጫል (እንዲሁ ዝምብሎ/ብላ ጥላ/ሎ አይሄድም/አትሄድም)				
23	ቀድሞውንም ከሌሎች ጋር ወደ ተጀመረ ውይይት በአግባቡ ጣልቃ/በመሃል ይገባል/ትገባለች።				
24	ላሳየችው/ላሳየው ባህሪ ይቅርታ ይጠይቃል/ትጠይቃለች ወይም ማብራሪያ ትሰጣለች/ይሰጣል				
25	ማብራሪያ ትጠይቃለች/ይጠይቃል				
26	ችግርን በግልጽ ይገልጻል/ትገልጻለች				
27	ሌሎችን ትተቻለች/ይተቻል				
28	ከሌሎች ጋር አለመስማማትን ትገልጻለች/ይገልጻል				
29	ሌሎችን ያደንቃል/ታደንቃለች				
30	ቃል ትገባለች/ይገባል				
ፍላጎትን መግለጽ (ለምን እንደሆነ ንገረኝ/ንገሪኝ...)					
31	የበለጠ መረጃ ለማግኘት ጥያቄ ይጠይቃል/ትጠይቃለች?				
32	በተለየ ዘዴ መረጃ ለመስብስብ ጥያቄ ትጠይቃለች/ይጠይቃል				
33	ለማወቅ ባለ ጉጉት ምክንያት ጥያቄ ትጠይቃለች/ይጠይቃል				
34	ችግር ለምፍታት ጥያቄዎችን ትጠይቃለች/ይጠይቃል (ምን ባደርግ ይሻላል? እንዴት ማወቅ እችላለሁ...?)				
35	ግምቶችን ለማስቀመጥ ጥያቄዎችን ትጠይቃለች/ይጠይቃል (እንዲህ ባደርግ ምን ይፈጠራል?)				
እዉቀትን እና ምናባዊ ሃሳብን ማጋራት (አንድ የምንግርህ/ሽ ነገር አለ...)					
36	እንደ ሌሎች ሆኖ ወይም ከሌሎች ጋር ተመሳስሎ ይጫወታል)				
37	ከነገሮች ጋር አስመስሎ/ላ እቃ እቃ ይጫወታል/ትጫወታለች (ለምሳሌ፡ ሙዝን እንደ ስልክ መጠቀም)				
38	አንድን ዋና ክስተት የሚገልጹ ሁኔታዎችን ያስረዳል/ታስረዳለች				
39	የተነገረውን/የተነገራትን ታሪክ በድጋሚ በትክክል ትተርካለች/ይተርካል				
40	ከ4-6 የሚሆኑ ምስሎችን የታሪክ ይዘት በእያንዳንዱ ምስል የተከሰቱ ነገሮችን ይተነትናል/ትተነትናለች				
41	መጀመሪያ፣ ቀጥሎ ሚመጣ ክስተት እና መደምደሚያ ያለው አዲስ ታሪክ ይፈጥራል/ትፈጥራለች				
42	በሁለት ቁሶች፣ ድርጊቶች ወይም ሁኔታዎች መካከል ያለን ግንኙነት ያስረዳል/ታስረዳለች				
43	የሁለት ቁሶችን፣ ድርጊቶችን ወይም ሁኔታዎችን መገለጫዎች ያነጻጽራል/ታነጻጽራለች				
ውድ የጥናቱ ተሳታፊ የሚቀጥሉት ጥያቄዎች የሚመለሱት ልጅዎ ከአራት አመት በላይ ከሆነ ብቻ ነው ::					
44	ይዋሻል/ትዋሻለች				
45	ሳቅ/ቀልድ የሚፈጥሩ ነገሮችን ይገልጻል/ትገልጻለች				

Annex C: Improvements made on the Tools and Pilot Test Report

First both the questionnaire (Digital Screen Exposure Questionnaire) and the Pragmatic checklist was translated to into Amharic language by language expert secondly, another independent language expert translated questionnaire and checklist back into the original language (English). A group of therapists, including the student researcher, worked to resolve the discrepancy between the two translators. The translations were compared, and some of the items' wording was improved.

The improved version was then forwarded to subject matter experts (Thesis Advisor). There is no guarantee that this newly translated version will have the same psychometric properties as the original one, even after careful translating and back translating the items. As a result, 30 parents of children's between the ages of 3-6 who were admitted for speech therapy and who were chosen through the purposive sampling method were used to pilot test the improved translation. The purpose of the pilot study was to collect data that would be used for screening items measuring the relationship between screen time and speech and language delay among children admitted for speech therapy.

It was also to find out if the wording, instruction and response categories of the instrument as a whole were clear and comprehensible to respondents. Face to face contacts with parents of children was done and respondents were asked to comment on any ambiguous word, phrase or sentence. The researcher also noted respondent's levels of understanding the question while reading and questions who were frequently asked for further clarification were improved. Finally, the responses of the pilot group were subjected to item analysis. Correlation of items with the overall total was computed and the results of the item analyses are presented.

Different people proposed different index value as a criterion values for judging whether the item is valid or not. For instance, Garret and wood worth (1967) have suggested that as a general rule, items with validity indexes (DI) of 0.20 or more are regarded as satisfactory. In the present study therefore, the criterion value for the discrimination index was set as $r=0.20$. And items with correlation coefficient of 0.18-0.19 were used by making modifications. The item-total correlation for each the scales are given.

Reliability of the instruments was assessed by Chronbach alpha using the data collected during the pilot survey. The computation yielded reliability coefficient of 0.782 and 0.867 for the DSEQ and Social Communication Skills – The Pragmatics Checklist respectively. The above coefficients of reliability clearly show that the instruments seem to be highly reliable. But, some important modifications were made after the pretest in the wording and arrangement of the instrument.

Table 1

Reliability statistics of Digital screen exposure questionnaire (DSEQ)

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.715	.782	16

Table 2

Reliability statistics of Pragmatic Checklist

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.861	.867	43

I. Added items to Digital Screen Exposure Questionnaire DSEQ

9. What age did your child start using screen device? _____
10. Have you set a time limit for your child's use of screen if you do, will your child respect this limit?
 - A. I set a limit and my child respects it. ☐
 - B. I have not set any time limit ☐
 - C. Even if I set a time limit, my child does not respect it. ☐

3. When do you allow your children to spend time on screen? _____

4. What children benefit from screen? _____

II. Modified and/ or combined items in DESQ to eliminate duplication and ensure cultural appropriateness

Media related behaviors

	In a week, how frequently does the child watch this content on media gadgets at home?	Never	Rarely (less than once)	Seldom (1-2 times)	Sometimes (3-4 times)	Often (5 times or more)
1.	The child uses for learning poems, rhymes, ABC etc. online					
2.	The child uses to learn maths, numbers, and tables online.					
3.	The child uses to recognize shapes/ sounds/ colors when shown online					
4.	The child learns to draw, write online?					

III. Modified Pragmatics checklist items in response to parents' clarification requests during the pilot study

	Pragmatic Objective	Not Present	Gestures Only (No Signs/ Words)	Uses 1 to 3 Words/Signs	Uses 4+ word sentences
Shares Knowledge and Imaginations (I've got something to tell you ...)					
1.	Relates the content of a 4-6 frame picture story using correct events for each frame				
2.	Creates an original story with a beginning, several logical events, and an end				

What Strategies do you use to enhance communication skill of your child?

IV. Due to the item's low inter-item correlation value, the following two items was Eliminated from the pragmatic checklist.

No					
1.	Tells a lie				
2.	Expresses humor/sarcasm				