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The Role of Child-Parent Interaction and Screen Time on Speech and Language Development in Children with Speech and language Delay: A Case of Five Speech Therapy Clinics

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October , 2024

Addis Ababa, Ethiopia



**The Role of Child-Parent Interaction and Screen Time on Speech
and Language Development Children with Speech and language
Delay: A Case of Five Speech Therapy Clinics**

**A Thesis Submitted to the Ababa University College of Education,
Department Of Special Needs in Partial Fulfillment of MSc. in
Speech and Language Therapy**

By: Metsihet Girma

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DECLARATION

I, Metsihet Girma, the under signed, declare that this thesis entitled: **“The Role of Child-Parent Interaction and Screen Time on Speech and Language Development in Children with Speech and language Delay: A Case of Five Speech Therapy Clinics”** is my original work. I have undertaken the research work independently with the guidance and support of the research supervisor. This study has not been submitted for any degree program in this or any other institutions and that all sources of materials used for the thesis has been duly acknowledged.

Metsihet Girma	_____	_____
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This is to certify that the thesis entitled: **“Assessing The Role of Child-Parent Interaction and Screen Time on Speech and Language Development in Children with Speech and language Delay in Five Speech Therapy Clinics”** submitted in partial fulfillment of the requirements for the degree of MSc. in Speech and Language Therapy, Addis Ababa University carried out by Metsihet Girma (GSR/8440/15), under my supervision, and no part of the thesis has been submitted for any other degree. The assistance and help received during the course of this investigation have been duly acknowledged. Therefore, I recommend it to be accepted as fulfilling the thesis requirements.

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CERTIFICATE OF APPROVAL

This is to certify that the thesis prepared by Metsihet Girma, entitled “**The Role of Child-Parent Interaction and Screen Time on Speech and Language Development in Children with Speech and language Delay: A Case of Five Speech Therapy Clinics**” and submitted in partial fulfillment of the requirements for the Degree of Masters of science in Speech and Language Therapy complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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ABSTRACT

The purpose of the study is to know the role of child-parent interaction and screen time on the speech and language development of speech and language delayed children aged two-six years receiving speech therapy service at five speech therapy clinics in Addis Ababa. The study utilized both quantitative and qualitative data collection approaches. Quantitative data was collected through parent/caregiver questionnaires evaluating the frequency and quality of parent-child interaction, screen time duration, while qualitative data was collected through interviews further examined parent-child communication patterns and types and content of screen-based activities that the child engaged. The findings revealed that higher levels of child-parent interaction, such as parent engagement in conversation with their child and parent spending time with their child were positively associated with speech and language development. In contrast, increased passive screen time was correlated with poorer performance on measures of speech, vocabulary, and grammar development. These results underscore the importance of creating enriched, interactive communication environments to support optimal speech and language acquisition in young children. The study concludes with key recommendations, including establishing evidence-based screen time guidelines, prioritizing content quality over medium, promoting active parent-child engagement, and expanding longitudinal research to inform policy, educational practices, and the design of children's digital media, in order to catalyze interdisciplinary collaborations that address the challenges of screen use and foster language-rich interactions to nurture children's communication skills in the critical early years.

CHAPTER ONE: INTRODUCTION

1.1. Background

The early years of childhood are crucial for acquiring language skills including vocabulary and phonology. Speech and language development is a critical aspect of child development, as it plays a significant role in communication and social interaction (Mustonen, 2022). There are several key milestones that children typically reach as they progress in their speech and language skills. These milestones can serve as important markers for monitoring a child's development and identifying potential delays or disorders (McCoy, 2008). During the early years of the child milestones, different domains of language (i.e., lexicon-vocabulary; phonology-the ability to use phonemes based on the rules of one's native language; morpho-syntax-the ability to use and comprehend inflections and sentence structures based on the rules of one's native language; pragmatics-the ability to use language that is typical of the language context in question). Early language development is stimulated by the linguistic input that an infant hears on a regular basis. The most proximal and influential of these sources are parents, siblings, other children and adults living in the immediate household, and the myriad of other environmental voices to which infants are exposed (Linebarger, 2010).

A socio cultural understanding of child development recognizes the critical role of multiple interactions, including those with adult, caregivers, peers, and the broader environment in shaping a young child's emerging abilities. Social contacts with an adult inside the child's social-cultural environments are essential to cognitive development (Vygotsky, 2012). This interaction between two parties, a learner, usually a child, and a teacher, typically an adult, is necessary for skill development. Supportive, warm, and engaged parent-child interactions are associated with the child's emerging competencies in social, cognitive, and linguistic domains throughout early and middle childhood (Nader, 2006). Positive language and cognitive development are associated with child-parent joint attention, parental responsiveness, positive emotional tone, parents' engagement, and their supervision style (Landry, 2001).

Parents, siblings and peers in a child's surrounding environment have a big impact on how they develop language (Martinot, 2021). Preschoolers spend a lot of time watching screens, especially TV, as screens have become a more common part of their environment over the past few

decades. Research has shown strong evidence that this can have negative effects on children's cognitive and behavioral development. Nevertheless, the impacts that are seen are primarily dependent on the viewer's age, the media they are consuming, and their social and familial setting. For instance, children's language development and learning may improve from co-viewing with an adult. Although children are exposed to language via screen media, adult-child verbal interaction (questioning and commenting) is strongly associated with better child language development, which suggests that without such interaction or language use in daily life to express them, children will not acquire a specific language. When media programs are not intended for the child to watch, child-adult interaction and games are diminished when the TV is on (Barr, 2010).

Media consumption habits of the parents as an environmental factor that impedes cognitive development and it has long-term developmental consequences. In fact, it has been demonstrated that background TV decreases the quantity and quality of interactions between parents and their young children as well as the number of utterances made by the parent-child pair. This is because background TV has the dual effects of directly distracting children and indirectly diverting parents' attention from their children (Waldman, 2006).

In today's digital era, the adoption of new technologies by families with young children has become increasingly prevalent (Weisleder, 2016). New technologies, such as mobile and interactive screen media, are now ingrained in a young child's daily life. Children today are "digital natives," having been born into an ever-changing digital ecosystem. Children's heavy reliance on screen media has raised serious public health issues since it might harm their cognitive, linguistic, and social-emotional growth (Radesky, 2016).

The concept of "screen time" refers to the amount of time spent with any type of electronic screen, including smart phones, tablets, televisions, computers, and wearable technology. Screen time, particularly television viewing, can have negative effects on children's physical and cognitive development (Chonchaiya W. P., 2008). For instance, excessive screen time has been associated with a higher risk of obesity, sleep problems, and mental health issues such as depression and anxiety. Furthermore, the physiological mechanisms underlying these adverse health outcomes are still unclear. In addition to potential health concerns, there is growing

concern about the impact of screen time on children's speech and language development (Domingues-Montanari, 2017).

The relationship between screen time and speech and language development is complex, and there are multiple factors that should be considered. Increasing the amount of screen time at an early age has negative effects on language development (Muppalla, 2023). Children who watch screens for one hour or less per day typically exhibit better behavioral results and vocabulary acquisition than children who watch screens for two – three hours a day screen time or more has been linked to a rise in behavioral issues and a detrimental effect on children vocabulary development. As a result, it's critical to restrict screen time and encourage alternative activities that support their healthy growth and language development. (McArthur, 2022).

The age of exposure to screen time may result in language delay. According American Psychology Association 2009) children below the age of two should not be watching television. This is because children should comprehend the concept of dual representation which begins to develop around the age of two and is not fully developed until after the child is two years old (Linebarger, 2010). Excessive background television may have adverse effects on children. It is distractive, disrupts playtime and results in slower language development and lower vocabulary scores as parent-child interaction is reduced (Pempek, 2014).

Children under the age of five years are accessible and sensitive because, at this age, most of the brain maturation or development occurs, and more use of electronic media is correlated with negative neuro-cognitive consequences and delayed speech (Raheem, 2023). These findings suggest the importance of monitoring and regulating screen time for young children to mitigate potential adverse effects on their development and behavior (McArthur, 2022).

In recent years, Ethiopia too, has witnessed significant growth in children's media exposure, (Bireda, 2018). It has been demonstrated that even having a television on in the background might lessen parent-child connection. Overexposure to screens, particularly in passive forms, can reduce children's possibilities to engage with others. Conversely, play and exercise offer chances for socialization, conversation, teamwork, and resolution of conflicts, enabling kids to acquire critical linguistic and social skills. (Massaroni, 2023).

This study will be conducted to understand the role of child-parent interaction and screen time in early speech and language development. By figuring out the potential consequences of these factors, the study aims to highlight the importance of creating healthy communication environments for children.

The findings of this research will provide valuable insights for medical sectors like pediatricians, policymakers, educators, speech and language therapists and parents to support optimal speech and language development for their children.

1.2. Statement of the Problem

The development of speech and language skills in children follows a systematic pattern, necessitating exposure to language and meaningful interactions with parents (Clark, 2000). However, a growing concern arises from the increasing prevalence of excessive screen time among children, including the use of smartphones, tablets, and televisions (Mansor, 2021). Research indicates that excessive screen time can hinder effective communication and impede the acquisition of essential language skills. Studies, such as those conducted by [redacted] have reported varying impacts of screen time on speech and language development, ranging from significant effects to minimal impact (Raheem, 2023)

In the context of Addis Ababa, Ethiopia, speech therapy faces several challenges, including a lack of professional resources, inadequate early detection, and intervention for children with speech and language disorders, and a scarcity of research and evidence-based practices. This lack of research makes it difficult to establish effective intervention strategies that can produce optimal communication outcomes for children. Additionally, there is a shortage of licensed speech therapists in Addis Ababa, resulting in limited availability of early detection and intervention services for children with speech and language disorders. Consequently, children with speech delays may not receive the necessary support in a timely manner. Also, the effects of screen time on the language environments of children with communication disorders are particularly concerning since these children already face challenges in learning language. Excessive screen time may further hinder their language development, impeding their ability to communicate effectively. By conducting research on the effects of media on language learning in Addis Ababa, valuable insights can be gained and identify targeted intervention approaches that

will help support and empower these families in facilitating optimal language development for their children can be identified.

Language development requires a combination of fundamental cognitive skills, constant, extensive exposure to language, and direct communication with caregivers. Developmental delays and social isolation can result from disturbances in learning processes, processing capacities, and social interactions (Onnis, 2018). Parents' lack of awareness regarding the role of child-parent interaction and screen time in language development further contributes to the issue. Busy lifestyles and other factors may limit the opportunities for meaningful interactions between parents and children, hindering language practice, vocabulary exposure, and the development of social skills.

Furthermore, parents may lack knowledge about language development problems and the importance of seeking professional help when their children experience delays due to the novelty of speech language therapy (SLT) in Ethiopia, it is understandable that many parents may not be aware of its existence or the potential benefits it can provide for children with speech and language disorders. This lack of knowledge and awareness may contribute to delays in seeking appropriate interventions or services for their children.

This study aims to address the pressing issue of child-parent interaction and screen time and its role on speech and language development among children. By investigating this problem, we can gain insights into the specific challenges faced by children and the potential consequences for their communication skills.

The findings from this study also provide valuable information to parents, educators, and policymakers in Ethiopia. They can help develop targeted interventions and strategies to promote healthy communication environments and mitigate the role of child-parent interaction and screen time on children's speech and language development.

1.3. Research Questions

The following questions are what the research seeks to address.

1. Does using of screen time have a role in speech and language development in children?

2. How does the duration of screen time influence speech and language development in children?
3. How does child-parent interaction affect speech and language?
4. What are the parental perspectives towards child-parent interaction and screen time, and how do these factors influence speech and language development?

1.4. Objectives of the Study

The general objective of this study is to assess the role of child-parent interaction and screen time on speech and language delayed children's: a case of five speech therapy clinics in Addis Ababa. By investigating this issue, aiming to understand the potential consequences and identify areas where interventions can be implemented to promote healthy speech and language development.

1.5. Significance of the Study

The significance of this study lies in its potential to provide crucial insights into the complex interplay between children's screen time, parent-child interaction, and speech and language development. young children are increasingly exposed to electronic media, there is a pressing need to understand the implications for their cognitive and communicative growth. This study contributes important empirical evidence to address this gap in the literature. In general, this study seeks to:

- Understand the potential consequences of excessive or early childhood screen exposure on speech and language acquisition
- Identify the benefits of enriched child-parent interaction for supporting optimal communication development
- Reveal parental beliefs and practices that may facilitate or hinder healthy speech and language growth in young children
- Provide evidence-based recommendations for interventions to promote interactive, screen-balanced communication environments

Ultimately, the findings of this study have important implications for early childhood policies, education programs, and clinical speech-language therapy practices in Ethiopia. The evidence generated can guide the development of evidence-based strategies to support optimal speech and

language acquisition, ultimately improving developmental outcomes for young children. The study focuses on an understudied population in a rapidly developing country also contribute to the broader global knowledge base on this critical issue.

1.6. Scope of the Study

The scope of this study is focused on five established speech and language therapy clinics in Addis Ababa, the capital city of Ethiopia. The participants were between aged two-six years and received speech language therapy services at these clinics, with their parents or primary caregivers. The study investigated the relationship between children's screen time usage, child-parent interaction, and speech/language development within this specific population. It examined the potential impact of screen time duration on children's speech sound production, vocabulary, and grammatical skills. Additionally, the study explored parental perceptions, attitudes, and behaviors around screen time and child-parent interaction, and how these factors shape the children's communication development. To achieve a comprehensive understanding of this complex issue, the researchers employed a mixed-methods approach, utilizing both quantitative questionnaires and qualitative interviews. By limiting the geographic scope to Addis Ababa and focusing on a specific age range of children receiving speech therapy, the study aims to provide in-depth, contextual insights into the research questions within this defined population.

1.7. Limitation of the Research

While attempting to conduct a comprehensive study on the role of child-parent interaction and screen time on speech and language development in children with speech delays in five speech therapy clinics, it's important to acknowledge certain limitations that may affect the interpretation and generalizability of the findings.

- **Limited Sample:** Since I collected data from five speech therapy clinics in Addis Ababa. The sample size may be relatively small and may not represent the entire population of children with speech delays in Ethiopia. The findings may not be applicable to children in other regions or those who do not seek services from these selected clinics.
- **Selection Bias:** relying on the lists of children with speech delay cases provided by the speech therapy clinics, there may be inherent selection bias. By the children included in

the study may have more severe speech delays or different characteristics compared to children not seeking clinical services. This could affect the generalizability of our findings to the broader population of children with or without speech delays.

- **Lack of Control Group:** Since the study design focuses on children with speech delays, it does not have a control group of typically developing children for direct comparison. This limits the ability to determine causality and isolate the specific effects of limited interaction and excessive screen time on speech and language development.
- **Limited Cultural Diversity:** The study aim is to explore the impact within the cultural context of Addis Ababa, so the study may not capture the full range of cultural and linguistic diversity in Ethiopia. The findings may not fully represent the experiences of children from different ethnic or socio-cultural backgrounds, which could influence their speech and language development.
- **Reliance on Parental Reports:** The data collection process may heavily rely on parental reports and clinical assessments, which could introduce subjectivity and potential, recall bias. The accuracy and consistency of information provided by parents may vary, impacting the reliability of the results.
- **External Factors:** The study may not account for other external factors that could influence speech and language development, such as socioeconomic status and educational resources. These factors could potentially confound the relationship between limited interaction, excessive screen time, and speech and language development.

Despite these limitations, the study aims to provide valuable insights into the role of interaction and screen time on speech and language development in children with speech and language delays in Addis Ababa. These limitations were considered carefully when interpreting the results and provide recommendations for future research to address these constraints and expand the knowledge base in this important area.

1.8. Operational Definition of Key Terms

Child-Parent Interaction: Refers to the observable behaviors and exchanges that occur between a child and their parent or primary caregiver. It involves the various ways in which children and parents communicate including verbal and nonverbal communication (APA, 2022).

Screen Time: Refers to the amount of time an individual spends engaged with electronic devices, such as smart phones, tablets, computers, televisions, or gaming consoles. It involves the measurement and quantification of the duration of screen-based activities (Sigman, 2012).

Speech and Language Development: Refers to the process through which children acquire and develop their abilities to produce speech sounds (articulation), understand and use language (comprehension and expression), and communicate effectively with others. It encompasses various aspects, including vocabulary acquisition, grammar skills, social communication, and literacy abilities (Sharp & Hillenbrand, 2008).

Speech and language Delays: Refers to a situation where a child demonstrates a slower rate of acquiring and using speech sounds and/or linguistic structures compared to their peers of the same age. It indicates a delay in the development of clear and intelligible speech production, and/or a delay in meeting expected language development milestones which may result in difficulties in effective communication (McLaughlin, 2011).

Speech Therapy Clinics: Refers to healthcare facilities or therapy centers where speech-language pathologists provide diagnostic, therapeutic, and supportive services for children with speech and language concerns.

All day: Child who spends more than 9 hour on screen per day,

CHAPTER TWO: LITERATURE REVIEW

2.1. Theoretical Literature Review

2.1.1. Speech and Language Development

Language is the understanding, processing, and creation of communication, while speech involves the articulation and production of spoken sounds within the oral cavity (Onnis, 2018). Young children pick up the languages and accents they are exposed to, and the volume and caliber of their early social language interactions influence how quickly they pick up language. It is acknowledged that a child's surroundings and biological makeup both influence how they develop their language (Rowe, 2012). The ability to communicate and transmit meaning to others is referred to as expressive language. This output usually takes the form of speech, although it can also be written language, signs, or gestures. Receptive language, which includes both visual and auditory skills, is the capacity to comprehend the speech of others. In addition to expressive and receptive language, children need to develop additional relevant language development skills in order to communicate effectively. These include play, cooperative attention, and socio-pragmatic language, which describe how people understand and use language in social situations (Clark, 2000).

In Vygotsky's social-pragmatic theory perspective of language development is first seen in infant-caregiver interactions in which the caregiver responds to an infant's sounds and gestures also considers communication as the basic function of language and learned through social interactions and the words we learn is based on our culture and the people around us (Vygotsky, 2012).

2.1.2. What is Screen Time?

Children as well as adults are using electronic devices and interactive, broadcast media more frequently because of technological advancements. Movies and television shows are examples of broadcast media; social media and video games are examples of interactive media (Rowe, 2012). Preschoolers nowadays spend a lot of time in situations that are characterized by computers, video games, and the internet (Bozzola, 2018). Those who access media and technology are more likely to spend their time in front of screens. Individuals who have access to media and

technology are more inclined to use screens for screen time. The amount of time spent in front of a screen, be it a computer, tablet, video game console on a phone, or television, is known as screen time (Force, 2017). Depending on how electronic devices are used and how much mental and physical effort is put into interacting with the screen, it is possible to differentiate between passive and active screen time. During passive screen time, the person does not engage with the screen, for example, by watching television and where there is neither a significant cognitive or physical effort. Active screen time involves interacting with what is on the screen, such as while playing video games, which increases the demand on cognitive and physical resources (Sweetser, 2012).

The health and development of a child may suffer from prolonged screen use. Research on young children revealed a strong correlation between the amount of time spent on schematics and deficiencies in short-term memory development, intellectual ability in reading, math, and language development (Barr, 2010).

2.1.3. Quality and Quantity of Language Input

It is common practice to characterize language input in terms of both quantity and quality. The definition of input quantity is more uniform and can be expressed as the quantity of words or tokens of words said to the youngster (Rowe, 2012). Quality of input, on the other hand, might relate to various aspects of language. Three dimensions can be used to analyze the quality of input: interactive features (like responsiveness and joint attention), linguistic features (like clear pronunciation, lexical diversity, and grammatical complexity), and conceptual features (like contextualized and decontextualized topics), as outlined in a review by (Joanna McPake, 2009). The diversity and complexity of spoken words is a fundamental statistic that is frequently taken into consideration while analyzing linguistic aspects in concert with the quantity of words spoken (Madigan S. M., 2020).

The quantity of child-directed speech was positively associated with vocabulary growth. For every 1-hr increase in the amount of child-directed speech, there was a 0.36-point increase in vocabulary growth per year. This suggests that the more parents talk to their children, the faster those children's vocabularies grow. (Rowe, 2012)

2.1.4. Child Parent Interaction and Language Development

The negative consequences of screen time can be mitigated by interaction with the caregiver. Joint book reading is one activity that parents and children can do together to promote language development (Myers, 2022). When children between the ages of 2 and 48 months are left alone with a television on or in the absence of adult interaction, the television can result in a decrease in the amount of vocalizations made by the children, a decrease in the amount of interest shown by the parents in their interactions with the child, and, ultimately, poor transitions in the way that parents and children converse. Consequently, parents tend to engage their children less when the television is on, which has a negative impact on language development as well as attention and cognitive impairments (Christakis D. A., 2009).

(Lin, 2015) noted that the effects of screen time on a child's development can be mitigated by interaction with the caregiver. They found out that the child needed to interact with the parent to increase the size of their vocabulary and learn about things from their surroundings. Research has shown that children, particularly those who are young and have only one parent, who work long hours and have no education, spent more time in front of the television. Because parents don't always have enough time to spend with their children, this also occurs when kids are left with nannies or grandparents. These adults might be less rigorous with kids, letting them use media on computers to divert their attention, which aggravates their cognitive problems (Landry, 2001).

(Madigan S. M., 2020) Highlighted the negative effects that too much screen time can have on a child's bond with their parent and their ability to engage in the verbal and nonverbal social interactions that are essential for development. (Schwarzer, 2022) Emphasized the ways in which parent-child communication might optimize language development. Long-term screen usage can actually prevent kids from playing, interacting with their surroundings, and interacting with others, which can cause hyperactivity and inattention.

2.2. Empirical Literature Review

2.2.1. Screen time Guideline

According to guidelines released by the World Health Organization in 2019, children under the age of two should not be in front of a screen, and children between the ages of two and four should not be left passively staring at a television, smart phone, or tablet screen for longer than one hour. Research conducted by the Canadian Pediatrics Society (CPS) has revealed that a mere 15% of preschoolers adhere to the country's recommendations regarding limiting screen time to one hour per day (Barnes, 2016). Additionally, television is the primary activity during screen time and is growing in popularity among children between the ages of three and five (Telecommunications, 2014). Between 2011 and 2013, the percentage of children in the United States that use media climbed from 39% to 80% (media, 2013). According to a British survey, 51% of children between the ages of 6 and 11 months spend at least one day in front of a touch screen (Cheung, 2016). Twenty percent of children use a smart phone for the first time in their first year of life, according to an Italian survey. Between the ages of three and five, eighty percent of children can use their parents' smart phones. Lastly, between the first (30%) and second (70%) years of life, parents employ media to keep their child quiet (Domingues-Montanari, 2017).

In South Africa, 94% of infants and toddlers were exceeding TV time recommendations, there is evidence to show that excess TV time in early childhood tracks into later childhood, and that screen time increases with age in the early years. Screen time in the first few years of life has been associated with increased body mass index (BMI), decreased cognitive and language development, and poorer academic and social outcomes later in life (Duch, 2013).

2.2.2. Screen time and Language Development

Both positive and negative features of the relationship between screen time and language are present. Screen time can benefit children's exposure to a variety of cultural and linguistic values, help them expand their vocabulary, and keep them entertained while keeping them safe (Duch, 2013). However, it should be emphasized that children start to absorb and comprehend the information around them around the age of two, thus absorbing information from screens may be challenging for them. Additionally, too much screen time can harm a person's ability to read,

write, and do math. Ultimately, watching television in the background that is not as the primary attention may negatively impact executive functions, expressive language, play quality, and attention (Force, 2017).

From the data obtained both from direct assessment of children's level of language development and from questionnaires given to parents reporting data on their children's screen use, seven studies showed that prolonged passive screen time, especially television, reduce a child's verbal activity, (Massaroni, 2023). Unsupervised television viewing decreased verbal engagement and raised the possibility of a language learning delay 8.47 times higher than when children interacted with parents while watching TV ((Chonchaiya W. &., 2008).

According to (Perdana, 2017) A child's likelihood of experiencing delayed language acquisition increased if they watched television for more than four hours a day, and 70% of those who experienced delayed language acquisition had a television in their rooms. Moreover, toddlers between the ages of 2 and 48 months appeared to vocalize less when engaging in passive activities like watching television, and they also had trouble executing communication shifts meant to establish a relationship with caregivers. Simultaneously, there was a decrease in parents' linguistic engagement as well; they communicate with their children using 500–1000 fewer words. (Christakis D. A., 2009)

A direct evaluation of the children revealed that extended screen time can also result in lexically deficient acquired language, particularly in terms of the limited development of one's expressive and communicative vocabulary, as well as difficulties in verbal interaction with caregivers and the surrounding environment. (Martinot, 2021). Excessive consumption in television viewing may have negative consequences on expressiveness. Thus, extended screen time seems to contribute to a weak expressive vocabulary (Yang, 2023). Direct evaluations of children's language show that this happens particularly when children between the ages of two and four have screen time of more than four hours per day (Takahashi, 2023).

According to a scoping review, screen usage and early age of onset have detrimental effects on language development, whereas later age of onset watching has beneficial effects. According to (Varghese, 2024) these benefits include vocabulary growth, exposure to a variety of cultural and linguistic experiences, enhanced education, and safe child engagement.

Lastly, one author stressed how language acquisition problems in children arise at the grammatical level of sentence construction, comprehension, and order of the sentences heard when they passively watch television shows that are different from their own linguistic and cultural background without assistance explaining what they are watching (Perdana, 2017).

2.2.3. Screen time starting age and Language Development

According to (Massaroni, 2023) a passive activity such as watching television seemed to lead to a reduction in vocalizations in children aged 2 to 48 months and a making implementing communicative shifts with the intention of having relational contact with caregivers more difficult.

(Christakis D. , 2014) Highlighted the disparities in the ways that television shows that are violent, instructional, or both can impact a child's language development before the age of three.

(Chonchaiya W. P., 2008) Demonstrate that children with developmental language delays often start watching TV up to ten months before they say their first meaningful word. Television watching began for those without a developmental language delay as soon as they said their first meaningful word. Younger than 12-month-olds who begin watching television for more than two hours a day are six times more likely to experience a language delay than toddlers who do not participate in this habit. The review's included studies' findings indicated a correlation between children who watch television before the age of three and a higher risk of delayed cognitive and motor development as well as failure to meet specific developmental milestones (Massaroni, 2023).

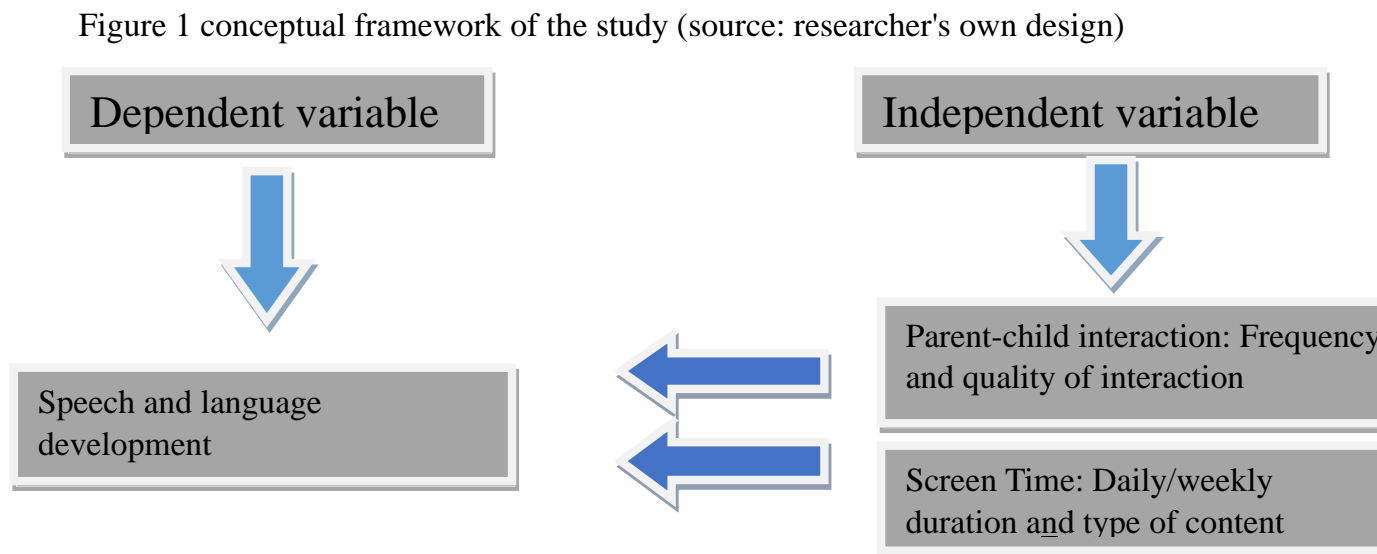
Children with speech and language delays often have difficulty developing age-appropriate language skills due to a variety of genetic, neurological, or environmental factors. For these children, positive and engaging interactions with parents and caregivers are especially crucial. Research has shown that rich, responsive communication between children and their parents can help stimulate language development and improve long-term outcomes (Hoff, 2006). Parents can support their child's communication skills through activities like reading, singing, and narrating daily routines.

Additionally, there is growing evidence that excessive screen time may have negative impacts on language development, particularly for children with existing communication disorders

(Madigan S, Association Between Screen Time and Children's Performance on a Developmental Screening Test. *JAMA pediatrics*, 173(3), 244–250, 2019). The American Academy of Pediatrics recommends limiting screen time for young children and encouraging interactive, hands-on learning experiences instead. Parents of children with speech and language delays should be mindful of their child's screen usage and prioritize direct engagement.

2.3. Conceptual Model

Having made a critical review of various related literatures, the conceptual framework of this study was presented on figure 1.



CHAPTER THREE: RESEARCH METHODS

3.1. Study Area and Period

The study was conducted February to May 2024 in Addis Ababa, the capital city of Ethiopia. Addis Ababa is a vibrant urban center known for its diversity, education, cultural activities, and trade. The city is home to a large population with varying socioeconomic backgrounds, providing an ideal context for examining the relationship between parent-child interaction and screen time on speech and language development.

The study conducted at five speech and language therapy clinics in Addis Ababa. These clinics include Droga physiotherapy clinic, Jazeal speech therapy clinic, Aki speech therapy clinic, Amina speech therapy clinic, and Nati speech therapy clinic. These clinics were selected based on their accessibility, and expertise in providing speech and language therapy services.

Droga, Jazeal, Aki, Amina, and Nati Speech and language Therapy Clinics are in Addis Ababa, specifically in the areas of 4killo, Megenagna, Adwa Bridge, Bisrat Geberl (behind the South Africa embassy), and hayahulet(22) , respectively. These Clinics are widely recognized for their expertise in delivering comprehensive speech and language therapy services and offer a diverse range of interventions and treatments specifically designed to address a variety of speech and language disorders. These disorders encompass articulation disorders, language delays, stuttering, and voice disorders, etc.

3.2. Research Approach

In this research a mixed methods approach is used to investigate the role of parent interaction and screen time on the speech and language development of children from five speech therapy clinics in Addis Ababa, Ethiopia. According to Almeida (2018) the goal of mixed methods research is to produce a more comprehensive and wide-ranging understanding of an issue by integrating quantitative and qualitative methodologies into a single study. When comparative analysis and thorough in-depth construction of study components are required, mixed techniques are utilized.

Quantitative data had been collected through questionnaires administered to parents or primary caregivers of children aged two to six years. The questionnaire includes structured items to

assess frequency and quality of parent-child interaction (language stimulation activities, joint reading,) screen time duration, and speech and language development milestones, parental perceptions of their child's language development.

Incorporating qualitative data gathered through parent interviews can provide valuable, nuanced insights to complement the quantitative research on screen time and language development. Semi-structured interviews allow parents to share their perspectives on the cultural, family, and practical factors influencing their child's language learning, as well as the challenges and strategies they employ. Importantly, parents can describe their own perceptions of how screen media impacts their child, including any concerns or perceived benefits. This contextual understanding of real-world experiences and decision-making processes can help inform more effective, family-centered interventions and recommendations, especially for families of children with speech and language disorders.

3.3. Research Design

Research designs are plans and the procedures for research that span the decisions from broad assumptions to detailed methods of data collection and analysis (Creswell, 2009).

The research design applied for this research project is descriptive research studies. Descriptive research includes surveys and fact-finding enquiries of different kinds. The major purpose of descriptive research is description of the state of affairs as it exists at present. The main characteristic of this method is that the researcher has no control over the variables; he can only report what has happened or what is happening. (Kothari, 1990).

3.4. Data Type & Source

The data collected for this study consists of both quantitative and qualitative information. Quantitative data refers to numerical data that can be analyzed statistically obtained through questionnaires. Qualitative data, on the other hand, refers to non-numerical data gathered through interviews, which provides rich and detailed insights into participants' experiences and opinions.

Both primary and secondary data sources are used in this research. The primary data is obtained from questionnaires that are collected from a sample of participants. A questionnaire is a method of data collection which is completed by the respondent in written format (Polit,

2004). According to Wilson (1994) questionnaire is a widely used and useful instrument for collecting survey information, providing structured numerical data, being able to be administered without the presence of the researcher, and often being comparatively straightforward to analyze. For this research, a questionnaire was distributed to thirty-six participants.

Moreover, additional primary data was obtained by interviewing parents. An interview is kind of data collection allows direct contact between interviewer and the interviewee which give better chance of understanding nonverbal explanations and help to understand from tone of voice of the interviewee whether he/she told the reality or not (Mulu, 2011). The secondary data obtained from speech and language assessment reports and researches, documents.

3.5. Data collection procedure

The following procedures are used to undertake the data collection. Firstly, by collaborating with the five speech therapy clinics and obtaining ethical approval and ensure informed consent from parents and cultural sensitivity, building trust and rapport with participants throughout the process. Then, a sample of children who have been evaluated using a language assessment instrument designed specifically for Ethiopian contexts was chosen for the study. Speech therapists have been using a contextualized assessment instrument developed five years ago, despite the lack of a standardized exam. Therapists in Addis Ababa have embraced this instrument broadly. It assesses both expressive and receptive language skills, includes tasks such as picture naming, vocabulary identification (e.g. colors, body parts, animals, fruits, vegetables), as well as evaluations of phonology, articulation, and the child's ability to follow simple commands.

Questionnaires were used in the gathering of quantitative data. The purpose of these questionnaires is to collect data on a variety of topics, such as screen use and parent-child interaction. The questionnaires might ask about both the frequency and the quality of parent-child interactions, the kinds of screen activities children do, and how much time they spend on screens every day. The parents or primary caregivers of the participating children were given these questionnaires.

Through interviews, qualitative data was gathered in addition to the quantitative data. To acquire a greater understanding of the dynamics of child-parent interactions, the impact of screen time on

language development, and the viewpoints and experiences of the participants, interviews with parents were undertaken. Because the interviews were semi-structured, there were opportunities for thoughtful dialogue and open-ended questions to go deeper into the intricate details and nuance of the subject.

Ethical concerns take precedence during the data gathering process, guaranteeing informed permission from all participants, and protecting the privacy and confidentiality of the information gathered. To promote open communication and thorough answers during interviews, the researchers also provided a welcoming and encouraging setting.

Additionally, a multi-site method was used in this research, with data collecting taking place in five Addis Ababa speech therapy clinics. With the use of this method, a varied sample was available, enabling a more comprehensive knowledge of the impact of screen time and parent-child interaction on children's speech and language development in various clinic settings.

3.6. Study Population

Individuals seeking speech and language therapy treatments at five respected clinics in Addis Ababa, Ethiopia, represent the source population for this study. The Jazeal, Aki, Amina, and Nati speech and language therapy clinics as well as Droga physiotherapy are the clinics that are part of the study. These clinics were selected because they have a well-established track record and are skilled at offering complete speech and language therapy treatments. The children's ages range from two to six years old, which represents a crucial stage in speech and language development.

This varied source population offered insightful information about how screen time and parent-child interaction affect speech and language development across a range of demographic parameters. These five speech and language therapy clinics gave the study the chance to collect data from a sizable and representative sample of people in Addis Ababa who are looking for therapy. This increases the study's generalizability and improves knowledge of how screen time and parent-child interaction have a role on speech and language development in the context of the local community.

3.7. Sampling Size and Sampling Techniques

For this study the population of interest consisted of parents or primary caregivers of children aged two to six years receiving speech and language intervention in Addis Ababa, Ethiopia. For the quantitative aspect, a sample size of Thirty-six individuals was selected. Convenience sampling was used, considering practical constraints, to identify eligible participants. The inclusion criteria included children aged two-six years attending speech therapy clinics in Addis Ababa. The researcher approached the speech therapy clinics and requests their cooperation in identifying potential participants who meet the inclusion criteria. Informed consent was then obtained from each participant's parent or legal guardian.

For the qualitative aspect, a sample size of five individuals was selected using purposeful sampling. The selection was based on individuals who have different age, gender and child-parent interaction patterns. The researcher sought diversity in terms of age, gender, socioeconomic background, and other relevant factors to capture a range of perspectives and experiences. The speech therapy clinics were contacted to assist in identifying potential participants who could provide valuable insights for the qualitative aspect of the study. Informed consent was then obtained from each participant, ensuring they were fully informed.

3.8. Inclusion and Exclusion Criteria

3.8.1. Inclusion criteria

- Children between two – six years old attending speech therapy clinics in Addis Ababa, Ethiopia.
- Confirmed diagnosis of speech and language delay
- Written informed consent obtained from parents or legal guardians.

3.8.2. Exclusion criteria

- Confirmed diagnosed hearing loss.
- Diagnosed with intellectual disability or developmental delay.

- Major neurological conditions: Medical conditions impacting speech and language development are not primarily related to typical delay or disorder.
- Incomplete data from the participant

3.9. Reliability & Validity

(Creswell, 2009) States that employing multiple data collection instruments helps the researcher to combine, strengthen and amend some of the inadequacies of the data and for triangulation of the data.

The reliability of questionnaires collected has been checked by using method like Cronbach's alpha reliability test by using SPSS (Statistical Package for the Social Sciences). The Cronbach alpha provides a coefficient of inter-item correlations, that is, the correlation of each item with the sum of all the other items. This is a measure of the internal consistency among the items. It is the average correlation among all the items in question, and is used for multi-item scales. The Cronbach alpha for selected eleven questions is 0.835. Conferring that Cronbach's alpha test result is from 0.8 to 0.9 which is highly reliable.

Table 1: Cronbach's Alpha Reliability Statistics

Reliability Statistics	
Cronbach's Alpha	N of Items
0.835	11

The data obtained from interview was prepared as a word document and will be back to the interviewee for approval so to confirm that the researcher didn't misunderstand anything the researcher also discussed summary findings with the speech therapist s working with these five participants.

3.10. Method of Data Analysis

This research's data analysis was done by descriptive and inferential statistics using Statistical Package for Social Sciences (SPSS) and Microsoft Excel. The results obtained from the analysis were drawn in tables and based on these findings, tangible conclusions and recommendations are presented. Cronbach's alpha reliability test has been used to assess the validity and reliability of the data collected and to validate the objectives of the study. Descriptive statistics measures like

percentage, variance, frequency, sum, measures of central tendency (mean and standard deviation) are used. Inferential statistics measures such as regression analysis to compare speech/language outcomes between groups with different screen time exposures or interaction patterns were also conducted.

Qualitative data undergoes thematic analysis to identify recurring patterns and themes. Triangulating findings from different instruments provides a richer understanding of the complex interplay between interaction, screen time, and language development.

3.11. Dissemination of the Result

Dissemination of research results is to study participants and the public, is an ethical responsibility of researchers (RTCOCG, 2008). The results of this study will be presented to the participants, speech therapy clinics and other concerned bodies such as pediatrician. The report will also be submitted to Addis Ababa University department of Special Needs, Department of Neurology and Department of Surgery.

3.12. Ethical Consideration

All participants, including parents/caregivers and children, have given their informed consent after being made fully aware of the goal, methods, possible risks, advantages, and voluntary nature of their involvement. The stringent maintenance of privacy and confidentiality was ensured by limiting access to authorized researchers, securely storing personally identifying information, and providing unique identification codes to preserve anonymity. The emphasis is on voluntary involvement, and members are made aware of their freedom to leave at any time without facing any repercussions. Informed consent from parents/caregivers and, when appropriate, agreement from children obtained to protect vulnerable participants. Risks were kept to a minimum, and participants received appropriate help if they come across delicate or upsetting subjects while the data was being collected.

CHAPTER FOUR – INTERPRETATION, RESULTS AND DISCUSSION

4.1. Response Rate

The sample size of the research was thirty-six and the questionnaires were distributed to the respective parents, all participants completed the questionnaires and the researcher managed to collect all the required questionnaires.

4.2. Profile of Respondents

Table 2: Profile of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Sex of the child	Male	9	25.0	25.0	25.0
	Female	27	75.0	75.0	100.0
	Total	36	100.0	100.0	
Age of the child	3years	4	11.1	11.1	11.1
	4years	19	52.8	52.8	63.9
	5years	8	22.2	22.2	86.1
	6years	5	13.9	13.9	100.0
	Total	36	100.0	100.0	
Participant relation with the child	Parent	28	77.8	77.8	77.8
	Care giver	8	22.2	22.2	100.0
	Total	36	100.0	100.0	
Level of education	Degree	21	58.3	58.3	58.3
	Diploma	7	19.4	19.4	77.8
	Masters	8	22.2	22.2	100.0
	Total	36	100.0	100.0	
Job of The Parent or Caregiver	Private	14	38.9	38.9	38.9
	Government	22	61.1	61.1	100.0
	Total	36	100.0	100.0	
Language Used at Home	Amharic	15	41.7	41.7	41.7
	Amharic & English	14	38.9	38.9	80.6
	Amharic & others	7	19.4	19.4	100.0
	Total	36	100.0	100.0	

First Language Child Used	Amharic	15	41.7	41.7	41.7
	English	21	58.3	58.3	100.0
	Total	36	100.0	100.0	
Number of People Lives in House	2-3	6	16.7	16.7	16.7
	4-5	14	38.9	38.9	55.6
	6-7	16	44.4	44.4	100.0
	Total	36	100.0	100.0	

The demographic profile of the child is vital for the outcome of the research; respondents are requested to fill their child information before the questionnaires' questions. The majority of the participant children were females (75%) and the remaining were males (25%). Childs' age 11.1% were 3 years, 52.8% of the respondents were 4 years old, 22.2% of the respondents were 5years, and 13.9% of the respondents were 6 years old. Participants' relation to the child were primary parents (77.8%) and (22.2%) of the respondents were caregivers for example aunts and older siblings. Nineteen-point four percent of parents and caregivers had diploma, 58.3% had degree, and 22.2% had masters. Thirty-eight-point nine percent of the participants were private workers were and 61.1% of the respondents worked for the government. Forty-one-point seven percent of the participants spoke Amharic at home, 38.9% used both Amharic and English language at home and 19.4% of them uses Amharic and other languages at their home. Parents and caregiver responses 41.7% of the children spoke Amharic as their first language and 58.3% had English as their first language. Sixteen-point seven percent of the participants live with 2-3 people, 38.9% live with 4-5 people, and 44.4% live with 6-7 peoples in the house.

4.3. Child speech and language development in relation with screen time

Table 3: correlation of speech and language development with screen time

		Frequency	Percent	Valid Percent	Cumulative Percent	Statistics		
						Mean	Mode	Std. Deviation
Child Speech and Language Development	Yes	27	75.0	75.0	75.0	1.2500	1.00	.43916
	No	9	25.0	25.0	100.0			
	Total	36	100.0	100.0				
Child's Age in Using Screen	Less Than 2yr	21	21	58.3	58.3	1.8056	1.00	1.06421
	2 Years	4	4	11.1	69.4			
	3 Years	8	8	22.2	91.7			
	4 Years	3	3	8.3	100.0			
	Total	36	36	100.0				
Child Spending Hours Using Screen	All Day	9	25.0	25.0	25.0	2.4722	2.00	1.44393
	6-9 Hour	17	47.2	47.2	72.2			
	4-5 Hour	1	2.8	2.8	75.0			
	1-3 Hour	2	5.6	5.6	80.6			
	Less Than 1	7	19.4	19.4	100.0			
	Total	36	100.0	100.0				
Contents of Screen Activities Used	All Contents	14	38.9	38.9	38.9	2.3611	1.00	1.26836
	Watching Videos	5	13.9	13.9	52.8			
	Playing Games	7	19.4	19.4	72.2			
	Educational	10	27.8	27.8	100.0			
	Total	36	100.0	100.0				
Types of Screens the Child Use	TV	4	11.1	11.1	11.1	2.8056	3.00	.82183
	Laptop /Desktop	4	11.1	11.1	22.2			
	Smart Phone	23	63.9	63.9	86.1			
	Tablets	5	13.9	13.9	100.0			
	Total	36	100.0	100.0				

Based on table 3 the questionnaire assessing the impact of screen time on child speech and language development found that 75% of parents and caregivers reported seeing negative changes in their children speech and language development after regular screen time usage by their children. Conversely, 25% did not observe any negative change in their child speech and language development. On average, the responses indicated a slight tendency towards negative effects, with a mean value of 1.25. The standard deviation of 0.43916 is relatively low, indicating that the responses are tightly clustered around the mean value. According to the guidelines provided by the (APA, 2020) a standard deviation of less than 1.0 is generally considered low, while a standard deviation greater than 1.0 is considered high.

The questionnaire responses on the age at which children started using screen time revealed that the majority (58.3%) of parents and caregivers reported their child began using screens before the age of 2 years old. A smaller proportion (11.1%) said their child started at 2 years old, while 22.2% indicated a start age of 3 years and 8.3% said 4 years old. On average, the reported start age was 1.8 years, but according to (APA, 2020) the standard deviation is high with value of 1.06 this demonstrates significant variability in the responses, with some children beginning screen use much earlier or later than. The responses on children's daily screen time usage revealed a wide range of experiences. The largest percentage (47.2%) of parents and caregivers reported their child spends between 6-9 hours per day on screens, while a concerning 25% said their child is on screens all day long. On the other end of the spectrum, 19.4% indicated their child uses screens for less than 1 hour per day. On average, the reported daily screen time was 2.47 hours, falling between the 3 hour and 6-9-hour categories. However, according to (APA, 2020) the standard deviation is high with result of 1.443 shows there was substantial variability in the responses, with some children having significantly more or less daily screen time than others.

The questionnaire responses on the types of screen content and activities that children engage with revealed a mix of usage patterns. The largest proportion (38.9%) of parents and caregivers reported their child uses a wide range of screen content, including videos, games, and educational material. However, a notable 27.8% said their child primarily uses educational screen content. Smaller percentages indicated their child mainly watches videos (13.9%) or plays games (19.4%). On average, the reported screen content usage fell between the game/video and educational categories, with a mean value of 2.36. As (APA, 2020) states that the standard

deviation with the result of 1.268 is relatively high this suggests there was significant variability in the types of screen activities children were engaged in across different households.

The responses on the types of screens that children use revealed a clear preference for smart phone technology. The majority (63.9%) of parents and caregivers reported their child primarily uses a smart phone. Tablets were the next most common device, cited by 13.9% of respondents, while TVs and laptops/desktops were both used by 11.1% of the children. On average, the screen type fell between the smart phone and tablet categories, with a mean value of 2.80. The standard deviation of 0.82183 is considered relatively low, as it is less than 1.0. According to the guidelines provided by the American Psychological Association (APA), a standard deviation of less than 1.0 is generally considered low, while a standard deviation greater than 1.0 is considered high (APA, 2020). Suggests there was less variability in the specific devices used by children compared to some of the other survey measures.

4.4. Child speech and language development in relation with parent interaction

Table4: correlation of speech and language development with parent interaction

		Frequency	percent	Valid percent	Cumulative percent	Statistics		
						Mean	Mode	Std. Deviation
Parents engagement in one to one conversation with their child	sometimes	8	22.2	22.2	22.2	2.3056	2.00	1.06421
	Few Days in Week	17	47.2	47.2	69.4			
	Once in A Day	3	8.3	8.3	77.8			
	Multiple Times in A Day	8	22.2	22.2	100			
	Total	36	100.0	100.0				
Parents Spending Hours with Their Child	Less Than 3hr	14	38.9	38.9	38.9	1.7222	2.00	0.70147
	3-4hr	19	52.8	52.8	91.7			
	More Than	2	5.6	5.6	97.2			

	5hr							
	All Day	1	2.8	2.8	100.0			
	Total	36	100.0	100.0				
Parents Opinion on Parent - Child Interaction for The Development of Language	Somewhat Important	1	2.8	2.8	2.8	3.5556	4.00	.55777
	Moderately Important	14	38.9	38.9	41.7			
	Very Important	21	58.3	58.3	100.0			
	Total	36	100.0	100.0				
Impact of Screen Time on Language Development	Moderately Concerned	7	19.4	19.4	19.4	3.8056	4.00	.40139
	Very Concerned	29	80.6	80.6	100.0			
	Total	36	100.0	100.0				
Specific Language Changes Observed by Screen Time	Yes, Positive Change	2	5.6	5.6	5.6	2.1389	2.00	.48714
	Yes, negative Change	27	75.0	75.0	80.6			
	No change	7	19.4	19.4	100.0			
	Total	36	100.0	100.0				
Specific Language Change Observed by Parent Interaction	Yes, Positive Change	27	75.0	75.0	75.0	1.5000	1.00	.87831
	No change	9	25.0	25.0	100.0			
	Total	36	100.0	100.0				

Based on table 4 the questionnaire responses on parent and caregiver engagement in conversation with their children revealed a mix of interaction levels. The largest proportion (47.2%) of respondents said they engage with their child a few days per week. A significant 22.2% reported they engage sometimes, while another 22.2% said they interact with their child multiple times per day. Only 8.3% indicated they engage with their child once a day. On average, the level of parent/caregiver engagement fell between the "few days per week" and "sometimes" categories, with a mean value of 2.30. However, according to the guidelines provided by the

American Psychological Association (APA), a standard deviation of less than 1.0 is generally considered low, while a standard deviation greater than 1.0 is considered high (APA, 2020). The relatively high standard deviation of 1.064 suggests there was notable variability in the frequency of engagement, with some families interacting with their children much more or less often than others.

The responses on the amount of time parents and caregivers spend with their children each day revealed that the majority (52.8%) report spending 3-4 hours per day together. A significant 38.9% of respondents said they spend less than 3 hours per day with their child, while only small percentages indicated they spend more than 5 hours (5.6%) or all day (2.8) in each other's company. On average, the daily time spent fell between the 3-4 hours and less than 3 hours categories, with a mean value of 1.72. According to the guidelines provided by the American Psychological Association (APA), a standard deviation of less than 1.0 is generally considered low, while a standard deviation greater than 1.0 is considered high (APA, 2020). The relatively low standard deviation of 0.701 suggests there was not a huge amount of variability in the daily time parents and caregivers devote to interacting with their children.

The responses revealed that the vast majority of parents and caregivers believe that parent-child interaction are very important for the development of language in their children as very important. Over half (58.3%) of respondents said they consider this connection to be very important, while another 38.9% reported seeing it as moderately important. Only a small number (2.8%) saw the relation as merely somewhat related. On average, the respondents fell between the "moderately important" and "very important" categories in their assessment, with a mean value of 3.55. According to the guidelines provided by the American Psychological Association (APA), a standard deviation of less than 1.0 is generally considered low, while a standard deviation greater than 1.0 is considered high (APA, 2020). In this result shows that there is low standard deviation of 0.557 indicates there was little variability in the responses, suggesting most parents and caregivers share a similar perspective on the critical role of child-caregiver interaction for language skills. The questionnaire responses revealed that the vast majority of parents and caregivers are very concerned about the impact of screen time on their children's language development. A significant 80.6% of respondents said they are very concerned about this issue, while only 19.4% reported being moderately concerned. On average, the level of

concern fell firmly in the "very concerned" range, with a mean value of 3.8. According to the guidelines provided by the American Psychological Association (APA), a standard deviation of less than 1.0 is generally considered low, while a standard deviation greater than 1.0 is considered high (APA, 2020). In this case there is relatively low standard deviation of 0.4 indicates there is little variability in the responses, suggesting most parents and caregivers share a similarly high level of worry about the potential detrimental effects of screen exposure on their children's language skills.

The questionnaire responses revealed that the vast majority of parents and caregivers have observed negative changes in their children's language development due to screen time exposure. Three-quarters (75%) of respondents said they have noticed a negative impact, while only 5.6% reported seeing a positive change. The remaining 19.4% indicated they have not observed any notable change in their child's language skills. On average, the responses fell between the "yes negative change" and "no change" categories, with a mean value of 2.13. According to the guidelines provided by the American Psychological Association (APA), a standard deviation of less than 1.0 is generally considered low, while a standard deviation greater than 1.0 is considered high (APA, 2020). In this case the result of standard deviation is relatively low standard deviation of 0.48 suggests there is not a lot of variability in the perspectives, with most parents and caregivers either noticing detrimental effects or no change at all when it comes to the impact of screen time on their children's language development.

The questionnaire responses revealed that the majority of parents and caregivers have observed positive changes in their children's language development due to parent- child interaction. Three-quarters (75%) of respondents said they have noticed a positive change when they start to engage with their child. While the remaining 25% indicated they have not observed any notable change in their child's language skills with a mean value of 1.5. According to the guidelines provided by the American Psychological Association (APA), a standard deviation of less than 1.0 is generally considered low, while a standard deviation greater than 1.0 is considered high (APA, 2020). The standard deviation is low with the result of 0.87 suggests there is more variability in the perspectives compared to the previous example, with some parents and caregivers reporting beneficial effects of screen time and others seeing no change at all when it comes to the impact on their children's language development.

4.5. Relation between screen time & parent-child interaction with speech and language development

To get the correlation between screen time & parent-child interaction with speech and language development Pearson correlation coefficient is used to measure relationship. In addition, Actual error level (P-value or sig-value) is used, by comparing with α -value, to show whether there is significant relationship or not. For this study, significance level (α -value) is considered as 0.01, which means, there is 1 % acceptance of error in the relationships to be assessed. Correlation coefficient (R-value) and P-value (Sig-value) are obtained from SPSS.

According to (Mulu, 2011) correlation values are interpreted as the following:

Table 5: Correlation Value and Interpretation

Correlation Value	Interpretation
0.00-0.09	No or very weak relationship
0.20-0.39	Low (weak) relationship
0.40-0.59	Moderate Relationship
0.60-0.79	Strong Relationship
0.80-1.00	Very Strong Relationship

The study included only children who were identified as having speech and language delays, as determined by the assessments conducted by the speech-language therapists. This suggests that all the children in the sample were experiencing some level of difficulty with their speech and language development. The correlation analysis provides valuable insights into the factors that influence child speech and language development. The results show a strong positive correlation between a child's speech/language skills and their age in using screens ($r = 0.779$, $p < 0.01$). Similarly, the amount of time a child spends using screens is also very strongly correlated with their language development ($r = 0.935$, $p < 0.01$). Interestingly, the content of the screen activities a child engages with plays an important role, with a significant positive correlation observed ($r = 0.757$, $p < 0.01$). Additionally, the analysis revealed very strong positive correlations between child speech/language development and parent engagement in one-on-one conversations ($r = 0.871$, $p < 0.01$), as well as the amount of time parents spend with their child ($r = 0.510$, $p < 0.01$). In contrast, the specific types of screens used by the child showed a negligible correlation ($r = -0.020$, $p = 0.909$), indicating that the screen medium itself may be

less important than the content and context of use. Overall, these findings emphasize the multidimensional nature of child language development, highlighting the critical roles of both screen-time and parent-child interaction.

Table 6: Correlation Between Delayed in Child Speech and Language Development with Screen Time and Parent-Child Interaction

Correlations			
Delayed in child speech and language development			
	Pearson Correlation	Sig. (2-tailed)	N
Delayed in child speech and language development	1		36
child's age in using screen	.779**	0.00	36
child spending hours using screen	.935**	0.00	36
contents of screen activities used	.757**	0.00	36
types of screens the child use	-0.02	0.91	36
parent engagement in one to one conversation	.871**	0.00	36
parents spending hours with their child	.510**	0.00	36

4.6. Regression Analysis

4.6.1. Model Summary

In this study the researcher adopted multiple linear regression model in order to clearly examine the effects of independent variables on the dependent variables in delayed in child speech and language development. The model summary of the regression model is shown in the table below:

Table 7: Regression Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.974 ^a	0.949	0.939	0.10854
a. Predictors: (Constant), parents spending hours with their child, types of screens the child use, child spending hours using screen, contents of screen activities used, child's age in using screen, parent engagement in one to one conversation				

The regression summary table provides a comprehensive overview of the model's performance and the relationships between the independent variables and the dependent variable of delayed in child speech and language development.

The R- value of 0.974 is exceptionally high, indicating that the independent variables collectively explain a 97.4% of the dependent variable (delayed in child speech and language development). The adjusted R-squared value of 0.939 further strengthens this conclusion, as it explains 93.9% of the variation in the dependent variable. This suggests the selected independent variables are highly relevant and meaningful in understanding the drivers of child speech and language development.

Additionally, the low standard error of the estimate, at 0.10854, indicates the model provides very accurate predictions,. This leads to the validity and reliability of the relationships observed between the independent and dependent variables.

4.6.2. ANOVA regression model

The ANOVA table below provides further statistical evidence supporting the strength and significance of the regression model in predicting delayed in child speech and language development based on the selected independent variables.

The regression sum of squares is 6.408, while the residual sum of squares is only 0.342, out of a total sum of squares of 6.750. This indicates the model is capturing the majority of the variation in child speech and language skills.

Most importantly, the ANOVA table below shows the regression model is highly significant, with a p-value (Sig.) of 0.000.which is below the standard 0.05 threshold providing very strong evidence that the independent variables collectively have a significant effect on child speech and language development.

Table 8: ANOVA Result

ANOVA ^a					
Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	6.408	6	1.068	90.656	.000 ^b

Residual	0.342	29	0.012		
Total	6.750	35			
a. Dependent Variable: delayed in child speech and language development					
b. Predictors: (Constant), parents spending hours with their child, types of screens the child use, child spending hours using screen, contents of screen activities used, child's age in using screen, parent engagement in one to one conversation					

4.6.3. Regression Coefficient

The coefficients table offers a more detailed examination of the individual contributions and statistical significance of each independent variable in the regression model predicting delayed in child speech and language development.

Looking at the unstandardized regression coefficients (B), we can see that several of the variables have a meaningful positive association with the dependent variable. Specifically, a one-unit increase in "child spending hours using screen" is associated with a (B=0.170) increase in child speech and language skills, holding all other variables constant.

Also, a one-unit increase in " parents spending hours with their child " is associated with a in (B = 0.098) increase in child speech and language skills, holding all other variables constant. Similarly, a one-unit increase in " parents spending hours with their child " is associated with a in (B = 0.068) increase in child speech and language skills, holding all other variables constant.

Examining the statistical significance of the predictors, the results show that "child spending hours using screen" ($p < 0.001$) and "contents of screen activities used" ($p = 0.006$) are both highly significant, meaning these variables have a statistically reliable effect on the dependent variable, even after accounting for the other factors in the model. "Parents spending hours with their child" is also statistically significant ($p = 0.020$), further emphasizing the important role of this parent-child interaction variable.

In contrast, the variables related to "child's age in using screen," "types of screens the child use," and "parent engagement in one-to-one conversation" do not reach statistical significance at the 0.05 level. This indicates these factors do not have a strong enough unique contribution to child speech and language development to be considered reliable predictors in this particular model.

To incorporate this variable into the regression equation, we would include it as follows:

Delayed in Child Speech and Language Development = 0.360 + 0.033(Child's age in using screen) + 0.170(Child spending hours using screen) + 0.068(Contents of screen activities used) - 0.024(Types of screens the child use) + 0.065(Parent engagement in one-to-one conversation) + 0.098(Parents spending hours with their child)

Table 9: Statics of Regression Coefficient Summary

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	0.360	0.087		4.131	0.000	0.182	0.538
	child's age in using screen	0.033	0.032	0.080	1.042	0.306	-0.032	0.098
	child spending hours using screen	0.170	0.037	0.558	4.527	0.000	0.093	0.246
	contents of screen activities used	0.068	0.023	0.196	2.978	0.006	0.021	0.114
	types of screens the child use	-0.024	0.024	-0.045	-1.013	0.319	-0.072	0.024
	parent engagement in one to one conversation	0.065	0.039	0.157	1.668	0.106	-0.015	0.144
	parents spending hours with their child	0.098	0.040	0.156	2.452	0.020	0.016	0.180

a. Dependent Variable: delayed in child speech and language development

4.7. Analysis of parental perspectives and attitudes towards child-parent interaction and screen time on speech and language development obtained from Participants through interview

The study sample included families with children diagnosed with speech and language delays. P1 of a young girl around 4 years old, with Amharic as the child's first and only language spoken at home. This parent had a bachelor's degree and worked in the private sector. P2 had a toddler boy around 3 years old, where Amharic was the child's first language, even though both English and Amharic were used at home. The parent had a master's degree and worked in the government. P3 of an older girl around 5 years old, where English was the child's first and primary language, as Amharic and English was the languages used at home. This parent had a bachelor's degree and was employed in the private sector. P4 of 6 years old boy, with Amharic as the child's first and

only language spoken at home. The parent had a master's degree and worked in the government. Lastly, there was P5 of a young girl 4 years old, where English was the child's first language, even though both English and Amharic were spoken at home. This parent had a bachelor's degree and worked in the private sector. The number of people living in the same household for these families ranged from 3 to 6 individuals.

This, objective in fact, necessitates a wide range of data from participants in order to achieve the research goal. Hence, parents of children's who are attending therapy in the chosen speech therapy clinics were the source of data. Therefore, the results of the study were analyzed in terms of three themes, including the screen time usage in children's, parental perspective in language development and screen time and parent child interaction and parental engagement in balancing language rich activities.

4.7.1. Screen time usage in children

This theme focused on child frequency of screen time per day and the child's typical daily screen time routine. All the parents (**P1, P2, P3, P4, P5**) reported that their children had previously engaged in excessive screen time, often more than 6 hours per day or until the device's battery died. Several parents (**P1, P3, P4**) shared that their children would only wake up in the morning if screens were immediately available, and they would remain glued to the device all day if the parents did not actively take it away or turn off the TV. As **P1** explained, "My child only wakes up in the morning when we open 'Baby Bus` and will stay all day watching different YouTube English stories until the battery dies or we take the phone away forcefully. As parents, we were only focusing on our work and keeping my child busy while we worked from home."

Similarly, **P3** noted that "My child doesn't eat food if there's no screen, so both my husband and I were busy at work. And my child stays at home with the nanny, so as a backup, if the power goes out, we make sure to charge the tablet and have English stories available."

All five parents shared that their children's daily screen routine was the most important thing, and the only time their children would stop watching screens was when they fell asleep, when the power went out (**P2, P4, P5**), or when the battery died (**P1, P2, P4, P5**).

4.7.2. Parental perspective in language development associated with screen time and parent child interaction and Factors Associate

These themes include parental observation of relationships and the impacts of screen time duration and language development, parents' actions to mitigate the impact and parent's perspective on child- parent interactions and speech and language, and any changes in their child language development associated with parent child interaction or screen time.

None of the parents initially knew that excessive screen time was related to negative language outcomes before identifying their child's speech and language delays. As **P1** explained, "Previously, I didn't know that it had a relation with language development. What I was thinking was that it was a kind of source of knowledge and a way to relieve us (mother and father) because we had to work from home. But now I understand it has a big relation and an impact on language development because my child's mother tongue language becomes English. Secondly, my child has many English words but can't communicate with others as well as children of the same age."

Similarly, **P5** shared, "I didn't know they had a relation; my focus was on making my child busy or to make my child sit while I was busy doing housework and raising a months-old baby. But now I am observing the impact of excessive screen time because my child's first language is English, and there is no one at home who speaks English. My child learns this from watching screens."

All the parents (**P1, P2, P3, P4, P5**) explained that after observing changes in their children's speech and language development, they implemented strategies to manage screen time and content. They decreased the frequency of screen time their children engaged in per day. The parents also believe that child-parent interactions are connected to their children's language development and they have seen changes associated with parent-child interaction and screen time. They all believe in managing and decreasing screen time, rather than eliminating it entirely, and that viewing with parents can improve language development. As **P1** shared, "One time, we made a trend of watching screens together with our child by setting a timer and talking about what we saw on the screens, and we saw a visible change in our child's language development."

But it's so hard to incorporate language-rich activities purposely because it needs more free time to spend with their child, but they will try if they get a chance.

P2 and **P5** said that when we start to increase our interaction with our child, we see changes. They start to copy our words, and when we watch movies together and talk about it afterwards, they really memorize and use the words they saw or that we gave them during the interaction

. **P3** said "I've definitely noticed improvements in my child's language when we make the effort to engage with them more during screen time. They seem to pick up on new vocabulary and start using it themselves after we've talked about what they watched."

All parents explained, most of the time, we see the biggest changes in our child's language when we have more unstructured playtime together on the weekends. That's when we can really focus on talking, singing, and engaging with them in ways that seem to accelerate their vocabulary and communication abilities.

Despite the challenges of busy schedules and limited free time, the parents recognized the significant benefits that came from prioritizing interactive experiences. **P4** "It's not always easy with our busy schedules and lack of free time, but when we can really sit down and interact with our kids while they're using screens or playing, that's when we see the biggest benefits for their language development." Overall, all parents emphasized the importance of creating opportunities for active engagement and joint attention to support their children's language learning.

4.7.3. Parental engagement in balancing language rich activities.

All parents (**P1**, **P2**, **P3**, **P4**, **P5**, and **P6**) shared the same ideas for the language based activities they engaged in with their children in order to improve language development including role playing, singing songs, storytelling **P2**, **P4**, **P5** explained the strategies they use as singing rhymes nursery songs, asking their children about their day and to describe it.

P1 and **P3** said that while daily routine activities we ask our children about what are they doing and we explain about the activity they are doing for example while morning routine like brushing teeth, changing their cloths. **P1** said that "by finding the activities my child like and we ask my child to tell the sequence of the activities." **P1** and **P3** reported they didn't always participate with their child because of work they don't have free time to participate actively. And

all parents explain they can't balance screen time and language rich activities, most of the time there children got language from screens not families. All the parents said they know they have to give time to their children but it's also challenging for them in managing their time

P1 said "doing crafts and describing about it and retelling stories... But it need patience and time and this is the challenge we are having as a parent because it does not go hand to hand with work also we don't have much free time that to spend with our child."

P4 said "most of the time we got home after our child sleeps but sometimes on weekends if we have free times we read stories, doing arts, singing songs."

P5 said "if I got time I make my child to play with other children out side home or inviting them to house but it's not always it is so challenging to manage work and engage in language rich activities."

4.8. Discussion

In this section, the numbers of findings were discussed based on information obtained from the participants through questionnaires' and interviews of parents.

4.8.1. A Role of Screen Time in Speech and Language Development

The results of this study align closely with the existing body of research on the relationship between young children's screen use and their speech and language development. The central finding of a strong positive correlation ($r = 0.779$, $p < 0.01$) between a child's age of starting to use screens and delays in their speech and language skills reinforces the widely-documented negative impacts of early and extensive screen exposure.

As the findings of this study suggest, the earlier a child begins using screens, the more likely they are to experience delays in reaching important developmental milestones in speech and language. This aligns with studies like Christakis et al. (2009), which found that passive television viewing in the absence of adult interaction can reduce vocalizations and parent-child engagement, key components of language development.

The qualitative findings from parent interviews further contextualize these statistical trends, with parents reporting that children who began using screens at younger ages struggled more with

vocabulary, sentence structure, and social communication skills. Many parents noted their children's decreased interest in interactive play and decreased time spent in activities that promote language development, such as reading books or engaging in imaginative play.

This research also highlighted the importance of screen content, rather than just screen time or medium. A significant positive correlation ($r = 0.757$, $p < 0.01$) was found between the specific content of screen activities and language delays, while the type of screen device showed a negligible relationship ($r = -0.020$, $p = 0.909$). This suggests that it is not just the quantity of screen exposure, but also the quality and nature of the content that plays a role in shaping a child's language skills.

This finding extends the work of Christakis et al. (2014), who documented how different television program genres can have varying effects on language development in young children. The current research implies that the specific interactive and cognitive demands of different screen-based activities may be just as, if not more, important than the screen medium itself.

The results of the studies included in the review showed an association between an earlier exposure of children before the age of 3 to television and an increased likelihood of developing a delay in cognitive and motor development and not reaching certain developmental milestones (Massaroni, 2023). This aligns with the findings of the current study, which found a strong positive correlation between earlier screen use and language delays.

Overall, the results of this study, combined with the existing literature, demonstrate a complex and concerning relationship between young children's screen use and their language development. The earlier a child begins using screens, and the specific content they are exposed to all appear to play significant roles in shaping their speech and language outcomes.

4.8.2. The Influence of Screen Time Duration on Speech and Language Development

The findings from the current study demonstrate the complex and variable nature of the relationship between screen time and child language development. Consistent with previous research, the quantitative data shows a very strong negative correlation ($r = 0.935$, $p < 0.01$) between the amount of time children spend using screens and delays in their language development. This aligns with the scoping review which also found negative effects on language skills due to screen time exposure and early onset of screen viewing (Varghese, 2024).

The quantitative data from this study further underscores these findings, 75% of parents and caregivers reported that they believe screen time negatively impacts their child's language abilities. This is in line with the study by (Madigan S. B., 2019), which found that children who engaged in more than 1 hour of daily screen time had significantly lower scores on standardized language assessments compared to their peers with less screen exposure.

Moreover, the current study's qualitative findings revealed that some children were spending an excessive 6 hours or more hours per day on screens; their children would immediately use screens upon waking and even while eating meals. This level of pervasive and intensive screen exposure is likely compounding the negative impacts on language skills observed in the quantitative data. The study by Perdana (2017) supports these findings, as it showed that children who watched television for more than four hours per day had a higher risk of developing delayed language acquisition.

4.8.3. How Child-Parent Interaction Affects Speech and Language Development

This research revealed very strong positive correlations between child speech/language development and parent engagement in one-on-one conversations ($r = 0.871$, $p < 0.01$), as well as the amount of time parents spend with their child. The study found that (47.2%) of parents or caregivers reported engaging in language rich conversation with their child a few days per week and 22.2% reported they engage sometimes, while another 22.2% said they interact with their child multiple times per day. Only 8.3% indicated they engage with their child once a day. On average, the level of parent/caregiver conversation engagement fell between the "few days per week" and "sometimes" categories. But Rowe (2012) suggested that the quantity of child-directed speech was positively associated with vocabulary growth. For every 1-hr increase in the amount of child-directed speech, there was a 0.36-point increase in vocabulary growth per year. This suggests that the more parents talk to their children, the faster those children's vocabularies grow.

The qualitative findings from this research further support these quantitative insights. Parents reported that when they made a conscious effort to engage with their children during screen time, such as by talking about the content, they observed visible improvements in their children's language development. Similarly, the parents noted that unstructured playtime and interactive

experiences, even on busy weekends, allowed for the most significant gains in their children's vocabulary and communication skills.

Christakis, (2004) showed that when children between 2 and 48 months are left alone with the television on or if there is no presence of adult interaction, the television can lead to reduced vocalizations by the children, less interest from the parents with a reduction in their words addressed to the child as well, and consequently, poor shifts in conversation between parents and children. So, parents tended to engage children less when the television is on, and this spills over negatively not only into language development, but also into attention and cognitive delays.

Schwarzer, (2022) Highlighted how a parent– child interaction can help maximize language development. In fact, prolonged screen time may limit children’s opportunities in communication with others, interaction with the environment, and play, leading to hyperactivity and inattention.

These findings highlight the critical role that parent-child interaction plays in supporting children's language development, regardless of the presence of screen time. The strong positive correlations between engagement and language outcomes, as well as the parents' direct accounts of the benefits of interactive experiences, underscore the need for parents and caregivers to prioritize active, responsive, and language-rich interactions with their children.

4.8.4. Parental Perspectives Towards Child-Parent Interaction and Screen Time, and How Do These Factors Influence Speech and Language Development?

This study finds that parental perspectives on screen time exposure and young children's language development as the majority of parents (75%) prospect negative changes in their children's language skills associated with screen time aligns closely with Duch et al. (2013), research that there is significant associations between greater screen time and delays or decreases in children's receptive and expressive language abilities.

Also this study finds that many parents were initially unaware of the potential detrimental impacts of excessive screen time, only becoming aware of the issue after directly observing changes in their children's language, such as delays in the mother tongue or over-reliance on vocabulary learned from digital media. This underscores the critical need for increased education

and awareness among parents and caregivers regarding the importance of limiting screen time and ensuring children have ample opportunities for the responsive, interactive language experiences that are essential for optimal language development, as demonstrated by the work of (Roseberry et al., 2014).

In this study small percentage (5.6%) of parents reported positive changes in the quantitative data may correspond with the qualitative findings, where some parents noted improvements in their children's language when they engaged in joint activities, such as co-viewing and discussing content together.

This study data shows that 75% of parents reported observing positive changes in their children's language abilities after implementing strategies to reduce screen time and increase engaging interactions aligns with research demonstrating the benefits of contingent, responsive language experiences for language development (Roseberry et al., 2014) Conversely, in this study finding that 25% of parents reported no observable change suggests that while increased parent-child interaction is beneficial, other factors may also play a role, as noted in the literature (Linebarger & Vaala, 2010). The detailed qualitative insights from participants provide valuable context, highlighting the specific language-rich activities parents engaged in, such as role-playing, singing songs, storytelling, and describing daily routines - strategies supported by research as effective for promoting language skills (Christakis et al., 2009).

However, the data also reveal the significant challenges parents face in balancing work, household responsibilities, and dedicating the necessary time and patience to these language-focused activities, echoing the broader literature on the difficulties families encounter in limiting screen time and fostering language-rich environments (Duch et al., 2013). So that the findings underscore the complex, relationship between screen time, interactive experiences, and children's language development, and the critical need for comprehensive, family-centered interventions to support parents in navigating this landscape.

CHAPTER FIVE- CONCLUSIONS AND RECOMMENDATION

5.1. Conclusion

The goal of this study was to investigate the relationship between young children's screen use and the development of their speech and language abilities. The detailed correlation analysis has yielded several important insights that advance our understanding of this complex issue.

First and foremost, the data reveals a strong positive correlation between the amount of time children spend using screens and delays in their speech and language development in children who have already be diagnosed with speech and language disorders. This suggests that excessive screen time, regardless of the specific content or device, may be a significant risk factor for the acquisition of critical communication skills. The analysis also found a strong positive correlation between the age at which children begin using screens and their speech/language outcomes. This indicates that earlier exposure to screens may be particularly negative, highlighting the importance of delaying the introduction of screen-based technology in early childhood.

Interestingly, the specific content and activities children engage with on screens also showed a strong positive correlation with poorer speech and language development ($r = 0.757$, $p < 0.01$). This aligns with existing research and highlights the need to consider not just the quantity, but the qualitative aspects of children's screen use.

Crucially, the data also revealed that the amount of one-on-one conversation and interaction between parents/caregivers and the child has a very strong positive correlation with better speech and language outcomes. This emphasizes the critical role of responsive communication, and quality time spent together in supporting healthy communication skills. Conversely, the type of screens used by children displayed a negligible correlation, suggesting the screen medium itself may be less impactful than the content and context of use.

Collectively, these findings highlight the multifaceted nature of the factors influencing early childhood speech and language development. While screen-related variables play a role, the data points to the paramount importance of active human engagement, responsive interaction, and limiting excessive screen time, rather than the specific screen technology itself.

5.2. Recommendation

Based on the results obtained, summary, and conclusions made, the researcher would like to recommend the following:

- **Establish Clear Screen Time Guidelines:** The strong correlation between excessive screen time and delays in speech/language development in children who have already be diagnosed with speech and language disorders. Underscores the need for clear, evidence-based guidelines on appropriate screen use for young children. These guidelines should emphasize limiting total screen time and delaying the introduction of screens until later in childhood.
- **Prioritize Content over Medium:** Rather than solely focusing on "screen time," the research suggests the importance of also considering the specific content and activities children engage with on screens. Guidelines should provide recommendations on high-quality, educational content that can support, rather than hinder, communication skills.
- **Promote Active Human Engagement:** Given the crucial role of parent-child interaction and responsive communication, guidelines should emphasize the importance of prioritizing one-on-one time, reading aloud, and other forms of active engagement between caregivers and children. Strategies to encourage and facilitate this engagement should be a key component.
- **Expand Longitudinal Research:** To further clarify the long-term impacts of screen use on child development, longitudinal studies that track children's screen habits and communication outcomes over time would be invaluable. Also investigate typically developing children and use measures that are more objective than parent report. This could help identify critical windows and shed light on the mechanisms underlying the observed relationships.

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Appendices

Research Consent Form

Title: " The role of Child-Parent Interaction and Screen Time on children Speech and Language Development: A Case of 5 Speech Therapy Clinics, Addis Ababa, Ethiopian "

Researcher(s): Metsihet Girma

Introduction:

You are invited to participate in a research study conducted by Metsihet Girma. The purpose of this study is to investigate the relationship between child-parent interaction, screen time, and the speech and language development of children attending speech therapy clinics in Addis Ababa, Ethiopia.

Study Procedures:

The study will involve recruiting participants from five speech therapy clinics in Addis Ababa, Ethiopia. Data will be collected through questioners, interview, and observation through assessing child-parent interactions, obtaining information about screen time habits. The collected data will be analyzed to examine the relationships between child-parent interaction, screen time, and speech and language development. The study will adhere to ethical guidelines, and the findings will be used to provide recommendations for interventions or strategies to support positive child-parent interaction and manage screen time effectively.

Confidentiality:

All information collected during this study will be treated with strict confidentiality. Your identity will be kept anonymous, and any data collected will be reported in aggregate form without any personally identifiable information.

Voluntary Participation:

Participation in this study is entirely voluntary, and you have the right to withdraw your consent or discontinue participation at any time without penalty or negative consequences. Your decision to participate or not will not affect your relationship with speech therapy clinics

Potential Risks and Benefits:

There are no anticipated risks associated with participating in this research study. However, if any unforeseen risks arise during the study, the researchers will take all necessary measures to ensure your safety and well-being. There may be no direct benefits to you personally from participating in this study; however, your involvement will contribute to advancing scientific knowledge in the field.

Contact Information:

If you have any questions or concerns about the study, you may contact Metsihet Girma at 0931693249 or Email address Metsihetgirma5@gmail.com . Additionally, if you have any concerns about your rights as a research participant, you may contact the speech therapy clinics that your child currently take a therapy.

Consent:

By signing below, I acknowledge that I have read and understood the information provided in this consent form. I have had the opportunity to ask questions and have received satisfactory answers. I voluntarily agree to participate in this research study.

Participant's Name: _____

Participant's Signature: _____

Date: _____

Research questions

Dear Respondents:

My name is Metsihet Girma, I am an MSc student in speech and language therapy at Addis Ababa University. As part of my MSc research project, I am carrying out research on **“The Role of Child-Parent Interaction and Screen Time on Children’s Speech and Language Development : A Case of 5 Speech Therapy Clinic, Addis Ababa Ethiopia”**.

All information collected through this interview will only be used for academic purposes.

Instruction:

Please put an(X) your response. No need to write your name.

Section 1: Demographic Information

1. Participant ID or code : _____
2. Relationship to the Child: Parent Guardian (care giver)
3. Child's Age: _____
4. Child's Gender: _____
5. Occupation: _____
6. Language(s) Spoken at Home: _____
7. Child first language: _____
8. Level of education of parent/guardian: _____
9. Number of people living at home: _____
10. Occupation of parent/guardian: _____

Questionnaire

1. Have you noticed any changes in your child's speech and language skills since they started using screens regularly?

Yes No

2. At what age did your child start using screens?

Less than 2yr 2yr 3yr 4yr 5yr

3. How many hours per day does your child spend using screens (e.g., TV, smartphones, tablets)?

All day 6-9hr 5-4hr 3-1hr less than hr

4. What types of screen activities does your child engage in

Watching videos

Using educational apps

Playing games

5. What types of screen activities does your child engage in?

Tv / laptop or desktop Smart phones / tablets

6. How often do you engage in one-on-one conversations with your child?

Multiple times a day Once a day

A few times a week Rare

7. How many hours do you spend with your child?

All day 4-3hr per day 5 and more than that

8. How important do you believe child-parent interaction is for your child's speech and language development?

Not important at all Somewhat important

Moderately important Very important extremely important

9. How concerned are you about the potential impact of screen time on your child's speech and language skills?

Not concerned at all slightly concerned moderately concerned

Very concerned Extremely concerned

10. Have you noticed any specific changes in your child's speech and language skills associated with child-parent interaction?

Yes, there have been positive changes

Yes, there have been negative changes

No, I haven't noticed any specific changes

11. Have you noticed any specific changes in your child's speech and language skills associated screen time?

Yes, there have been positive changes

Yes, there have been negative changes

No, I haven't noticed any specific changes

Interview

1. Can you describe the typical screen time routine for your child? How is it incorporated into their daily activities?
2. How do you balance screen time with other language-rich activities, such as reading or conversations?
3. Do you believe there are a relationship between screen time duration and your child's speech and language skills?
4. What are your observations or concerns regarding the impact of screen time on your child's speech and language development?
5. What types of language-rich activities do you participate in with your child outside of screen time?
6. Can you provide examples of specific strategies or techniques you use to promote speech and language skills?
7. Can you share your perspective on the importance of child-parent interaction for speech and language development?
8. How do you incorporate language-rich activities and conversations into your interactions with your child?
9. How do you think screen time affects your child's speech and language development, and what strategies do you use to mitigate any potential negative effects?
10. Have you noticed any specific changes in your child's speech and language development associated with child-parent interaction or screen time?
11. Frequency of screen time sessions (e.g., once a day, multiple times a day).

የጥናት ስምምነት ቅጽ

ርዕስ: "በህፃናት እና በወላጆች መካከል ያለው ግንኙነት እና የስክሪን ጊዜ በልጆች የንግግር እና የቋንቋ እድገት ላይ ያለውን ሚና በመገምገም በ 5 የንግግር ህክምና ክሊኒኮች, አዲስ አበባ, ኢትዮጵያ "

ተመራማሪ(ዎች): መፅሄትግርማ

መግቢያ:-

በመፅሔት ግርማ በተዘጋጀው የጥናታዊ ፅሁፍ ላይ እንድትሳተፉ ተጋብዘዋል። የዚህ ጥናት አላማ በልጅ እና ወላጅ መስተጋብር፣ የስክሪን ጊዜ እና በንግግር ህክምና ክሊኒኮች ውስጥ የንግግር ህክምና የሚወስዱ ህፃናት የንግግር እና የቋንቋ እድገት መካከል ያለውን ግንኙነት በአዲስ አበባ፣ ኢትዮጵያ መመርመር ነው።

የጥናት ሂደቶች:-

ጥናቱ በአዲስ አበባ ኢትዮጵያ ከሚገኙ አምስት የንግግር ህክምና ክሊኒኮች ተሳታፊዎችን መቅጠርን ያካትታል። መረጃ በጠያቂዎች፣ በቃለመጠይቅ እና በክትትል አማካኝነት የልጅ እና የወላጅ መስተጋብርን በመገምገም፣ የስክሪን ጊዜ ልማዶች መረጃን በማግኘት ይሰበሰባል። የተሰበሰበው መረጃ በልጅ እና በወላጅ መስተጋብር፣ በስክሪን ጊዜ እና በንግግር እና የቋንቋ እድገት መካከል ያለውን ግንኙነት ለመመርመር ይተነተናል። ጥናቱ የስነምግባር መመሪያዎችን ያከብራል፣ እና ግኝቶቹ ለጣልቃ ገብነት ምክኖችን ለመስጠት ወይም ከልጆች እና ከወላጆች ጋር አወንታዊ መስተጋብርን ለመደገፍ እና የስክሪን ጊዜ በብቃት ለመቆጣጠር ጥቅም ላይ ይውላሉ

ሚስጥራዊነት:-

በዚህ ጥናት ወቅት የሚሰበሰቡት መረጃዎች ሁሉ በጥብቅ ሚስጥራዊነት ይያዛሉ። ማንነትዎ ሳይታወቅ ይቀመጣል፣ እና ማንኛውም የተሰበሰበ መረጃ ያለምንም የግል መለያ መረጃ በድምሩ ሪፖርት ይደረጋል።

በፈቃደኝነት ተሳትፎ:-

በዚህ ጥናት ውስጥ መሳተፍ ሙሉ-በሙሉ በፈቃደኝነት ላይ የተመሰረተ ነው, እና ፈቃድዎን በማንኛውም ጊዜ ያለምንም ቅጣት ወይም አሉታዊ ውጤት የመሰረዝ ወይም ተሳትፎን የማቋረጥ መብት አለዎት. ለመሳተፍ ወይም ላለመሳተፍ ውሳኔዎ ከንግግር ህክምና ክሊኒኮች ጋር ያለዎትን ግንኙነት አይጎዳውም.

ለሆኑ የሚችሉ አደጋዎች እና ጥቅሞች:-

በዚህ የምርመራ ጥናት ውስጥ ከመሳተፍ ጋር የተያያዙ ምንም የሚጠበቁ አደጋዎች የሉም. ይሁን እንጂ በጥናቱ ወቅት ያልተጠበቁ አደጋዎች ከተከሰቱት መራማሪዎቹ የእርስዎን ደህንነት እና ደህንነት ለማረጋገጥ ሁሉንም አስፈላጊ እርምጃዎች ይወስዳሉ. በዚህ ጥናት ውስጥ ከመሳተፍ በግል ለእርስዎ ምንም አይነት ቀጥተኛ ጥቅሞች ላይኖርዎቹ ላል; ሆኖም፣ የእርስዎ ተሳትፎ በዘርፉ ሳይንሳዊ እውቀትን ለማሳደግ አስተዋፅዖ ያደርጋል።

የመገኛ አድራሻ:

ስለ ጥናቱ ማንኛውም አይነት ጥያቄ ወይም ስጋቶች ካሎት መፅሔት ግርማን በስልክ ቁጥር 0931693249 ወይም በኢሜል አድራሻ Metsihetgirma5@gmail.com ማግኘት ይችላሉ። በተጨማሪም፣ እንደ የምርምር ተሳታፊ ስለመብትዎ የሚያሳስብዎት ነገር ካለ፣ ልጅዎ በአሁኑ ጊዜ ህክምና የሚወስድባቸው ንጥጥ ሕክምና ክሊኒኮች ማነጋገር ይችላሉ።

ፈቃድ:-

ከዚህ በታች በመፈረም በዚህ የስምምነት ቅጽ ላይ የቀረበውን መረጃ እንዳይነበብኩ እና እንደተረዳሁ አምናለሁ። ጥያቄዎችን የመጠየቅ እድል አግኝቻለሁ እና አጥጋቢ መልሶች አግኝቻለሁ። በዚህ የምርምር ጥናት ለመሳተፍ በፈቃዴ ተስማምቻለሁ።

የተሳታፊው ስም:- _____

የተሳታፊ ፊርማ: _____

ቀን:- _____

ጥናታዊ ጥያቄዎች

ውድ ምላሽ ሰጪዎች፡-

መፅሔት ግርማ እባላለሁ በአዲስ አበባ ዩኒቨርሲቲ የንግግር እና የቋንቋ ህክምና የማስተርስ ተማሪ ነኝ። የማስተርስ ጥናታዊ የምርምር ፅሁፌ የሚያተኩረው "የልጆች እና የወላጆች መስተጋብር ሚና እና የስክሪን ጊዜ በልጆች ንግግር እና ቋንቋ እድገት በ 5 የንግግር ህክምና ክሊኒክ አዲስ አበባ ኢትዮጵያ" ላይ ጥናት እያካሄድኩ ነው።

በዚህ ቃለመጠይቅ የሚሰበሰቡ ሁሉም መረጃዎች ትምህርታዊ ዓላማዎች ብቻ ጥቅም ላይ ይውላሉ።

መመሪያ፡-

እባክዎ ምላሽዎን (X) በማለት ያስቀምጡ። ስምዎን መጻፍ አያስፈልግም.

ክፍል 1: የግል መረጃ

- 1. የተሳታፊ መታወቂያ ወይም ኮድ _____
- 2. ከልጁ ጋር ያለግንኙነት: ወላጅ _____ አሳዳጊ (ተንከባካቢ) _____
- 3. የልጅዎ እድሜ _____
- 4. የልጅዎ ጾታ _____
- 5. የአሳዳጊ/የወላጅ ሥራ _____
- 6. በቤት ውስጥ የሚነገሩ ቋንቋዎች (ዎች) _____
- 7. የልጅዎ የመጀመሪያ ቋንቋ _____
- 8. የአሳዳጊ/የወላጅ የትምህርት ደረጃ _____
- 9. በቤት ውስጥ የሚኖሩ ሰዎች ቁጥር _____
- 10. የአሳዳጊ/የወላጅነት ሥራ _____

መጠይቅ

1. ልጅዎ ስክሪን መጠቀም ከጀመረ ጀምሮ የንግግር እና የቋንቋ ችሎታው ላይ ለውጥ አስተውለዋል?

አዎ አይ

2. ልጅዎ ስክሪን መጠቀም የጀመረው በስንት ዓመቱ ነው?

ከ 2 አመት በታች 2 አመት 3 አመት 4 አመት 5 አመት

3. ልጅዎ በቀን ስንት ሰዓታት ስክሪን ላይ ያሳልፋል (ለምሳሌ ቲቪ፣ ስማርትፎኖች፣ ታብሌቶች)?

ሙሉቀን 6-9 ሰዓት 5-4 ሰዓት 3-1 ሰዓት ከ 1 ሰዓት በታች

4. ልጅዎ ምን ዓይነት የስክሪኖችን ይጠቀማል

ትምህርታዊ መተግበሪያዎችን (ጊዎች) ጨዋታዎችን በመጫወት የተለያዩ ቪዲዮዎችን

5. ልጅዎ ምን ዓይነት ስክሪን ነው የሚጠቀመው?

ቲቪ ላፕቶፕ ወይም ዴስክቶፕ ስማርትስልኮች ታብሌቶች

6. ከልጅዎ ጋር ምን ያህል ጊዜ አንድ-ለአንድ ውይይት ያደርጋሉ?

በቀን ውስጥ ብዙ ጊዜ በቀን አንድ ጊዜ
በሳምንት ጥቂት ጊዜ አልፎ አልፎ

7. ከልጅዎ ጋር ምን ያህል ሰዓታት ያሳልፋሉ?

ሙሉቀን በቀን 3-4 ሰዓት በቀን 5 እና ከዚያ በላይ

8. የልጅ እና የወላጅ መስተጋብር ለልጅዎ የንግግር እና የቋንቋ እድገት ምን ያህል አስፈላጊ ነው ብለው ያምናሉ?

በፍጹም አስፈላጊ አይደለም በመጠኑ ጠቃሚ ነው
በጣም አስፈላጊ እጅግ በጣም አስፈላጊ

9. የስክሪን ጊዜ በልጅዎ የንግግር እና የቋንቋ ችሎታ ላይ ስላለው ተጽእኖ ምን ያህል ያሳስባሉ?

ምንም ዓይነት ስኬትም በትንሹ ያሳስባል
በጣም ያሳስባል በመጠኑ ያሳስባል

10. በልጅዎ የንግግር እና የቋንቋ ችሎታ ላይ ከልጆች እና ከወላጅ መስተጋብር ወይም ጋር ተያያዙ ልዩ ለውጦችን አስተውለዋል?

አዎን, አዎንታዊ ለውጦች ነበሩ
አዎ, አሉታዊ ለውጦች ነበሩ

አይ፣ ምንም ልዩ ለውጦችን አላስተዋልኩም

11.በልጅዎ የንግግር እና የቋንቋ ችሎታ ላይ ከስክሪን ጊዜ ጋር ተያያዙ ልዩ ለውጦችን አስተውለዋል?

አዎን, አዎንታዊ ለውጦች ነበሩ

አዎ, አሉታዊ ለውጦች ነበሩ

አይ፣ ምንም ልዩ ለውጦችን አላስተዋልኩ

ቃለመጠይቅ

1. ለልጅዎ በቤትዎ ውስጥ የተለመደውን የስክሪን ጊዜ አጠቃቀምን ሊነግሩኝ ይችላሉ? 2.
2. በዕለት ተዕለት እንቅስቃሴያቸው ውስጥ እንዴት ይካተታል? 3.
3. የስክሪን ጊዜን ከሌሎች ቋንቋዎች የበለጸጉ ተግባራት ለምሳሌ እንደማንበብ ወይም ውይይቶች እንዴት እኩል ማስኬ ድይችላሉ?
4. በስክሪን ጊዜ ቆይታ እና በልጅዎ የንግግር እና የቋንቋ ችሎታ መካከል ግንኙነት እንዳለዎት?
5. የስክሪን ጊዜ በልጅዎ የንግግር እና የቋንቋ እድገት ላይ ያለውን ተጽእኖ በተመለከተ የእርስዎ ምልክታዎች ወይም ስጋቶች ምንድን ናቸው?
6. ከስክሪን ጊዜ ውጭ ከልጅዎ ጋር ምን አይነት ቋንቋ የበለጸጉ ተግባራትን ይሳተፋሉ
7. የንግግር እና የቋንቋ ክህሎቶችን ለማራመድ የሚጠቀሙባቸውን ልዩ ስልቶች ወይም ዘዴዎች ምሳሌዎችን ማቅረብ ይችላሉ?
8. ስለልጅ እና ወላጆች መስተጋብር ለንግግር እና ለቋንቋ እድገት አስፈላጊነት ያለዎትን አመለካከት ማጋራት ይችላሉ?
9. በቋንቋ የበለጸጉ እንቅስቃሴዎችን እና ንግግሮችን ከልጅዎ ጋር በሚያደርጉት ግንኙነት ውስጥ እንዴት ይካተታሉ?
10. የስክሪን ጊዜ በልጅዎ የንግግር እና የቋንቋ እድገት ላይ ምን ተጽዕኖ ያሳድራል ብለው ያስባሉ፣ እና ሊከሰቱ የሚችሉ አሉታዊ ተጽእኖዎችን ለመቀነስ ምን አይነት ስልቶችን ይጠቀማሉ?
11. በልጅዎ የንግግር እና የቋንቋ እድገት ላይ ከወላጆች እና ከወላጆች መስተጋብር ወይም ከስክሪን ጊዜ ጋር የተያያዙ ልዩ ለውጦችን አስተውለዋል?
12. በቀን ለስንት ጊዜያት ልጅዎ ስክሪን ላይ ይውላል? (ለምሳሌ, በቀን አንድ ጊዜ, በቀን ብዙ ጊዜ).

