

Saarth

E-Journal of Research

ISSN NO: 2395-339X

“High screen time-A trigger for Social Communication Disorder in Toddlers ? Qualitative Study”

Sini A.O*

Abstract:

The base of building a child's behavior, social skills, and learning is laid during early childhood. This is also the time when neurodevelopmental/behavioral problems should be addressed, as early detection and intervention ensure the best possible medical outcome. There is a tremendous increase in the number of cases of children with neurodevelopmental disorders over the past few years. Common reasons are improved survival rates of preterm babies, lack of emotional / family bonding, and technology addiction in both children and parents. The researcher conducted a semi-structured interview among 5 parents of children with a social communication disorder to analyze the possible linking between the effects of technology among preschoolers. The study aims to elicit parental information which is helpful for emerging themes that could give us a ray of hope to identify the trigger. Detailed thematic analysis of the transcripts of the parental interview to find out the relationship between early high screen time with reference to a social communication disorder. Results of the study explored important themes to understand the bondage between screen time and communication disorder. Hence it is extremely crucial to educate and empower parents about the importance of early detection, intervention, and reducing screen time for efficient management of neurodevelopmental disorders.

Keywords: high screen time, social communication disorder, toddlers, qualitative study

Introduction:

The prevalence of using electronic screen media was high among children below 3 years. Some studies suggest that increased screen time in young children is associated with negative health outcomes such as decreased cognitive ability, impaired language development, mood, and autistic-like behavior including hyperactivity, short attention span, and irritability (Chonchaiya. et.al.2008)

Socialization and the ability to communicate are the two major skills that determine the overall development and success of a child's life. The brain develops rapidly during the first years of life and lays the foundation for learning. The interactions that children have with adults influence how children develop and learn. However, sometimes parents indulge in detrimental habits or techniques which lead to a long-lasting effect on the child. It could be unintentional due to hectic work schedules they follow or technoference among parent's means that everyday interactions were interrupted by mobile or digital devices. The term screen time has been usually referred to in a negative context as the AAP (American Academy Pediatrics) advises parents to limit the screen time for children. The association recommends no screen time until the child is 2 years old and no more than 2 hours a day after that. American Psychiatric Association (APA, 2013), it is unclear whether existing ASD

*Sini A.O

Research Scholar cum Special Educator,
CMR University.

Saarth

E-Journal of Research

ISSN NO: 2395-339X

diagnostic instruments suffice in identifying children who may no longer meet criteria for ASD under the DSM-5 diagnostic guidelines. This is an important question because of similarities between SCD and ASD (APA 2013), the lack of diagnostic instruments specifically for SCD (Van Steensel et al. 2015), and the opinion that some individuals previously diagnosed with ASD under DSM-IV-TR would now meet the criteria for SCD under DSM-5 (Gibson et al. 2013; Norbury 2014; Swineford et al. 2014).

Individuals who have significant difficulties using verbal and nonverbal communication especially in a social situation are called Social communication (pragmatic) disorder (SCD). This is the new diagnosis in the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5). The disorder limits effective communication, social relationships, academic achievement, or occupational performance. Earlier editions of DSM did not mention this condition accurately which would mislead the professionals to categorize this condition under the shadows of a “not otherwise specified” category of Pervasive developmental disorder (PDD).

The amount of time a person spends in front of a “screen”, including TV, computers, I pads, tablets, and video games. Screen time may alter the visual processing skills in infants. An infant is first exposed to visual images at the time of birth. Screen time presents novel images to the developing brain that could alter the courses that could alter visual learning and processing. With this, a still infant sits in front of a fixed screen. The visual activity takes place on a 2-dimensional fixed small plane completely disconnected from both the social and physical world, surrounding the child. For instance, it could interfere with tasks that require infants to scan the 3-dimensional world, such as joint attention, a critical social skill for the child under one (Charman, 2003). Up until the last 50 years, babies and infants were surrounded by other humans and these humans were almost certainly the most interesting thing in the baby’s world and those humans captured their attention. Screen-time presents an alternative world, one full of colors, sounds, music, movement, faces, voices; all things that may be more attractive to some babies and infants than the people in his family. It is clear many infants and toddlers are happily content in front of one screen device or another. Screen-time is thought to be a major distractor from social relationships in older children with ASD and there is no reason to think that this distraction would not start from the time of first exposure of the infant to screen-time (Engelhardt & Mazurek, 2014). Mutual imitation shows mutual attention and is a critical part of human social interactions. Mutual imitation also seems to be part of how we learn to understand the intentions of others (Iacoboni, 2008). Starting from the earliest age, the child and caregiver enjoy the pleasure of reciprocal imitation in vocalization, facial expressions, and eye contact (Meltzoff, 1999). Clearly, there is no mutual imitation possible with a screen device. Whatever is going on the screen is independent of whatever the infant is doing or feeling.

Screen-time cannot offer social interaction. A baby and infant can make all kinds of cute baby sounds and faces that will melt our heart and the screen device does not care and cannot react reciprocally. Learning social interaction requires social interaction. Screen devices are social dead ends for infants and babies.

This study aims to look at the possible triggers for Social Communication Disorder (SCD) with reference to the high screen time among preschoolers between the age group of 1

Saarth

E-Journal of Research

ISSN NO: 2395-339X

year to 3.5 years. Evidence-based experiences help parents to be more aware of the possible risks of high screen time, especially in the early child development stage.

Review of Literature:

There are few western studies, which investigate the connection between screen time and ASD. A research study retrospectively comparing groups of 50 children, with and without ASD (W Chonchaiya. et.al.2011) found that children who developed ASD has started watching television 6 months earlier at 6 months of age and by the age of 12 months were watching twice as much television a day as the children without ASD. The amount of time infants spend in front of these striking images and sounds is usually 1-2 hours a day and many times much more (Mary courage, 2010). The shocking fact is that if we subtract the 16 hours a day for infant sleeping and two more hours for feeding and changing, images coming from screen devices are absorbing much of infants' time being awake.

Activities to foster healthy social, emotional, cognitive, language, and gross motor development in young children are parental-child interactions, hands-on play without screens, reading, and pretend play (American Academy of Pediatrics, 2016; Brown, 2011; Canadian Pediatric Society, 2017; Lerner & Barr, 2014).

A growing body of digital media targets very young children (ages 1 to 5) and more educational apps are created for children under 5 than for any other age group. A summary of existing literature reports that more than 2,000 prior studies have demonstrated that children emulate violence they see on screen and that increases in exposure to violent media lead to increases in violent and destructive behaviors among kids and the content designed for older audiences can increase fear and anxiety in young children. Extensive media exposure before age three has been causally implicated in attention disorders and increases in the amount of time spent with screens are associated with increased risk of obesity, disordered sleep, and other health concerns at all ages (Garrison. et. al 2011). Thus, parents are tasked with determining the uses of screen media they feel are appropriate for their young children and setting boundaries on media consumption with which they are comfortable.

40 years ago, one out of 2500 children born was diagnosed with the Autism spectrum. According to CDC's most recent report published in 2014, the prevalence went up to 30% from their prior study. The prevalence of boys was one child out of 49, with 4-5 times as many boys as girls. Research studies from Sweden, where all children are registered and tracked over time, the prevalence of ASD increased 10 folds in the last 10 years (Sandin, Lichtenstein. et. al 2014).

One-year-olds will predominantly point and vocalize to express their intentions. It's important to interact with your toddler by acknowledging what he's looking at and pointing out other cool things around him. (Maria Kalpiiodu). As a result, early childhood educators have a prime opportunity to provide children with interactions that can support children's growth and development, particularly their language and communication skills.

Early childhood development is important for successful language acquisition. Language development of young children proceeds continuously from birth and 5 years after birth is well-known as a so-called sensitive period that is critical for language acquisition. Especially, infants from 18 to 24 months old experience a "word-learning explosion" in which words increase exponentially and, during this period, sentences combining more than two words appear (Linebarger, Walker, 2005; Berk, 2012). Early language development is

Saarth

E-Journal of Research

ISSN NO: 2395-339X

rooted in the interactions children have with their parents, child care providers, and peers. These early social exchanges both foster developing language skills and provide a vital foundation for children's school readiness and academic achievement (Law, Todd, Clark, et al, 2013).

Statement of the problem: As screen time becomes an integral part of a child's life and hours spending increases affects a child's interaction with people around them and leads to difficulties in major developmental domains such as social and communication skills. This study tries to analyze the possible linking between the effects of high screen time with respect to Social communication disorder among preschoolers.

Research Questions:

1. What type of device, the content of the screen media children consumed, and estimated time of screen exposure?
2. Identify the reasons for screen time among the toddlers who have been diagnosed as children with a social communication disorder?
3. What are the triggers shown by the toddlers while transitioning from screen time?
4. Do you think, screen time at this early age affected his/her social and communication skills? Any recommendations based on your experiences?

Operational Definitions:

High Screen time: The period of time, the child is having exposure to technological devices or gadgets.

Social Communication Disorder: Difficulties in language and participation in reciprocal human relationships especially in social situations.

Toddlers: children attending daycare with an age range of 1 year to 3.5 years.

Qualitative study: denotes the in-depth analysis of the information collected through various means.

Research Methodology:

The researcher conducted semi-structured interviews with 5 parents of children with Social Communication difficulties with a varying age group of one to three years. The interviews were conducted in a face-to-face manner and designed the interview protocol to take 30-45 minutes. The average length of the interview was 38 minutes. Initial interview protocol asked what type of screen media children consumed largely, the type of device they were used, and the estimated time of screen exposure in a day. Then asked questions about how their child's screen time experiences and how does the child reacts usually when screen time is over?, Are there any challenges they experience while transitioning to and from screen time, the reasons explained by the parent to allow the children to watch screen media and their thoughts and suggestions to avoid screen time.

All interviews were transcribed, coded transcripts, and developed the themes. Sample quotations were also noted from the excerpts. The themes emerged as a type of technological device, type of content, transition triggers, parental activity, and suggestions.

Participants of this research study have single children with Social and communication difficulties.

Case 1 is a 3-year-old boy. Parents went to Dubai after his birth and he stayed in Dubai for a duration of 2years. Father is having his own business in Dubai and his mother is a homemaker. Now he returned to India with his mom and stayed in an apartment at

Saarth

E-Journal of Research

ISSN NO: 2395-339X

Trivandrum. Father is still in Dubai. Mother has a history of repeated miscarriages. He is exhibiting behaviors such as temper tantrums, biting behavior, extreme difficulties in social and communication skills, hyperactivity, sensory issues, and poor preschool adjustment.

Case 2 is a 2.9-year-old boy, going to a preschool. He also stayed in the United Kingdom for a period of one year as his father was assigned to a project on deputation. Now the family is back and living in an independent house at Trivandrum. Father's parents were also staying with him. Mother is a homemaker. Difficulties he is facing such as extreme hyperactivity, delayed speech and language skills, and severe delay in social skills.

Case 3 is a 3.2-year-old girl child. Both parents are software engineers and stayed in Nigeria on a project assignment during the child's late infancy period. Now they have returned to India and living in a semi-urban area of Trivandrum. Now the mother is expecting and she is staying with her cousin's family. Difficulties noticed were a poor preschool adjustment, poor reciprocal human relationships, irregular sleeping habits, unusual eating habits, poor sitting tolerance, and repetitive behaviors.

Case 4 is a 3.5-year-old boy attending preschool. Both parents are architects and the mother left her job because of the child's condition. They are staying in an independent villa at Trivandrum. Difficulties noted in the child are extreme difficulties in social and communication skills, stubborn behavior, excessive crying, sensory issues, and hyperactivity.

Case 5 is a 3.2-year-old boy attending preschool. Father is a businessman and mother is a teacher. Both of them were in Libya and last year they relocated to Trivandrum. During his infancy stage till 3 years he was under the support of a caretaker. Difficulties noted are hyperactivity, delay in social and language skills, poor sitting tolerance, and attention deficits.

Results and Discussion:

Parents while interviewed, the study reported that children use screen media mainly to view video content uploaded on YouTube and a few cartoon episodes.

Case	Age	Sex	Time of first exposure of screen media	Time spent viewing per day	Device	Parent-child interaction
1	3	M	9 Months	2.5 hours	I pad, smartphone	No
2	2.9	M	11 months	2.5 hours	I pad, smartphone	Yes, No
3	3.2	F	8 months	3 hours	I pad	No
4	3.5	M	6 months	3.5 hours	I pad	Yes, no
5	3.2	M	9 months	3.5 hours	I pad	No

All parents reported that children were using I pad and two of them also reported the use of smartphones. Two parents reported that interactive apps on rhymes were installed and

Saarth

E-Journal of Research

ISSN NO: 2395-339X

seen by the children. Approximate times spent by the children were 3 hours per day. All the parents were reported that the screen time consumed by their children when they have to complete domestic chores. *"I started giving her screen time because I wanted to cook dinner. I would say 'Let's watch a rhyme,' ...because she could really focus on that and that gives me the time that I need to make dinner."* (Parent of case 3).

It helps the parent to complete the cooking activities at home as they were staying in Nigeria and no one is there to look after the child. *Her major interactions are with me and my husband and sometimes we used to video call our parents in Kerala.* It is very evident that where both parents are working and there is no one to take care of the child. *Sometimes I understand that too much screen time is bad and takes careful effort to transition from screen time. But it demands too much of our time and we tend to give our I pads to get some relief from parental pressure.* The I pads are many users friendly and have advanced features of touch technology. I pads are very interactive and help the child to stay calm and happy. (Hiniker, A. et.al 2016) .

The screen media content children consumed were videos uploaded by youtube, the content was rhymes, songs, Peppa pig videos, Disney cartoons, etc. One child is very fascinated with particularly advertisements. My child repeated certain words used in the cartoon in pronunciation with a foreign accent, "which made us very happy" (Parent of Case 1). However, the child can use only a single word which makes communication a major challenge. "Transition from screen time is also a hurdle, as he will start screaming and beat me continuously"(Parent of case 5). The auto-playing facility of YouTube is a major distraction as before reaching to turn it off, it automatically the next video. On the other hand technology itself helps the transition by turning off the wifi and battery running out. "My child is able to understand if the gadget is running low on battery and he will immediately hand over the Ipad for charging without further issues. However if I ask him to switch off the Ipad, it will be a big commotion between us.

All the parents agreed that the time used by them by completing their domestic chores and hence they were not able to spend much time while children watching screen media. Similar studies pointed to child screen time as an opportunity to accomplish necessary chores, take care of themselves and even take breaks from the demands of parenting (Hiniker, A.et.al.2016)

"The amount of time consumed by each child in this age category is shocking. The first exposure of screen time is also considered to be too early. Due to the extreme weather conditions of the United Kingdom, we were unable to go outside resulting in spending too much time in our apartment. This also leads me to give him gadgets as I considered it as a second hand or relief from parental duty".(Parent of case 2) few recommendations are we tried to limit her as much as possible, because we understand that it's not good for her. "I do not believe technology is completely bad for them, but excessiveness is bad" (parent of case 3). However, kids' screen time has to be carefully measured and screened Antenatal and neonatal counseling to mothers will be a great help to understand the disadvantages to screen media at a younger age. I was unaware of the fact that watching gadgets are too bad for the development of my child. Since we were abroad we miss the advice of our near ones.

Saarth

E-Journal of Research

ISSN NO: 2395-339X

Discussion:

It is very evident that increased screen usage at a young age is highly related to language and social development and could also be a sign of delayed learning abilities at such a young age. Professionals say many children get handed iPads before they turn 1, which is against the clear guidelines of the American Academy of Pediatrics. The study results are also clearly supported the decisions of AAP. The academy recommends limiting screen use to an hour a day for children ages 2 to 5. Similar studies find to help the children focus on the screen media. However, this attention span could not maintain the learning concepts, social situations, and communication skills. Screen time triggers the reward response as it increases the dopamine hormone which makes them feel so good. (Wanderman, 2016)

It does seem like high screen time has a connection with social communication difficulties. It is important to remember that, reducing screen time should be modeled by a whole family as young kids tend to imitate the actions of adults. Further research studies should address the mechanisms of how screen time might alter Neurodevelopment in early child development. These mechanisms of actions show some of the ways screen-time might alter normal social development in susceptible babies and infants. Although many of these parents believe that it is perfectly reasonable to permit their child to indulge in the occasional media experiences. (Alexis.et.al. 2016)

Limitations and Future Work:

Results are drawn from a small sample living in the urban areas of Thiruvananthapuram, Kerala, India. Prior research studies in screen time documented many disparities in screen time practices. However, it suggests the need for future studies to explore the possibilities in a wider population with diverse Indian cultural contexts. The data was only collected from parents and limited to the responses and experiences of parents. Sometimes parents can also alter some important information like the interview protocol to collect the data on a negative perception to permit screen time.

Conclusion: Technology through screen media has become an integral part of children's daily life. Today's children have more access to electronic media than those of any previous generation. Nowadays, 90% of parents report that their children younger than 2 years watch some form of electronic media. Children younger than 2 years watch televised programs 1 to 2 hours/day. 40% of children aged 6 to 23 months watch 2 or more hours/day of media. Some children are exposed to 4 hours or more of televised programs per day. By 3 years, almost one-third of children have a television in their bedroom (AAP, 2011). The major recommendations were maximum avoid television viewing for children under the age of 2 years. We need to take careful measures to avoid the use of media as an electronic babysitter. Promoting direct interactions of parents and other significant caregivers with their children is very important for healthy brain growth and the development of appropriate social, emotional, and cognitive skills. Educate parents about the public health risks of media exposure through workshops and written materials.

Acknowledgments:

I would like to thank Dr. Richard Ross and Dr. Jayanti Narayan for making me understand the nuances of qualitative research. I would also like to thank Dr. Chandrasekhar for his valuable guidance and motivation with this research. I greatly acknowledge the contributions of all the participants. Last but not the least, I extend my sincere gratitude to Dr.

Saarth

E-Journal of Research

ISSN NO: 2395-339X

Divya C Senan for inspiring me with igniting the fire of research in the field of special education.

References:

Bedrosian TA, Nelson RJ. The timing of light exposure affects mood and brain circuits. *Transl Psychiatry*. 2017; 7:e1017. 2.

Chonchaiya W, Pruksananonda C. Television viewing associates with delayed language development. *Acta Paediatr*. 2008; 97:977-982.

CDC Autism and Developmental Monitoring Network Surveillance Year. (2014). Prevalence of Autism Spectrum Disorder Among Children Aged 8 Years- Autism and Developmental Disabilities Monitoring Network, 11 Sites, United States, 2010. *MMWR*, 63(2), 1-22.

Canadian Paediatric Society, Digital Health Task Force, Ottawa, Ontario, Ponti, M., Bélanger, S., Grimes, R., Heard, J., Johnson, M., ... Williams, R. (2017). Screen time and young children: Promoting health and development in a digital world. *Paediatrics & Child Health*, 22(8), 461-468. <https://doi.org/10.1093/pch/pxx123>

Frederick J Zimmerman and Dimitri A Christakis. 2007. Associations between content types of early media exposure and subsequent attentional problems. *Pediatrics* 120, 5, 986-992.

Hiniker, A., Suh, H., Cao, S., & Kientz, J. A. (2016). Screen Time Tantrums: How Families Manage Screen Media Experiences for Toddlers and Preschoolers. In *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems - CHI '16* (pp. 648-660). Santa Clara, California, USA: ACM Press. <https://doi.org/10.1145/2858036.2858278>

Kim, Y. S. (2011). Prevalence of autism spectrum Disorders in a Total Population Sample. *American Journal of Psychiatry*, 168(9), 904-912.

M Waldman, S. N. (2006). Does Television Cause Autism? NBER Working Paper No. 12632.

Mary Courage, M. L. (2010). To watch or not to watch: Infants and toddlers in a brave new electronic world. *Developmental Review*, 30, 101-115.

K Okuma, T Tanimura, K. K. (2007). Television viewing reduced parental utterance and delayed speech development in infants and young children. *Archives Pediatric Adolescent Medicine*, 161(8), 618-619.

Patricia K Kuhl, B. T. (2005). Early Speech Perception and Later Language Development: Implications for the "Critical Period". *Language Learning and Development*, 237-264.

Thompson, J. L., Sebire, S. J., Kesten, J. M., Zahra, J., Edwards, M., Solomon-Moore, E., & Jago, R. (2017). How parents perceive screen viewing in their 5-6-year-old child within the context of their own screen viewing time: a mixed-methods study. *BMC Public Health*, 17. <https://doi.org/10.1186/s12889-017-4394-5>

Norbury, C. F. (2014). Practitioner review: Social (pragmatic) communication disorder conceptualization, evidence, and clinical implications. *Journal of Child Psychology and Psychiatry*, 55(3), 204-216. doi:10.1111/jcpp.12154.

Social communication disorder in diagnostic statistical manual 5 - Google Search. (n.d.). Retrieved November 20, 2018, from https://www.google.com/search?ei=7bPzW8rtKpP9rQGSm4nADA&q=social+communication+disorder+in+diagnostic+statistical+manual+5&oeq=social+communication+disorder+in+diagnostic+statistical+manual+5&gs_l=psyab.3...5483380.5496945..5497704...0.0..0.123.3524.6j27.....0....1.gws-wiz.....0i71j0i13j0i8i7i30j0i13i30.oUC6WiiUXyY

Saarth

E-Journal of Research

ISSN NO: 2395-339X

Swineford, L. B., Thurm, A., Baird, G., Wetherby, A. M., Swedo, S. (2014). Social (pragmatic) communication disorder: A research review of this new DSM-5 diagnostic category. *Journal of Neurodevelopmental Disorders*, 6, 1.

Van Steensel, F. J. A., Bogels, S. M., & de Bruin, E. I. (2015). DSMIV versus DSM-5 autism spectrum disorder and social anxiety disorder in childhood: Similarities and differences. *Journal of Child and Family Studies*, 24(9), 2752–2756. doi:10.1007/s10826-014-0087-2.

S J Rogers, L. V. (2014). Autism Treatment in the First Year of Life: A Pilot Study of Infant Start, a Parent Implemented Intervention for Symptomatic Infants. *J Autism Dev Disord*, 10803-014.

Sandin, S., Lichtenstein, P., & etc. (2014). The Familial Risk of Autism. *JAMA*, 311(17), 1770-1777.

Therese K Gronborg, D. E. (2013). Recurrence of Autism Spectrum Disorders in Full- and Half-Siblings and Trends Over Time. *JAMA Pediatrics*, 167(10), 947-953.

W Chonchaiya, P. N. (2011). Comparison of television viewing between children with autism spectrum disorder and controls. *Acta Paediatrica*, 100, 1033-1037.

Warren Jones, A. K. (2013). Attention to eyes is present but in decline in 2-6-month-old infants later diagnosed with autism. *Nature*, 000, 1-5.