Parent perceptions of screen time use in young children with Autism Spectrum Disorder

by

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ABSTRACT

Screen time (ST) relates to accessing and engaging with electronic media, technology and devices that involves any type of screen. The global advancement and increasing availability of technology, together with the impact of COVID-19 pandemic restrictions on social engagement, appears to have led to a growing presence of ST in the lives of young children with autism spectrum disorder (ASD). Excessive ST has been associated with developmental delays, sleep disturbances, reduced physical activity and other health problems which can have significant negative impacts on the occupational engagement of children with ASD. Despite these concerns, little to no research focussing on ST use by children with ASD, nor of its impacts on their engagement in other occupations, has been conducted in middle-income countries, like South Africa. A qualitative descriptive design, using semi-structured, in-depth interviews with seven purposively selected participants in line with maximum variation, was used to explore and describe parents' perceptions of ST of their children with ASD. The study aimed to promote a better understanding of how and why their children used ST, what the effect of ST was on their children's lives, what strategies their parents used to mediate ST and the impact that the COVID-19 pandemic had on ST use. The information gained will be used to inform intervention guidelines for the management of ST and for optimising its use, for children with ASD. Through a process of thematic analysis, four themes emerged from the data. The theme *Seeking out ST opportunities* described how children used ST in keeping with their interests and how their limited interest in non-ST activities made them seek opportunities for ST. Theme two, *ST, a mixed blessing* confirmed how parents viewed ST to have both benefits and drawbacks for their children and described how they tried to come to terms with ST as it created opposing effects in their children's lives. Theme three *Striving to provide conditional access to ST* found that these parents used a variety of restrictive mediation strategies to manage their child's ST, whilst trying to avoid the stress caused by limiting ST and allowing for its use under certain conditions. The fourth theme *COVID-19 "intensified the whole screen time business"* highlighted how ST became an appealing replacement during the pandemic adding new challenges that parents experienced with managing its use. Overall, these findings acknowledged the challenges and positive contributions that parents of children with ASD experienced because of ST of their children, which were exacerbated during the COVID-19 pandemic. This study supports the need for early childhood interventionists to consider ST as a significant occupation of children with ASD, that requires attention.

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Keywords: Autism Spectrum Disorder, Children, Middle income countries, Parent perspectives, Screen time.

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Definition of terms

Term	Definition
Autism Spectrum Disorder	An impairment of behaviour, social interaction and communication with persistent deficits in social communication and social interaction across multiple contexts and with restricted, repetitive patterns of behaviour, interests, or activities (American Psychiatric Association, 2022).
COVID-19	Also known as the SARS-CoV-2 virus which is a novel coronavirus. It spreads via person-to-person transmission causing large community outbreaks across the globe. Infection affects the human nasopharynx, upper respiratory tract, and lower respiratory tract possibly resulting in pneumonia, respiratory failure and death (Department of Health, 2020).
Excessive screen time	Above average screen time i.e., children under two years spending more than 30 mins per day and for children over 2 years spending two hours or more per day (Mazurek & Wenstrup ,2013)

Screen time	The use of media that includes any technological device with a screen, such as television, computers, smartphones, tablets, and electronic devices. In this study it includes the elements of time spent, functionality and content of screen media (Merriam-Webster Dictionary, n.d; Stiller et al., 2019).
Occupational engagement	Active involvement in meaningful occupations influenced by the environment and context (Black et al., 2019).
Parents	Biological, adoptive, or foster parents (mother and/or father) living with their child.
Perception	The way something is understood, regarded, and experienced (Cambridge Dictionary, n.d). In this study it is related to perceptions of parents regarding their child's screen time.
Young child/children	Children under the age of eight years. This age group has been selected, as it is the focus of early childhood development (ECD) interventions given that this is critical stage to promote development (Department of Social Development, 2015).

Abbreviations and Acronyms

ASD	Autism Spectrum disorder
AWC	Autism Western Cape
CT	Cape Town
DC	Desktop Computer
DSTV	Digital Satellite Television
ECD	Early Childhood Development
e.g.	Example
i.e.	That is
QDR	Qualitative Descriptive Research
SA	South Africa
ST	Screen Time
MIC	Middle Income Countries
OT	Occupational Therapy
UCT	University of Cape Town
UMIC	Upper middle-income countries
USA	United States of America

CHAPTER ONE: INTRODUCTION

1.1 Introduction

This study was informed by an Occupational Therapy (OT) perspective that sought to explore and describe parents perceptions of the occupation of screen time (ST) of their children with autism spectrum disorder (ASD). ASD refers to an impairment of behaviour that includes deficits in social interaction, communication and impulse control along with displays of repetitive and restricted patterns of actions across multiple contexts (American Psychiatric Assocation,2022). ST includes accessing and engaging with electronic media, technology and devices that involves any type of screen. This chapter will introduce the study by outlining the background and context of the study from the researcher's perspective, followed by the purpose, significance, research problem, research question, aims and objectives.

1.2 Background

1.2.1 Situating the researcher and researchers' assumptions

This inquiry stemmed from the researcher's subjective experiences as a mother of a child with special needs and from her work as a clinical Occupational Therapist specialising in promoting the development, learning and play of children with special needs. As a parent, the researcher discovered how ST impacted her own child's development in positive but mostly negative ways. ST became a distraction causing her young child to spend less time in other childhood occupations of play, physical activity and socialisation. The researcher also experienced real parenting challenges such as resistance and severe tantrums from her child when trying to manage ST. However, when the researcher succeeded at moderating ST use, she observed how her daughter's overall learning, development, ability to play, communicate and engage with others improved significantly. The researcher drew from these experiences to inform her clinical practice work with the parents of children diagnosed with ASD to help them manage their children's ST. For some parents, their efforts in moderating ST resulted in significant improvements in their child's occupational engagement. However, other parents found these strategies difficult to implement and were unsuccessful at altering their children's ST habits. The researcher felt compelled to explore why this intervention approach with parents was only partially effective. The researcher was left with uncertainties about the realities of ST in these family's homes, how and why they chose to use ST for their children, their understanding and their perceptions of its impact on their children. In recent months with the advent of the COVID-19 pandemic and the resultant activity restrictions on movement outside the home, social interaction and schooling, the researcher became interested in knowing how the pandemic was impacting on these children's occupation of ST.

1.2.2 Situating the research within OT

The field of OT is concerned with promoting health and wellbeing using occupation, with the

primary goal to enhance participation in the activities of everyday life that people need to, want to, or are expected to do (World Federation of Occupational Therapy, 2013). In this study ST was regarded as one of these activities that children with ASD are occupied by. With the advancement and increasing availability of technology, ST is a growing presence in the lives of children and families, with an escalation in use during the COVID-19 pandemic restrictions. Although research has been focussed on patterns of use of ST of the young ASD population in the Global North (Jones et al., 2017; Slobodin et al., 2019; Stiller & Mößle, 2018), there has been minimal research exploring ST from an OT perspective or within the South African context. This creates a gap in knowledge about how ST as an occupation is being experienced, its problematic use and its beneficial potential for children with ASD and so provided an opportunity for this study to fill.

1.3 Problem statement

The phenomenon of ST in children with ASD is gaining worldwide attention and has been the focus of several systematic and meta-analysis reviews (Jones et al., 2017; Slobodin et al., 2019; Stiller & Mößle, 2018). On average, children with ASD, in North America, Europe and Asia, spend up to three hours more on ST per day than neurotypical children do, far exceeding the recommended American guidelines of between 30 minutes to two hours per day depending on the age group (Mazurek & Wenstrup, 2013). Excessive ST has been associated with speech and language delays, sleep disturbances, sedentary behaviour, reduced physical activity and other health problems which can have significant negative impacts on the occupational engagement of children with ASD (Jones et al., 2017; Martins et al., 2019).

ASD as a lifelong condition, is a growing health concern necessitating targeted early intervention to improve health outcomes and reduce the burden of disease on healthcare systems (Franz et al., 2018). This disorder is increasing in incidence with global prevalence estimated at about two percent of the population even in upper middle-income countries (UMIC) such as SA (Franz et al., 2017; Ruparelia et al., 2016; Zablotsky et al., 2015). Early intervention targeted at under eight- year-olds to address the management of ASD symptoms while the brain is still in its critical stage of development, is key to better health and functional outcomes for children with ASD (Black et al., 2016; Gwynette et al., 2018). Intervention strategies may need to include managing the exposure to ST that children with ASD have in the early years of their lives.

Parents allow their young children with ASD to spend increasing amounts of time on devices with screens, media, and technology (Gwynette et al., 2018; Jones et al., 2017; Stiller & Mößle, 2018). Contributing factors to this increase may be related to these children having tendencies to become fixated on their interests, such as ST, thereby increasing their desire for it. Moreover, parents' experiences of the positive impact of ST, to calm their child's busy behaviour and their beliefs of ST having positive effects on the development of their children with ASD could be

contributing to its excessive use (Gwynette et al., 2018; Jones et al., 2017; Slobodin et al., 2019). In addition, parents' understanding of, and attitudes towards ST may also determine how it is regulated and could help to mediate and manage ST. In middle income countries (MICs)[1] like SA, specialised ASD intervention services are extremely limited (Franz et al., 2017). This creates a need for early childhood intervention, focussed on including parents to address the burden of care on centralised health and education systems. Understanding parental perceptions can contribute to addressing the excessive use of ST by children with ASD (Martins et al., 2019; Nally et al., 2000; Obrusnikova & Miccinello, 2012; Polfuss et al., 2016). Little is known about the concept of ST or parents' perceptions of its effects on their ASD diagnosed children's occupations of play, learning and development in contexts such as Cape Town (CT), SA and thus forms the basis for this research enquiry.

1.4 Significance of the study

This study is context specific in that it focussed on Western Cape as a part of an upper middle-income context of SA, where specialized education and services for ASD, may exist but are often very limited in accessibility (Franz et al., 2018; Pillay et al., 2017). Parental involvement in these contexts can be viewed as a key intervention strategy that addresses the health, educational, social and developmental needs of the growing ASD population (Guler et al., 2018). Therefore, information gained from this study may benefit early childhood development (ECD) practice, providing guidelines for focussing on family centred interventions that includes parental management, advocating for accessible resources for those affected by ASD, and creating education and therapeutic strategies to optimally support children with ASD and their parents to engage in meaningful occupations. In doing so this study may contribute to the achievement of the United Nations Sustainable Development Goals (SDG) 3: Good health and wellbeing for families affected by ASD and SDG 4: Quality Education for the inclusion of persons with disabilities, in the ECD context (Boeren, 2019; Costanza et al., 2016).

1.5 Purpose of the study

This study's focus on the perceptions of parents of children with ASD, aimed to contribute to global research and multidisciplinary practice in relation to the occupation of ST. Moreover, as this study is influenced by an OT perspective, it creates awareness of the occupation of ST and its effect on children and their parents as occupational beings and thus contributes to the profession of OT.

1.6 Research question

What are parents' perceptions of ST of their young children diagnosed with autism spectrum disorder?

[1] Middle Income countries have been classified according to Gross national income (GNI) per capita ratings. Up until 2017, South Africa was classified as lower middle-income country (up to $4.05 GNI per capita). As of 2017 SA's status has improved to an Upper middle-income economy (from $4-$12.5 GNI per capita). Despite this change SA continues to remain one of the most unequal economies in the world with little change to its resources.

1.7 Aim of this study

The aim of this study is to explore parents' perceptions of ST of their children with ASD in communities within CT, SA.

1.8 Objectives of this study

1) To identify and describe parents' understanding of how and why their children use screen-based media.

2) To identify and describe parents' perceptions of the effect of ST on their children's lives.

3) To identify and describe the strategies parents use to manage ST use of their children with ASD.

4) To identify and describe changes in ST, (including time spent, functionality and content) and challenges around using screen-based media for their children during the COVID 19 pandemic.

1.9 Summary

In this chapter, the context of the study has been introduced. The problem statement has been highlighted, the value of such research argued and finally the research question, aims and objectives have been identified. In Chapter two, the existing literature will be reviewed to identify the relationship between ST and ASD, its presence during the current pandemic as well as its relation to parental management. In Chapter three, the theoretical framework will be presented, and the adoption of a qualitative descriptive research approach will be justified. In addition, the broader research design, methods and principles applied to ensure ethical research practice will be discussed. Chapter four will present the findings of the research by framing the data through the four themes that emerged from the study. This will be followed by a comprehensive discussion of each of these themes in relation to the literature, in Chapter five. This will be followed by the conclusion of the study, its recommendations, strengths and limitations will all be presented in the final Chapter six.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter will introduce and discuss the literature reviewed that focussed on gaining information about ST engagement of children with ASD as well as the perceptions of their parents about their children's use of ST both prior to and during the COVID-19 pandemic. The literature review included peer reviewed journal articles from online sources such as CINAHL, EBSCOhost, Google Scholar, PubMed, and Cochrane Library, that were mostly from international contexts due to the limited research about this topic in the local context of the Global South. The review will present the concept of ST in relation to the population of children with ASD, followed by how ST engagement has been documented during the COVID-19 pandemic. The review also focusses on parental management of ST.

2.2 Screen time and its relation to ASD

ST in children has been on the increase in recent years due to the rapid advancement of technology and its escalating availability worldwide (Mazurek & Wenstrup, 2013). ST includes accessing and engaging with electronic media, technology and devices that involves any type of screen. Understanding ST as incorporating three dimensions of use namely, time spent, content and functionality can help to differentiate between its problematic and positive use (Stiller et al., 2019).

While the positive uses of ST have been identified mostly in relation to its content as well as how it's used, namely its functionality (Bleckmann & Mößle, 2014; Stiller et al., 2019), research about these two dimensions of ST is limited and still emerging. The benefits of ST may lie in the way that it is used by children with ASD for entertainment, relaxation, social learning, education and communication (Martins et al., 2019; Mazurek et al., 2012; Obrusnikova & Miccinello, 2012; Stiller & Mößle, 2018). Some studies have highlighted its beneficial role as a means of spending time together as a family through shared or co-viewing experiences and for its function in achieving wellbeing of the entire family affected by ASD (Finke et al., 2015; Krupa et al., 2019). However, these benefits are typically seen when there is a balance between the management of its three dimensions that does not exceed recommended average time usage for children with ASD (Stiller et al., 2019).

ASD is characterised by symptoms including persistent deficits of social skills and communication, interaction, impulse control, ritualistic, repetitive patterns of behaviour and actions, and restricted interests (American Psychiatric Association, 2022). This makes ST especially appealing to children with ASD due to the nature of rapid and sometimes repetitive audio-visual stimulus that it provides, how it reduces the need for social engagement and

communication with others around them (Stiglic & Viner, 2019). This interest in ST was also reported in a study by Larose et al. (2021) in which, parents of young children with ASD reported how screen manipulation and engaging with electronic media was a preferred activity. Considering how children with ASD have the tendency to become fixated in their interests and tend to avoid social interaction and eye contact, this places them at risk of spending excessive amounts of time on screen media at the expense of other childhood occupations and in doing so can make ST problematic.

Excessive use of ST in children has been deemed problematic because of its association with negative health and wellbeing outcomes (Jones et al., 2017). Increasing time spent on screens has resulted in less time being available for and being spent on other activities that are needed for childhood development, resulting in occupational imbalance (Lin et al., 2019). This includes less participation in physical activity, social and communication interactions (Bozoglan & Kumar, 2021; Engelhardt et al., 2013). Furthermore, excessive ST by children with ASD has been associated with an increase in sedentary behaviour, sleep disturbances, language delays, sensory and socio emotional regulation difficulties (Gwynette et al., 2018; Jones et al., 2017; Lin et al., 2019; Must et al., 2015).

Studies done worldwide show that neurotypical children as well as children with ASD are far exceeding the recommended user guidelines related to time spent on screens (Engelhardt et al., 2013; Gwynette et al., 2018; Lin et al., 2019; Mazurek & Wenstrup, 2013; Montes, 2016; Slobodin et al., 2019; Stiglic & Viner, 2019; Stiller & Mößle, 2018). Although there is no consensus in recommended guidelines for ST use in children under eight years of age, a widely accepted view based on the American Academy of Paediatrics guidelines (American Academy of Pediatrics Council On Communications Media, 2016), is that children two years old and under should not receive any ST, whilst older children up to the age of seven years should only receive 30 minutes to a maximum of two hours per day (Stiller et al., 2019). In a systematic review Slobodin et al. (2019) found that children with ASD spend more time on screens and are exposed to it earlier on in childhood when compared to their neurotypical peers. Whilst other studies found equal comparisons between the two groups, with both having high and excessive use of over 3.2 hours of ST per day (Mazurek & Wenstrup, 2013; Montes, 2016). However, none of this evidence considers the impact of the COVID-19 pandemic on ST of children with ASD.

2.3 Screen time in the context of a pandemic

The ST of children with ASD has been affected by the COVID-19 pandemic (Esentürk, 2020). Managing the spread of the contagious novel coronavirus has resulted in many countries globally, including SA, subscribing to the advice of the World Health Organisation to physically self-isolate, exercise social distancing and remain indoors (World Health Organization, 2020). The

resultant restriction on activities has meant that ST has become a significant means of connection, entertainment and learning for many children (Mete Yesil et al., 2021). Although literature on the impact of this pandemic on ST in children with ASD is still emerging, recently published research has highlighted how changes in routines during this time has resulted in increased difficulties for those affected by ASD (Colizzi et al., 2020). In addition, it emphasised how the role of ST schedules has had both positive and negative implications for these parents and children (Esentürk, 2020). A recent study found that over 92% of children with ASD up to the age of 19 years surveyed, reported that engaging with electronic devices was associated with feelings of wellbeing for them during the lockdown and that it helped them cope during this time (Jacques et al., 2021). This contrasted to findings describing how parents felt about their children having had too much access to devices and that it contributed to the parenting stress and negative emotions they experienced at that time (Cardy et al., 2021; Jacques et al., 2021; Kawabe et al., 2020). In addition, recommendations published in the journal Brain Sciences, has emphasised the important role that parents could play in managing ST of their ASD children during the lockdown period of the pandemic (Narzisi, 2020).

2.4 Screen time and parental management

Parent and caregiver insight, knowledge and mediation have been identified as significant factors in the support, advocacy and management of the needs of children with ASD (Burrell & Borrego, 2012; Guler et al., 2018; Hohlfeld et al., 2018). Since children with ASD typically have difficulty with impulse control and self-regulation, they require parental assistance to help them moderate their environments (Ashburner et al., 2014). This is especially important in relation to the management of ST. Furthermore, parental mediation of ST was identified as a key intervention strategy for children with ASD, in a meta-analysis study on media guidance (Mello et al., 2019). The study put emphasis on the role and need for parents to provide restriction, active mediation and co-viewing to manage its effects. Some studies have found that parents who are aware of the risks around too much ST were able to set effective boundaries and provide mediation for their children with ASD (Kuo et al., 2015; Martins et al., 2019; Slobodin et al., 2019; Stiller & Mößle, 2018). In contrast, other studies have found that despite parenting views including both positive and negative beliefs on ST, they still had trouble setting boundaries for its use due to the perceived benefits and enjoyment for the child (Nally et al., 2000; Nikken & Schols, 2015; Polfuss et al., 2016). However, all these studies were conducted in settings outside of SA. In contexts such as in the current study, where limited access and capacity barriers to specialised management of ASD exist due to inadequate resources and resultant long waiting lists for services, parental involvement is seen as an effective way of providing intervention support for these children (Guler et al., 2018).

2.5 Conclusion

The literature reviewed supports the view of how excessive ST of young children with ASD may be placing them at risk of health harms if it is not managed effectively. Studies documenting the real and possible risks of ST use for children with ASD have not been extensively supported by studies exploring parents' perceptions of how and why their children are allowed access to ST. This supports the rationale for the pursuit of this study which intended to gain an understanding of parents' perceptions of ST of their children with ASD and its impact on their engagement in occupations through obtaining specific data about the functionality, content and time spent on ST before and during the COVID-19 pandemic. This information has the potential to inform intervention guidelines for better management of ST and for optimising its use. The following chapter will describe the research design that was informed by the focus of the study that was influenced by this review.

CHAPTER 3: METHODOLOGY

3.1 Introduction

In this chapter, the research process will be described in detail. This chapter also explains the characteristics of the study population as well as the procedures involved in the collection, analysis and interpretation of the data. A description of the strategies used to ensure that trustworthiness was achieved in this study will be followed by a description of the ethical considerations applied throughout this research.

3.2 Research Approach

A qualitative research approach was selected as it offered an interpretative way to discover the lived experiences and subjective perspectives of participants (Neuman, 2011). In this study the focus was on exploring the perceptions of parents as participants to offer a description about their knowledge, attitudes and perceptions about ST of their children with ASD. A qualitative research approach allowed for participants to construct and offer their insights into the complexities of how and why ST was used by their children and what the effects of the COVID-19 pandemic has been on ST.

3.3 Research Design

A qualitative descriptive research design (QDR) was selected for this study as it has the potential to offer a presentation of facts as a comprehensive summary that can help develop and refine emerging interventions in an area that has not adequately or previously been researched (Sandelowski, 2000, 2010). QDR allowed the researcher to describe and interpret data that emerged in a way that stayed closer to its description of the participants' perspectives (Bradshaw et al., 2017). QDR was appropriate in this study as it also contributed to emerging research as little is known about the construct of ST within SA or of how the COVID-19 pandemic has affected its use for children with ASD.

3.4 Characteristics of the study population

3.4.1 Research site

The study was conducted in the city of Cape Town (CT) in the Western Cape Province of SA (Figure 1). In this context ASD intervention services are extremely limited (Franz et al., 2017). The researcher chose the city of CT, her place of work for the past 16 years, where she provided OT services to children and parents in both public and private sectors. Parents of children with ASD as participants were recruited from a variety of socio-economic and culturally diverse locations representative of the CT context in order to provide for different perspectives (Figure 2). Due to the nature of limitations of this minor dissertation being limited

by time and resources, the geographical location was restricted to allow ease of access to participants who were all residing in different socio-economic areas within the greater CT area and where they were accessible to the recruiter body, Autism Western Cape (AWC). AWC is a non-profit organization providing support services, counselling and advocacy for persons affected by ASD. AWC also focusses on connecting families affected by ASD to services, facilities and alternative support (Autism Western Cape, 2019).

Figure 1. left: Map of city of CT showing residential location of participants with red dots

Adapted from (Willemse & Donaldson, 2012)

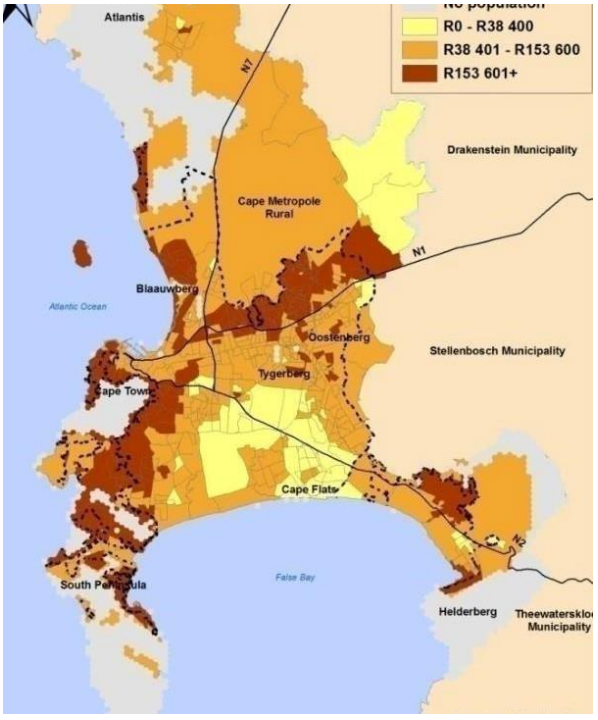

Figure 2.right . Map of city of CT showing socio economic distribution

Adapted from (Willemse & Donaldson, 2012)

3.4.2 Process of recruitment

AWC agreed to recruit participants for this study after an introductory meeting was held with them on 14 October 2020 to discuss the idea and possibility for this research study to be carried out. Formal permission was confirmed via an email sent by the organisations manager on 4 August 2021 once formal approval from the University of Cape Town(UCT) Faculty of Health Sciences Human Research Ethics Committee was obtained (Appendix F). Following receipt of this written approval from AWC (Appendix A), the researcher met with a staff member of AWC to discuss the specific study requirements and to provide guidance in identifying participants receiving services from their organisation, who met the inclusion criteria for this study. AWC then contacted these potential participants to determine their willingness to potentially be approached by the researcher for this study before handing over profile details to the researcher

(see Appendix A1). This questionnaire was sent to the recruiter body to provide potential participants for this study that included selection criteria and potential participant information. Thereafter, the researcher reviewed participant profiles purposively to allow for maximum variance and selected seven participants from the ten profiles that were provided. The researcher then contacted these seven participants telephonically to explain the purpose of the study and to obtain their verbal informed consent. Prior to the first meeting informed consent forms were then signed by participants and returned, either via email or in person before data collection commenced. A mutually convenient meeting time and online/in-person venue of the participants choice was organised for the interviews.

3.4.3 Sampling method

In this study, purposive criterion sampling was used to obtain maximum variance. This method refers to a deliberate selection of participants with the aim to provide for a broad range of data related to the topic of study (Yin, 2015). Maximum variance was achieved by including participants who represented a variety of cultures and socio-economic backgrounds within the many communities in CT (Table 1. Participant demographic details).

3.4.3.1 Inclusion criteria applied

Participants had to be willing to participate in this study and be able to converse in English and or Afrikaans, two predominant languages used in CT in which the researcher is fluent in. Participants for this study were limited to parent/s, i.e., mother and or father of children/child diagnosed with ASD under the age of eight years. This age group was chosen as it represents a critical stage in early childhood whereby interventions can have significant effect on long term developmental outcomes (Department of Social Development, 2015; Koegel et al., 2014) Parents who lived with their children were chosen in this study as the resultant familiarity of living together and sharing daily experiences allowed for informed responses regarding their young child's health and well-being (Aarthun et al., 2018). Participants included single parents where only the mother/father had the responsibility for parenting as well as co-parent/s where both the mother and father were involved in parenting. Participants were given the option for both parents of the child to participate together, where they would have been considered as two separate research participants. However, none of the participants chose this option and only one parent per child participated. Although children were not participating directly in this study, their parent's perceptions of their experiences were reported. The recruiter body, AWC ensured that the participants' child/children were formally diagnosed with ASD by a medical doctor. Parents and children in this study had to have access to technology and devices for ST.

3.4.3.2 Exclusion criteria applied

Parents who declared that their child had not been formally diagnosed with ASD by a medical doctor, or whose children were over the age of eight years were excluded from the study. Participants were excluded if they did not reside in or within ten kilometres of the CT area, due to logistical limitations of this minor dissertation. Unless participants could provide their own translator (who would be reimbursed for travel costs), other languages were excluded on the basis that this was a minor dissertation bounded by time constraints and a limited budget. Participants were also excluded if they were actively participating in any current research studies related to their children with ASD in order to limit the burden of research on them. Other caregivers such as grandparents or relatives of the child were excluded from the study due to the focus being primarily on aspects related to parenting dynamics .

3.4.3.3 Sample

The study sample included a selection of seven parents who had a child under the age of eight years, diagnosed with ASD. This number has been selected as Guest et al. (2006) found that data saturation and meta theme development can be achieved by six interviews. Table 1 below represents the demographics details of the participants who were included in this study.

Table 1. Participant demographic details

Participant	Anna	Fran	Beth	Molly	Tumi	Cynthia	Ezra
Geographical location (see Figure 1)	Blouberg	Grassy Park	Eesterivier	Mitchell's Plain	Milnerton	Durbanville	Mitchell's Plain
Ethnicity	Indian	Coloured	Zulu	Coloured	Xhosa	White Afrikaans	Zimbabwean foreign national
Participant in this study	Mother	Mother	Mother	Mother	Mother	Mother	Father
Occupation of participant	Part time teacher	Stay at home mother	Nurse	Student	Stay at home mother	Part time works from home	Full time employed sales
Age of child with ASD	5 years	4 years 6 months	7 years 1 month	7 years 11 months	6 years	6 years 7 months	2 years 10 months
Sex of child	Male	Male	Male	Female	Male	Male	Female
Age of other children	8 years	11 years & 7 years	16 years	4 years	8 years	17 years	none
Lives with	Husband & children	Husband, children & mother-in-law	Boyfriend & children	Husband & children	Child only	Husband & children	Wife & child

Who is Involved with caring for the child	Both parents	Both parents but mostly mother	Both parents, older sibling & neighbour	Both parents	Mother & mothers' sister	Both parents, 2 domestic workers, maternal & paternal grand parents	Both parents

3.5 Research Procedure

3.5.1 Data collection

Prior to the start of data collection, a pilot review of the interview guide, informed by previous literature on ST was conducted. The interview was formulated to include both introductory questions that drew information about the participants' context and background, as well as study specific questions that focussed on eliciting information related to the research aims and objectives (Appendix D). A parent who met the inclusion criteria was identified by a colleague of the researcher at her place of employment (not involved in this research study). This person, a parent of a four-year-old child with ASD attending a special needs school, reviewed the interview guide and provided feedback on whether the concepts and questions asked were understandable. As this was not an interview however, the comments from the feedback were used to refine the interview guide by including further questions in the formal data collection interview in order to elicit more information about what was being asked. For example, the question "How does your child engage and interact with others in your family?" was added after it was found that the original question "How does your child communicate with you?" required more probing. Data obtained from this process was not included in the study.

Data for the study was gathered from seven parents through individual in person, and online virtual meetings, with the researcher, using in-depth semi-structured interviewing over a period of two months. This method was selected as it comprised of a series of predetermined, open-ended questions that elicited detailed descriptions of data in order to meet the studies objectives but also permitted parents to raise and extend on other matters related to their child. The interview guide also allowed the researcher to guide the direction of the interviews to ensure a focus on the research question, aim and objectives (Ayres, 2012). The researcher used qualitative probing techniques such as questions for immediate and retrospective clarification and elaboration to further explore participant responses (Given, 2008).

Each parent participated in one 90-minute interview for data collection (Figure 3). Upon completion of the interview the researcher reviewed the transcripts of all the participants. It was then established that data saturation was reached after these initial seven interviews as no new

ideas were emerging. The researcher also kept a personal notebook/journal to record field notes that could be used as data, that included points of significance brought up during the interviewing process, as well as her reflections on these points. Participants were sent text versions of their transcripts via email to review for accuracy. Thereafter the researcher contacted participants telephonically and via email to do member checking. The time interval between the main interview and member checking contact was over three months. Each member checking interview commenced with confirming the accuracy of the transcripts and presenting the researcher's analysis of the data to date. This allowed the researcher the opportunity to engage with the participants, verify data, gain further clarification and terminate the research process. There were no changes made to any of the transcripts and data as all participants confirmed the accuracy thereof.

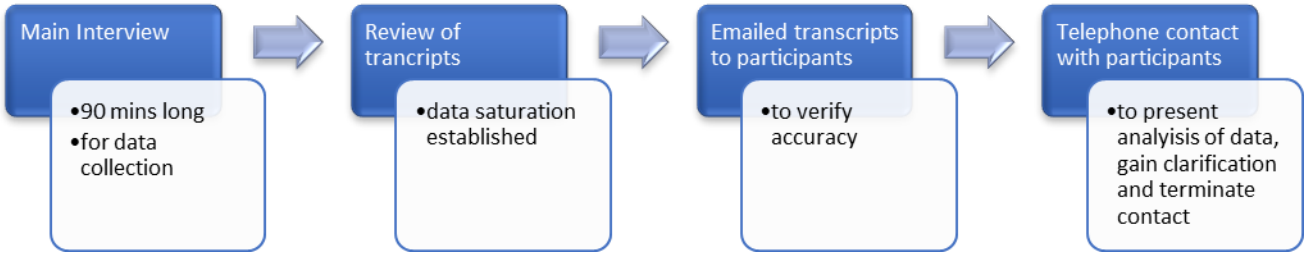

Figure 3 Data collection process

3.5.2 Data safety and monitoring

All face-to-face interviews were audio recorded on the researcher's password protected smartphone and a backup audio recorder on her password protected laptop. All online interviews were recorded using password protection on the Zoom app. These recordings were uploaded immediately post-interview, to the researcher's laptop and to password protected storage on a VULA project site and then deleted from the researcher's smartphone. VULA is the University of Cape Town's online collaboration and learning system which can be used to store data. Participants' and their children's names were replaced with pseudonyms to ensure confidentiality. All data will be deleted after a period of five years in line with UCTs data management policy (University of Cape Town Research Office, 2018).

3.5.3 Data Analysis

The data captured was transcribed by the researcher using password encrypted, transcription software called Descript© (Descript, 2021), to convert audio recordings into text. This was done within seven days after each interview, to allow for review of the data and to closely monitor if data saturation had occurred. Accuracy of transcripts were verified by the researcher who listened to the audio recordings whilst reading them. The researcher studied the transcriptions closely to become familiar with the content. Thereafter, thematic analysis, an iterative process of coding the data was applied in this study (Vaismoradi et al., 2013). Transcribed interviews were then coded using nVivo12 (a qualitative data analysis software program) and then assimilated into categories to identify main themes. Potential themes were identified. The researcher used the four phases; initialization, construction, rectification, and finalization as defined by Vaismoradi and Snelgrove (2019), to be applied to QDR in the thematic analysis process. During the *initialization* phase the researcher read transcriptions and highlighted units of meaning, began coding, looking for abstractions in participants' accounts; and wrote reflective notes. This was followed by the *construction* phase which involved an iterative process between the researcher and her supervisors of classifying data into similar types of categories; comparing; labelling and sorting into piles; defining & describing themes. As data analysis neared completion, the process of *rectification* began. Data analysed by the researcher was reviewed in consultation with both research supervisors. The researcher then contacted participants to review the data and to do member checking. This phase also included immersion into the data followed by a period of distancing the researcher from it to ensure objectivity. Thereafter, the process of *finalisation* transpired where the researcher started relating emerging themes to previous literature and developed a descriptive story line by choosing, chronicling, and ordering the findings to report on the data in a coherent way. See Figure 4 for examples.

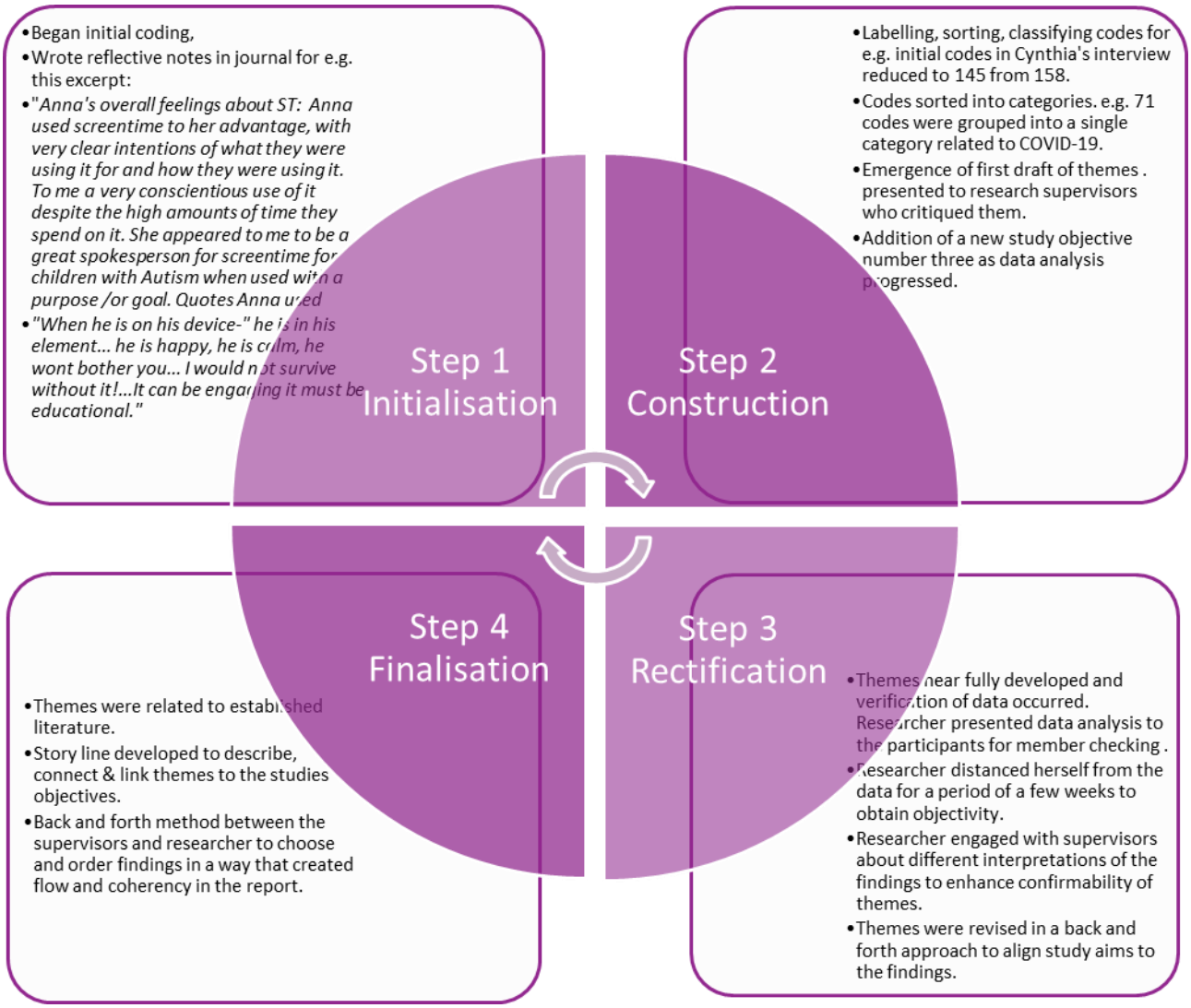

Figure 4. Phases of thematic analysis that were applied in this study with examples.

3.6 Trustworthiness

Research rigor in this qualitative study was attained through the method of trustworthiness. This will be explained through the processes of credibility, dependability, confirmability, transferability and authenticity under their headings below.

3.6.1 Credibility

Credibility refers to the accuracy with which the participants' experiences are reflected in the research process (Allen, 2017; Connelly, 2016; Creswell & Poth, 2016; Ogunbanjo et al., 2014). In this study credibility was achieved by:

1. Using a variety of questions and probing techniques during the interviews to gain clarity and to ensure in-depth, authentic exploration of the data.
2. Peer-debriefing with the researcher's supervisors.
3. Member-checking to ensure accuracy of transcribed interviews and emerging themes during and post interviews.

4. Use of direct quotes from participants in the findings that described their views of ST of their children.

3.6.2 Dependability

This allows for the study to be replicated in such a way that similar findings will be consistently repeated (Allen, 2017). Dependability was achieved by keeping an audit trail that documented any decisions and changes made to the study process as well as all study activities (Appendix D & D1 interview guide).

3.6.3 Confirmability

This refers to how closely related the findings are to the participants responses with the aim to prevent bias of the researcher (Allen, 2017; Connelly, 2016). Confirmability was achieved by:

1. Member checking with participants.
2. Recording and reporting the researcher's thoughts, observations, assumptions and feelings using reflective journaling. The researcher stated her assumptions in the introduction of this thesis. This allowed the researcher to acknowledge her own beliefs and biases in the research process to temporarily defer them in a process known as bracketing (Tufford & Newman, 2012).
3. Taking detailed notes and reviewing findings together with the supervisors.

3.6.4 Transferability

Transferability refers to the way that a study's findings can be applied to other settings similar in nature (Ogunbanjo et al., 2014). In this study transferability was achieved through purposive sampling and providing rich, detailed descriptions of the participants, their contexts, and their multiple viewpoints.

3.6.5 Authenticity

Authenticity refers to ways that the researcher creates a realistic reflection of the multiple viewpoints and the variety of realities that exist in the participants' experiences (Creswell & Poth, 2016; Obrusnikova & Miccinello, 2012). Authenticity was achieved through the maximum variance purposive sampling of parents so that a variety and broad range of perceptions about this study's topic could be represented in the findings.

3.7 Research Ethics

Ethical clearance from UCT Faculty of Health Sciences Human Research Ethics Committee was granted before the commencement of this study (Appendix F). This involved adhering to ethical

considerations as guided by the World Medical Association Declaration of Helsinki Ethical Principles for Medical Research involving Human Subjects (World Medical Association, 2014). The application of these considerations to this study are described below.

3.7.1 Autonomy

Participants were informed about the study using a detailed information letter and voluntary informed consent forms (Appendix B and C). These forms included the purpose of the study, the involvement expected of participants, risks, benefits, alternatives to participation in this study, financial obligations, privacy and confidentiality, process of withdrawal, identification of the researcher and institutional affiliation, and rights of the participants access to study results. All documentation was available in English, Afrikaans and Xhosa. (Appendices B1, B2, C1, C2)

3.7.2 Privacy, Anonymity and Confidentiality

AWC only disclosed profile data of potential participants to the researcher after they obtained their consent to be contacted for participation in the study. AWC did not have access to the final participant selection or their data. All data collected was held by the researcher in confidence. Only the researcher and her supervisors had access to the password protected VULA platform where data was stored. Recordings were labelled by date, location and researcher selected pseudonyms to respect anonymity. The names of the participants' children and other identifying information were not recorded. Each participant was allowed to view their own transcribed interviews. Participants had access to research findings and analysis of data during the research process and on completion of the report.

3.7.3 Beneficence

During the interview process, the researcher identified that some parents required further information, resources and advice for their child with ASD. In these cases, the researcher provided the necessary referrals for support services that parents could access. Furthermore, the study findings could assist parents to identify and acknowledge both beneficial and potentially harmful ST habits of their children. It could provide insight to enhance management strategies of ST and help parents and multi-disciplinary practitioners in the field of ECD to optimally use ST to benefit the child's development.

3.7.4 Non-maleficence

Non-maleficence was achieved by obtaining informed consent from participants prior to data collection. The researcher disclosed her background, role, and own related lived experiences to the participants, during the research process. Parents in this study may have felt that their parenting strategies and competencies were being assessed. The researcher reassured them that

the study was focussed on understanding their perceptions of how and why ST was being used by their children with ASD and did not aim to evaluate or judge their decisions regarding this. When recalling and describing events around ST of their children, some parents relived negative emotions brought up by these memories, leading to emotional distress. The researcher provided containment through displaying empathy in these instances. The researcher also made appropriate referrals to free services at AWC, Lifeline Western Cape and Western Cape Health Department for further support when necessary.

Given the current context, the risk of COVID-19 infection was considered. Wherever possible, virtual meetings were arranged via Zoom. Where this was not possible then all interviews followed strict COVID-19 regulations and the latest lockdown level rules as guided by the Department of Health, SA (Department of Health, 2021). These included the wearing of masks, use of hand sanitizers, social distancing, and completion of a symptom questionnaire (Appendix G) prior to the interview to minimise the risk. There were no COVID-19 symptoms declared by any of the participants or the researcher prior to any of the scheduled face to face interviews. During these interviews, all measures were taken to adhere to social distancing and interviewing was conducted in well-ventilated spaces. In addition, as this study was not site specific, meeting places were arranged in such a way to minimise travel costs for the participants.

Participants did not receive any form of monetary compensation for participation in this study. However, where virtual interviewing was required, participants were offered reimbursement data vouchers of up to R80 per interview. They were also offered up to R80 reimbursement per interview for travel costs for any in person interviews where applicable.

3.8 Emergency care and insurance for research-related injuries

This study was not covered by insurance for research related injury as it does not constitute a clinical intervention study for which insurance would be required.

3.9 End of Study

At the end of the member checking phone contact the researcher terminated contact with the participants and their participation in the study was concluded. Participants were invited to request access to the findings of the data via email. Only one participant requested it at the time of this report. A summary of the research findings will be presented to AWC on completion and will be sent to relevant OT and Autism journals for publication.

3.10 Conflicts of interest

There were no conflicts of interest in this study.

3.11 Summary

This chapter provided justification for the QDR design applied in this study. It gave a detailed account of the steps involved in recruiting participants, collecting and analysing data, ensuring research rigor was achieved and that ethical consideration was attended to. The next chapter will present the findings.

CHAPTER 4: FINDINGS

4.1 Introduction

In this chapter the researcher presents her analysis of the interview data which aimed to capture the participants' perspectives of the ST of their child with ASD. Four themes and their linked categories related to the study objectives were generated from the findings and are presented in Table 2. Each of the themes will be described in depth below.

Table 2 Themes and Categories

THEME	CATEGORY
Theme 1: Seeking out ST opportunities	• Child's ST preferences and patterns of use • Limited interest in non-ST activities
Theme 2: ST, a mixed blessing	• Benefits of ST • Drawbacks of ST
Theme 3: Striving to provide conditional access to ST	• Content monitoring • Setting Limits
Theme 4: COVID-19 "intensified the whole screen time business"	• ST as an appealing replacement • New challenges in managing ST

4.2 Theme 1: Seeking out ST opportunities

This theme presents parents' perspectives of the nature of their child's engagement with ST i.e., their ST use. Parents considered their children to be persistent in their attempts to seek out opportunities to engage with ST. Their children showed a preference for a wide variety of ST devices and ST content and had limited interest in occupations other than ST.

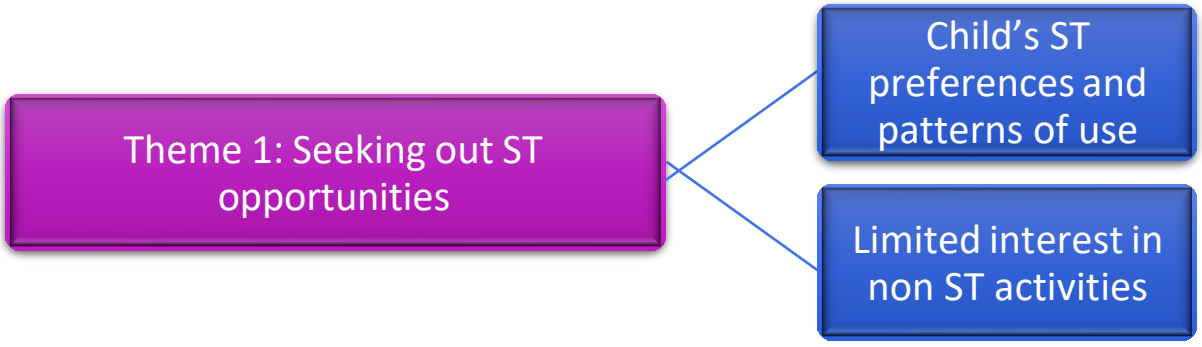

Figure 5. Theme 1 and categories

4.2.1 Child's ST preferences and patterns of use

This category presents the child's preferences for ST and patterns of how ST was used as reported by their parents. The analysis revealed the amount of time spent by children engaging in ST, the devices used, and the content accessed.

4.2.1.1 Extended periods of ST engagement

While the time spent engaging in ST varied, most children were reported to spend more than four hours per day using their ST devices.

Cynthia, Fran and Molly each estimated their child's ST engagement to be between four to six hours per day.

> *It's probably, it's probably four to eight. Um, not so much of him sitting and watching, but it (ST device) must be there playing a song or something.*
>
> *(Interview Fran)*

> *I say about six hours of that you know,*
>
> *Researcher: six hours a day?*
>
> *Cynthia: five to six he will watch it.*
>
> *(Interview Cynthia)*

> *Four to eight hours that's quite a lot different on weekends. ok on weekends. I give a little bit more because then she's done all the schoolwork and stuff like that.*
>
> *(Interview Molly)*

Anna and Beth both estimated their sons' ST engagement at around eight hours or more per day especially during the pandemic lockdown.

> *It's way more.*
>
> *Researcher: Then four to eight hours?*
>
> *Beth: Maybe more than eight hours because (it's) when he is not doing anything else.*
>
> *(Interview Beth)*

> *I think, and, and it's also like the TV*(Television) *is on 24 hours a day, in my house it only goes off when we are sleeping.*
>
> *(Interview Anna)*

Ezra estimated that his child spent no more than two hours per day engaged in ST even on weekends.

We only give her about two hours per day.

(Interview Ezra)

Whilst Tumi reported her son spent up to four hours per weekday and similar to that on weekends.

It can be two. Yes. Two, two to four hours. Not more than that.

(Interview Tumi)

4.2.1.2 Accessible and mobile ST devices preferred

Most families shared their devices with their child. Only two of the children had their own devices, a tablet, or a smartphone. For two families, sharing became a challenge as the child's increasing time on the device started impacting on the family's use of it. Devices for the child were then purchased out of a need for these parents to reclaim their own device use.

If you can see my phone is cracked because he's always fighting about my phone. So, I decided to buy him his tablet for games, because he likes to be with the phone.

(Interview Tumi)

Which is why I tried to save the peace in the house by, uh, you know, you have your own, he'll have his own so he can watch what he wants to watch because the older one doesn't want to watch what he wants to watch. So, you know, save the day.

(Interview Anna)

All parents also had access to and used the family TV set. The TV was either connected to DSTV (Digital Satellite Television) a paid TV service, or to a laptop where online content could be viewed.

Researcher: So out of all those devices, which one does he use the most
Beth: I think it is the TV.

(Interview Beth)

The desktop computer (DC) was only used by two children in this study. Both families did not have laptops available for the child to use. The DC allowed access to software applications (Apps) such as word processing Apps like Microsoft Word, that the children showed interest in but were not available on their tablets or smartphones.

He can write with a keyboard.

Researcher: Okay. So, what kind of things does he type?

Beth: Everything, even his name every day, the TV program, he is just writing, and spelling is on point.

(Interview Beth)

She can read like fluently English and she's reading Afrikaans as well. So, what she does is she works in Word document, and she writes, stories.

(Interview Molly)

Parents described how children used a variety of ST devices to access content from video platforms such as YouTube.

If she prefers or she prefers using mama's phone, I can give her my wife's phone or if she prefers watching over my laptop…
...I subscribe to YouTube kids…
…I've got Showmax that I also subscribe to, and she can watch on the channel for kids.

(Interview Ezra)

Parents reported that devices were favoured if they were easily accessible and could be operated independently by the child. For example, Beth noted that her son could switch on the PC anytime he wanted. Whilst Anna taught her son how to open the laptop and where to access his content from, on his own.

And then he knows how to scroll up and down and to choose which of the TV shows or Netflix or show max or YouTube, the video that he wants. He watches and he is getting his own element. He is happy. He is calm. He won't bother you.

(Interview Anna)

While a variety of ST devices were used, the findings reflected that, accessible and portable devices were preferred. The ST device most used was that of the mother's smartphone which was always accessible to the child when needed or requested.

Say for example, we're driving, and he doesn't have his tablet on or whatever. He will ask for my phone. Then he wants my phone … he will take my phone ... he knows he can take my phone.

(Interview Cynthia)

Researcher: if she had to choose which one would she go for the most? Like, which one did she spend the most amount of time on?
Molly: My phone. *(Interview Molly)*

Where available, laptops were also used as they could be accessed on the go. Portable devices were preferred as they allowed the child to be mobile, taking the device with them to different locations in and outside of the home. This was the case for Fran's child, who needed to have background songs or the audio from his favourite programs playing continuously on the loudest settings even when he wasn't actively viewing them.

> *And then he gets up and he'll run around, but he needs the sound, needs it to be there all the time.*
>
> *(Interview Fran)*

This need for continuous auditory input was also described by Cynthia explaining how her child preferred to use wireless headphones whenever he used mobile devices. She reported that headphones were also a source of comfort for him. Furthermore, they provided a solution that allowed the child access to ST without the sound disturbing other family members.

> *We realized, okay, he needs stuff covering his ears…*
>
> *… The earphones. Um, He wants it on, but he will now go and do whatever he needs to do or kind of, you know, draw on, do play with clay or all that, but he's got it on and he's listening.*
>
> *(Interview Cynthia)*

4.2.1.3 ST content sought aligned with specific interests of the child

Content accessed by the child was extremely specific to their interests. For example, Cynthia noticed how her child's love for dinosaurs translated into the choice of videos that he preferred to watch on YouTube, choosing Godzilla and other shows about Dinosaurs.

> *He loves dinosaurs. So, uh, actually, yesterday I was in the toy shop and then he was telling me about this one and this one, I thought he's just making this up... I really thought it was imaginary dinosaur. And, um, when I showed him the photo, he says, yes, but that's on Netflix.*
>
> *(Interview Cynthia)*

It was discovered that two children viewed the same content based on independent reports from their parents viz: a popular YouTube kids channel called Vlad and Nikki, about two brothers who pretend to play and engage in activities.

> *There is only this one thing that the both of* them *watch. Its Vlad and Nikki or*

something like that; they would watch it. And then when they're done watching them, they will act, it's like two siblings.

(Interview Molly)

Content accessed also differed in type, from animated shows to live action videos. Two parents described how their children did not like animated characters, as they seemed to be bothered by them, for reasons the parents did not describe. Their children preferred watching videos involving actual humans and animals, such as those found on YouTube.

It's not animated, and it involves actual humans, but it is, uh, entertaining and educational at the same time.

(Interview Anna)

You know, these new movies or quite animated and stuff like that, but it's not like kiddy ones, but they're animated, and he runs away. He's scared of it. He doesn't like it.

(Interview Cynthia)

None of the parents reported using any Apps designed specifically for language impairments or for children with ASD, with only two parents reporting that they had heard of their benefits. For example, Tumi reported how she heard that apps assisted with development but admitted that she had not tried them.

Her (friend) *son is seven. So, she's doing those. Uh, educational apps. And, and so I've been asking her, well, what are those things? And so, she was telling me that, uh, educational apps and her son is really, really, uh, getting progress from, from those educational apps. But I haven't seen them or tried.*

(Interview Tumi)

Similarly, many parents reported that their children did not access any apps or games designed specifically for neurotypical children's learning, such as those aimed at teaching numeracy and literacy.

*He doesn't like, sit, sit still for too long. So even if you can open it (*the App*), if he's not, he's not going to be interested, he just wants to do his own thing.*

(Interview Beth)

Anna described that her child only accessed content that was educational in type.

It's only educational stuff. So, like my husband and I won't put it on, a TV show for adults. No, I don't put the news on or any of that, but I do put, uh, the science shows, uh, planets, um, you know, like the planet discovery, planet channel. Yes. Educational stuff.

(Interview Anna)

Four parents' children enjoyed other content in the form of songs and music videos i.e., sing-a-longs specifically for children, as well as mainstream music. Children would repeatedly play the songs and try to sing the lyrics or hum the tune with it.

> *Well, lately, I mean, he's learning these songs and he knows the lyrics and you know, but this is all YouTube.* *(Interview Cynthia)*

> *He copies the whole YouTube video and sings the whole tune, the words. But if you can't hear. There's no articulation in the words, and there are no sounds in the words, but he's singing the songs. And he had learned everything single nursery rhyme from YouTube and all those, those, those, those TV shows, all of those he's learned from this.*
>
> *(Interview Anna)*

4.2.2 Limited interest in non-ST activities

Parents stated that their children showed limited interest in activities that excluded ST and pursued by other children their age such as gross motor play, drawing, colouring in and fantasy play.

4.2.2.1 Limited alternate options

Beth expressed that she was left with little other option then to keep her son occupied with ST.

> *He doesn't like it (toys) so much. he just wants to spend maybe five minutes and then it's gone. He doesn't want anymore!...*
>
> *...it is difficult even if we are busy with something, this is the only way you can make him to sit down and not be noticing, it's to give him the screen.*
>
> *(Interview Beth)*

This was a similar sentiment to Tumi, a single parent, who described how ST was one of the few options that occupied her child.

> *Honestly, because without screening, Jay would be on my case every time, every time nagging me every time. So, it does help a lot. At least he can have his own time with TV. He can have his own time with his tablet.*
>
> *(Interview Tumi)*

Fran explained how her son did not like engaging in other activities that did not include a device. The ST device was a prevalent presence in his life.

> *Because he's not into other things like with the other two (siblings), they can do art all day long. We can paint, but with him it's like the TV or the phone is his best friend.*

(Interview Fran)

4.2.2.2 Little done without device

Cynthia described how her son was willing to participate in his therapy sessions and other activities such as eating together, but only if he had access to his ST device and could wear his headphones.

> *He's um, rolling on the ball. And he's doing these activities with the lady now for his therapy, but uh, he's still got it* (headphones) *on his ears…*
>
> *…He wants it* (headphones and device) *on, but he will now go and do whatever he needs to do or kind of, you know, draw on, do play with clay or all that, but he's got it on and he's listening.*
>
> *...The social part of sitting down and having supper, he wants it, he wants to have his headphones on, and he wants that tablet by him.*
>
> *(Interview Cynthia)*

Similarly, Fran described a situation where the device was used to help her son to cope in a situation so that they could then continue with a family activity.

> *There are times when we go to unfamiliar places, so we went to Cape Town Gardens last weekend or the weekend before. Uh, he wouldn't get off my arm and eventually when we gave him the phone, he was able to cope and get off my arm yeah. Otherwise, he wouldn't.*
>
> *(Interview Fran)*

4.2.2.3 Fleeting engagement with non-ST activities

Parents also shared that despite their child having other interests aside from ST, their attention span for these were limited. Beth explained how her son's attention for other activities such as playing with his pet dog, puzzles and construction toys was only for five minutes at a time before losing interest.

> *Researcher: Does he have anything like puzzles or Building toys.*
> *Beth: He does but he doesn't like it so much. he just wants to spend maybe five minutes and then it's gone. He doesn't want anymore. And then if you're trying to insist, he must play with it, Hai uh and when you try to insist, he must play with it, he's gone!*
>
> *(Interview Beth)*

Beth also went on to explain why she thought her son preferred ST over other activities as it was able to sustain his attention for much longer.

> *That's the only thing that keeps him busy because he doesn't like playing with toys much. He only gets one toy and within a minute, he's bored already, he'll throw it away, if he's not opening the toys, it's just like leaving them anywhere in the house.*
>
> *(Interview Beth)*

Molly expressed similar sentiments about the persistent and prolonged engagement with ST over other toys.

> *The attention span isn't long, but if you give them a device, they would sit the whole day, if you don't manage it, where as a toy they would leave after a while.*
>
> *(Interview Molly)*

Losing interest in other activities was also evident in Fran's case where her son would focus on tasks with her in the kitchen for only a few minutes at a time before he would seek out a ST device.

> *If I'm cutting up something and putting it into the water, the vegetables, he'll take it and put it into the water. Um, unpack the spices sometimes. Um, that's about it.*
>
> *(Interview Fran)*

4.3 Theme 2: Screen time, a mixed blessing

Parents reported the duality of the benefits and drawbacks of ST use on the occupational engagement of their children. Benefits included how ST served as a tool for learning as well as for self-regulation, how ST fostered interactions between parent and child, and how ST provided parents with opportunities for respite and relief. Drawbacks included parental concerns about how ST evoked challenging behaviour, how it increased dependency on screens, how it interfered with family-child interactions and often led to negative feelings felt by the parents.

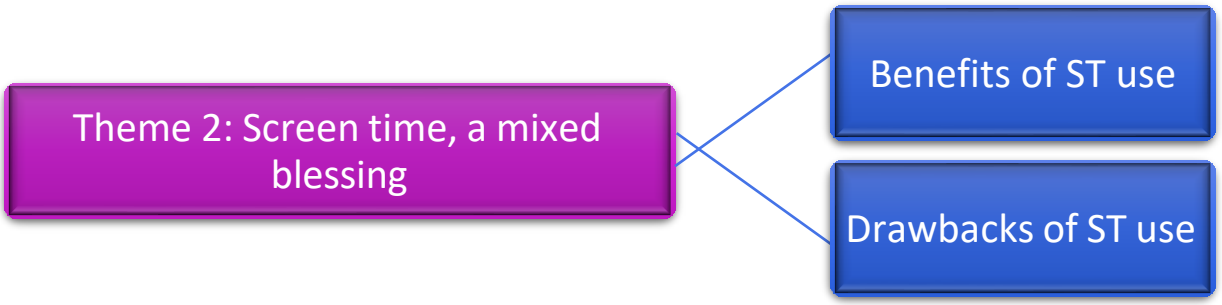

Figure 6. Theme 2 and categories

4.3.1 Benefits of ST

Parents were asked to share how ST was of benefit to their child, their families and themselves. Parents' views of the positive effects of ST on their and their child's lives included how ST supported their child's learning, how it facilitated the parent child interaction, as well as how it contributed to feelings of respite and provided relief for parents.

4.3.1.1 ST, a tool for learning

All parents expressed that ST supported their child's learning. Some participants were intentional in ensuring that ST was an educational engagement for their child.

> *Now in my house, it doesn't work that way. We, we only have. You are only allowed to watch stuff that is going to be of benefit to you. You must be able to come and tell me what that program was about afterwards.*
>
> *(Interview Anna)*

Similarly, Ezra expressed how his child benefited from learning that occurred as a result of curated educational content, for e.g., shows about numeracy and literacy or how-to-make videos etc.

> *She can tell some, some name of, names of pictures that I, even myself as a parent, didn't even know about, uh, because she, she, she, she learns, uh, all those pictures on some of the education videos that I downloaded for her*.
>
> *(Interview Ezra)*

For other parents, the benefits of learning during ST engagement occurred less formally. Parents perceived that the child was inadvertently learning social skills by watching how others interacted and engaged on videos and programs.

He's learning by watching what other people are doing. So, I hope, and I do believe that he's learning the behaviour of what you should do when you play, you know, interact with people because he's watching kids playing, He's watching them, um, communicate. And I do feel that he's learning. He's learning how to do it because I don't tell him: "John, when you play with them, do this, do that." You know, I don't tell him that, but he's watching.

(Interview Cynthia)

All the parents described how their children would mimic the songs, sounds and words from the screen-based content they accessed. For Cynthia, the mimicking of sounds and songs turned into learning for both her and her child.

I mean, he's learning these songs and he knows the lyrics and you know, but this is all YouTube…

… Amazing how he would. Um, he doesn't always remember that the tune of the song, but he will tell me the lyrics of it. And I've actually had to Google the lyrics because I wanted to see what it is, you know? And then I'm like he's right.

(Interview Cynthia)

4.3.1.2 ST for self-regulation

The role of ST for the child's self-regulation was a benefit identified by five of the parents. These parents all described how they viewed ST to be a calming influence for their busy child, assisting the child to relax and sit still.

I think it's, uh, it does relax his mind also because, uh, Jay is a busy child. He's a very busy a child and watching him sitting there, he, he he's so relaxed with his, uh, tablet. So, I think it does relax his mind.

(Interview Tumi)

Fran described that her son used ST to self-regulate when he found social interactions overwhelming.

I, I think in his case, um, it's like he wants to block out. I always said he was allergic to words because every time we spoke to him, He's like, "don't speak to me!" Um, so I think it's, it's his way of just blocking out the social environment.

(Interview Fran)

Anna and Cynthia also recognised how their children used screens to self-regulate when their sensory systems were overloaded.

He will sometimes take, he watches, uh, a show he's sort of paying attention to the show, but he needs to stim at same time. He will spin in front of the TV. Like we don't have a coffee table, so we make sure things out of his way when he's spinning. Okay. And if he watches upside down, I leave him to watch upside down…

…So, so I, I, I suppose it was a way that soothes him. Is that okay? It seems to really relax him.

(Interview Anna)

Cynthia noted how the tablet was a way for her son to replace the effect of the dummy/pacifier that he once used to self soothe.

I think when he gets, when they, things get too much he wants to regulate then. Well, now his tablet, but it's his dummy. Yeah. Always that kind of thing. You know, it calms him.

(Interview Cynthia)

Molly noted that her child did not need to self soothe with her fingers in her mouth as much, when she was busy with ST.

She puts her hands in the mouth. She does that a lot her fingers. She put her thumb and index finger, a lot in her mouth, which she does, when she is just sitting. When she doesn't have anything that that's keeping her busy, for example, screen time.

(Interview Molly)

Parents also reported that ST devices were used to calm the child by providing a distraction from overwhelming experiences such as when going out to new areas or when transitioning to other activities.

There are times when we go to unfamiliar places, so we went to Cape Town Gardens last weekend or the weekend before. Uh, he wouldn't get off my arm. And eventually when we gave him the phone, he was able to cope and get off my arm yeah. Otherwise, he wouldn't. so, it was on loud. *(Interview Fran)*

At least three parents noted that they found it challenging going out with their child with ASD due the hyperactivity of the child. In these cases, ST was used to benefit the child to go out and cope better when they did leave the home.

I always, bring his phone with him because when we get into a new place, the only thing that gets him calm is his cell phone. Otherwise, he would, uh, try to look in each and every

corner in that teeny place and when I know what's going on here? Whose room is this? What's going on? So, he would be busy in that house. So, I, I put, I always bring his, uh, tablet with him so that he can at least be still, even if it's, it's an hour.

(Interview Tumi)

4.3.1.3 Fostering parent-child interaction

Three parents viewed ST as having a positive effect on their engagement with their child. Anna described how co-viewing ST together with her child, created opportunities for them to engage with each other in a calm way making for a mutually enjoyable experience.

I can participate in the videos because he's, it's not, I'm not forcing him to touch his toes. You know what I mean? As opposed to, you know, when we've seen what our head, shoulders, knees, and toes, we do it together and I'm not forcing him and pushing him down. know, you know, to touch his toes, he's, he's watching me, he's watching the show, he's watching the other kids do it…

… doing things with him, but in a calm way that is relaxing for him.

(Interview Anna)

Cynthia noted how it created an opportunity for them to spend more meaningful time together sharing her son's keen interest in kitchen activities.

He watches another, how the kids make food and stuff like that. So, he will tell me the other day, he said, you know," when you make pancakes, step one, you take the flour step two". So, he watches them. He loves kitchen-how-to, yes…

It was do this. Look at that. You know they like show you how to do all these interesting things. And, uh, so he likes that kind of stuff…

…I was never a kitchen person because I'm always working, you know. And now that I'm more at home, there's kind of more time for that. And, um, that is, he's actually getting me in the kitchen. So, it's quite nice because now we're making this or let's make pancakes. And, um, he he's like interacting.

(Interview Cynthia)

For Ezra, co-viewing ST created benefits for the whole family to engage in meaningful activity such as dancing together.

She shows that she's being entertained, like mixed with music videos and even alone. She can dance every time we play music, she dances, we dance together or as, uh, as the whole family. That's what we do.

(Interview Ezra)

4.3.1.4 ST for respite and relief

Parents described how ST was a welcomed mechanism of support in their lives. They expressed how when their child was busy with ST, they were able to attend to and take care of other aspects of their lives.

> *Honestly, it's, it's, it's a relief because at least when he's busy with, uh, that thingy, it gives me time to mind my life because he doesn't give me any time to mind my life.*
>
> *(Interview Tumi)*

Similarly, Anna expressed that her child's ST was a coping mechanism, allowing her to focus on other activities that demanded her attention such as home care.

> *Researcher: And so, would you say that screen time helps you to focus on other things?*
>
> *Anna: I would not survive without it, I wouldn't!*
>
> *(Interview Anna)*

Cynthia voiced how her son's positive experiences linked to ST, validated her feelings that ST was beneficial for her son and helped her feel that him using it so much was justified.

> *I, personally, um, I'm happy with the way it is. I mean if he's happy and he's watching these things and he's learning...*
>
> *... we try and balance it, but some days if he's not having a good day, he will have it the whole day and you know what, he's happy and he's fine and calm, he's calm.*
>
> *(Interview Cynthia)*

4.3.2 Drawbacks of ST

This category presents parents' perceptions about how ST negatively influences the child and family. The perceived negative effects of ST in their child's life included how ST evoked challenging behaviour in the child, increased their dependency on screens, interfered with the family–child interactions, created feelings of worry on the part of the parents, led to feelings of being judged and contributed to social stigma around parenting their child.

4.3.2.1 ST evokes challenging behaviour

Six of the parents noted how having the device switched off or taken away from their child triggered their tantrums and aggressive behaviour. This behaviour ranged in degrees of severity, from crying and screaming to meltdowns and lashing out as a result of the child not wanting to end their ST.

> *If we, if you have, if you take away the phone, when you like in a rush, you know, and you didn't like slowly to prepare him and be kind to him and ask him nicely and you, you*

know, and if you are in a rush or whatever, that is a way he can lose his calmness. He becomes upset and he's not aggressive, but he likes to cry.

(Interview Anna)

Challenging behaviour was often triggered when the device needed to be charged.

When the battery goes flat, he'll bring the phone to us, before he would throw it. But he's now understanding when it's flat, it needs to be charged. Sometimes he'll go by himself, and he'll unplug it even if it's not fully charged…

... he'll sometimes do it, but that's like screaming at the top of his voice. Um, it's now the new thing screaming for everything, and then he'll knock his hands and his feet on the ground, like stop it…

…Um, yeah. And he was also into hitting us lately. He'll even with the other two kids. It's like lashing out.

(Interview Fran)

Cynthia noted that when her child was not able to access ST in the way that he wanted to, it would lead to him becoming agitated.

He will be fidgety if he doesn't have it or, you know, say we're watching TV or something, then he'll be fidgety because he wants, his tablet, that kind of thing.

(Interview Cynthia)

Beth described how sharing devices with the family or viewing programs which were not the choice of the child, mostly resulted in negative behaviour.

So, he likes watching program because he's the one who selected it. Otherwise, if you choose something, he is gona cry sometimes he even hits the tv or whatever if he is not the one who initiated this, so he wants to be his ways …

... then he cries. I'm sure he's thinking' Stay with your program! because you don't want me to get my way! and maybe find something else to do. Yah sometimes he goes and run outside.

(Interview Beth)

4.3.2.2 Increased dependency on screens

Fran and Cynthia described how their children were needing to be connected to a device as soon as they woke up in the morning.

...this week, so for every time he woke up, he went to get the phone.

(Interview Fran)

When he wakes up, he wants it.

(Interview Cynthia)

Fran described how her son depended on the phone for companionship throughout the day.

He's not into other things like with the other two, they can do art all day long. We can paint, but with him it's like the TV or the phone is his best friend. And as long as he has that or he's watching we can get on with life and he's content in a way.

(Interview Fran)

Molly also noted the dependency of her children on ST.

They just want to do it like it's addictive…

…The attention span isn't long, but if you give them a device, they will sit the whole day. If you don't manage it whereas a toy they would leave after a while.

(Interview Molly)

Cynthia explained how she considered her son's need to be on a device, as a way of for him to avoid engaging in other activities.

I think sometimes, um, he would then rather want to be on his tablet than actually do something else …

…You want to take it totally away, then he doesn't want to participate at all.

(Interview Cynthia)

4.3.2.3 Interferes with family and social interaction

Parents described another drawback of ST being how it interfered with engagements between family members and often became a source of conflict within the family. This was evident when Molly described how implementing ST limits resulted in stress for the whole family.

So, it affects my husband. And because we, like, at the end of the day, we are alone. So, we don't have that, help and that. Time away from them. So, it's like, okay, now they gona shout, now they gona cry. And then we end up arguing because I, we don't know what to do. And we clash because like, okay, one parent is like just let them watch? And I'm like, no, that they had enough!

(Interview Molly)

For Fran, the phone seemed to restrict interaction between her and her child.

In the last couple of months. Um, yeah, but then there's very limited interaction, I would say between myself and him.

Researcher: you feel the phone makes that worse? Like the screens make that worse or not really?

Fran: It is that way. The phone is there, like in the way.

(Interview Fran)

Similarly, the device was also a way for her child to evade having to engage with anyone else.

And as soon as people start talking around him, he'll turn the volume up. The volume always has to be the highest.

(Interview Fran)

Screen time also stood in the way of Beth's son's engagement with other children.

He doesn't spend as much time with the other children his age just because he's so glued to the screen, so maybe if there was less of it then he would go play outside to the other kids.

(Interview Beth)

Three parents noted that their children would get so engrossed during ST that it was challenging to engage with them at all. Fran specifically referred to her challenges in gaining the attention of and communicating with her son when he was busy using his device.

He doesn't want to be disturbed when he is on it so we, I feel like I find like I can't even have a conversation with him because he is so glued to the screen So I would like, like, if we can have it in something that we can do together. So, the screen is always there like it's, it's always present and he can't even look at me when he's busy.

(Interview Fran)

In addition, parents expressed how ST seemed to negatively influence their child's social behaviour around others. Parents expressed how their children would take over a device without permission, so that others were not able to access it. Similarly, Beth described how her son became intrusive of others personal space when he spotted them using devices

He just takes it if he sees it (devices) around maybe from the other people we don't know.

Researcher: So, he doesn't use it. You don't give him access to it? but he is noticing it?

Beth: Yeah. If he sees someone else, whose having it. then it's that person who is going to be in trouble because he's not even gona ask, He's just gona go sit on his lap or whatever. And then just take it.

(Interview Beth)

4.3.2.4 Negative feelings

Parents expressed many concerns about the ST use of their children. Beth expressed feeling helpless when she was asked how she felt about her son's use of ST.

I find he's spending too much on screen, but there's no other way. He seems to be working on it. So, there's nothing I can do.

(Interview Beth)

These feelings of helplessness were echoed by Molly who also felt conflicted about her daughters ST.

Like what must I do? I feel overwhelmed! Like, I feel like I also have things that I'm doing and now it's like, because I know, like it's not good for them to be sitting with it all the time. *(Interview Molly)*

Fran felt conflicted between her worries about her son's excessive use of ST and the reprieve that his ST use gave her, to cope with her roles and responsibilities to the rest of her family.

It's basically the only way we can make life a little bit more for the other two kids is so that he is settled with the phone, and we carry on with life, not the ideal situation…

...So now it's like just give him the phone so that we can do this. Um, so it's become a convenience, obviously, right? Not something that I'm proud of.

(Interview Fran)

Parents were concerned about the negative impacts of ST on their child's overall development.

He cannot just pay much attention on the phone, man. He can't do that. He has to learn another thing. He has to learn another thing as much as it gives me a relief, but it, it worries me. *(Interview Tumi)*

If you are not careful, for example, if we were going to give her like, all day watching television it is a dangerous thing because she will grow up on the screen time, rather than doing things on her own. *(Interview Ezra)*

Feeling judged was another negative emotion reported. Parents described how they experienced social judgement from family members, health professionals and other parents related to ST for children.

> *The stigma around it, like you're not supposed to, like I said earlier, you're not supposed to let them do things on the phone and on the screen time, all of that stuff.*
>
> *(Interview Molly)*

These judgements contributed to parents' mixed views of its effects on their child's lives. Anna described how she felt this judgement from her own family who implied how ST was an easy way to parent her child.

> I *think it has a stigma behind it. Everybody thinks, oh, children are at a certain age. They shouldn't be allowed to. There's so much bad stuff out there on the internet…*
>
> *...and then you get the parents that think I'm lazy, you know, I'm too lazy. That is why I just shut my kid up. I, it keeps them quiet. So, I give him a phone I've been told that many, many times I'm lazy. I don't want to teach him.*
>
> *(Interview Anna)*

For Cynthia, this form of social stigma cast feelings of self-doubt over how she managed her son's ST. She questioned if she was doing the right thing by allowing ST for her child.

> *So, option wise with technology. Look, I think maybe I know opposing should maybe take it away more, um, because I always, hear, by granny and my mother he's too much on the thing and, you know, I must take it away and stuff…*
>
> *… that's what he wants. So, I sometimes feel. Am I wrong with having him on it the whole time?* *(Interview Cynthia)*

4.4 Theme 3: Striving to provide conditional access to ST

During the interviews, parents described how they strived to manage the ST use of their children, given their concerns about the possible and observed negative impacts of ST. They endeavoured to provide conditional access to try and limit the excessive use of ST which was often linked to challenging behaviour. The two categories, content monitoring and setting limits, describe the specific strategies the parents used to try and manage ST of their children.

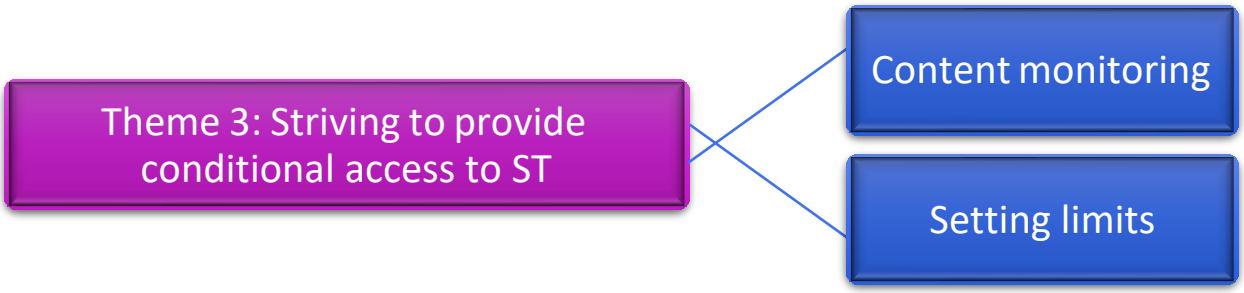

Figure 7. Theme 3 and categories

4.4.1. Content monitoring

Parents took on the role of consciously and deliberately monitoring the content that their child accessed.

> *If you monitor it correctly and you, you block the things that you don't want, your kids and you all, both the phones are linked directly to my husband's email account.*
>
> *(Interview Anna)*

Ezra was very specific about the type of content that his child was allowed to access, limiting it only to educational purposes.

> *We decide what she watches because what we do is we want her to learn something.*
>
> *(Interview Ezra)*

Content and programs were selected and downloaded by several parents so that their child could then have the freedom to choose from a list of curated programs.

> *I don't use streaming online Netflix and YouTube. And then my husband, uh, downloads like, um, sign language, videos, and stuff for him. And so, when I say that, like we leave it on, we leave the TV on. There's always something that is able to educate him on this, even though it's always on.*
>
> *(Interview Anna)*

Cynthia noted that although she was vigilant about her child's ST content it was a growing challenge to monitor the considerable quantity of it from streaming platforms like YouTube.

> *I need to check that he doesn't watch things that he's not supposed to, but I mean, uh, that is a bit more difficult now with a normal YouTube than the kids YouTube.*
>
> *(Interview Cynthia)*

4.4.2 Setting Limits

Setting limits was another strategy used to manage ST. Two parents noted that they used an indirect approach of setting limits by offering gentle encouragement and distraction of other appealing activities to lure the child away and leave the device on their own.

> *He does sometimes go into his own little worlds, you know, when he's there, but then yeah. I say: come let's switch off your tablet, please. quickly go and we'll go outside, or we'll go do something. You know, (Dad) says," come and help me, come, and help me make a fire quickly. We're going to braai" or whatever. And then he's like, okay, he leaves it and let's go.*
>
> *(Interview Cynthia)*

Many parents stated that they only allowed access to ST provided that other activities were also done by the child.

> *No, I'm not just putting it in his hands and leaving it, you know, he must still do what he needs to do. We, you know, and, and, you know, interact with us when it's supper time and he'll tell me, oh, you making dinner, you know, when is dinner?*
>
> *(Interview Cynthia)*

> *I will tell her: You first have to do what you can. like for example, when you come from school I will tell her, okay. You first have to eat, undress you. eat and then, um, then you first have to do your homework work if there's any homework and then only. So, I would see that as a way of managing it (ST), and then I will tell her like, until three, until four to go play (Using ST).*
>
> *(Interview Molly)*

Some parents also explained how they set limits directly by switching off the devices for their children thereby restricting access.

> *For example, that she wants to watch something, we can determine that no, it's not the right time. Right. Or if we see it fit, we can say no!*
>
> *(Interview Ezra)*

Similarly, five parents used a firmer approach such as implementing a "no phones rule." Where devices were not allowed to be used at all during certain times, for e.g., Sunday outings, mealtimes, near sleep time.

> *Every night at eight, at eight' o clock the phones go away. Everything goes away because my oldest son has to go to bed for school the next day.*

(Interview Anna)

Beth expressed a lack of confidence in her ability to manage ST elsewhere during the day except when she used the child's daily routines to implement the "no phone rule".

> *When he must go to sleep or supper time, he knows that he must switch it off. We are having a meal as a family. so, he must do.* *(Interview Beth)*

Using a direct approach such as the "no phone rule' was challenging for Molly. She described how switching the Wi-Fi off on certain days by not buying data on those days of the month was the only way to limit access to ST whilst avoiding conflict.

> *It's the only way I can manage it really is. for the Wi-Fi to be switched off that's, that's the only way other than that, like the first day, like if we tell her, like, the Wi-Fi is off then she'll like "why is the Wi-Fi off?" but when it comes to, comes to that two that three (days without it) then she only settles. ok its off!*
>
> *(Interview Molly)*

Other ways of managing ST whilst trying to avoid conflict, included telling fibs about devices not being available, access to wi-fi or hiding devices from the child in order to limit usage. These included telling the child that the battery was dead or that data was used up.

> *My middle child will ask "mommy, can I watch on the phone? so, he will have to come downstairs, because the minute he (Child with Autism) sees the phone, he wants the phone.* *(Interview Fran)*

Many parents described how limits were applied by giving time warnings to help the child transition to leave the device or prepare them to switch it off.

> *Because he will say he'll watch his device and when I see it's, okay, it's close to the time (bedtime) I say, listen, one more… (episode). Then last one then…, um, then, it's time that we're going to go to bed and whatever. And then, uh, lately it's just," I'm done now."* *(Interview Cynthia)*

Similarly, Tumi described how preparing her child, providing him with a step-by-step transitional approach to ending ST, led to him being more willing to terminate the use of his device, without undue distress.

> *You cannot just say, put down the phone. It's bedtime, put down the phone. It's bath time, put down the phone. We are going., No, you do not do that. You have to prepare him. Boy, in 10 minutes, putting down the phones, it's going to be bedtime boy in five minutes, putting down the phones and it's going to be bath time. That's how I normally do. And it's worked for me. And now boy, you only have one minute left.*

(Interview Tumi)

Fran adopted a similar preparatory approach, drawing on the bedtime routine to prepare the child to hand over the device willingly.

> *After we brush his teeth and change his nappy, then I'll say, we're going to sleep now. Give me the phone now and he'll hand it to me he understands that.*

(Interview Fran)

4.5 Theme 4: COVID-19 "intensified the whole Screen time business"

This theme, a direct quote from the data, arose from parents' responses to questions asked about what had changed and how they were challenged during COVID-19 pandemic regarding the ST of their children. It captures the impact of the pandemic on ST and is described under the categories ST as an appealing replacement highlighting changes to time and content and new challenges in managing ST.

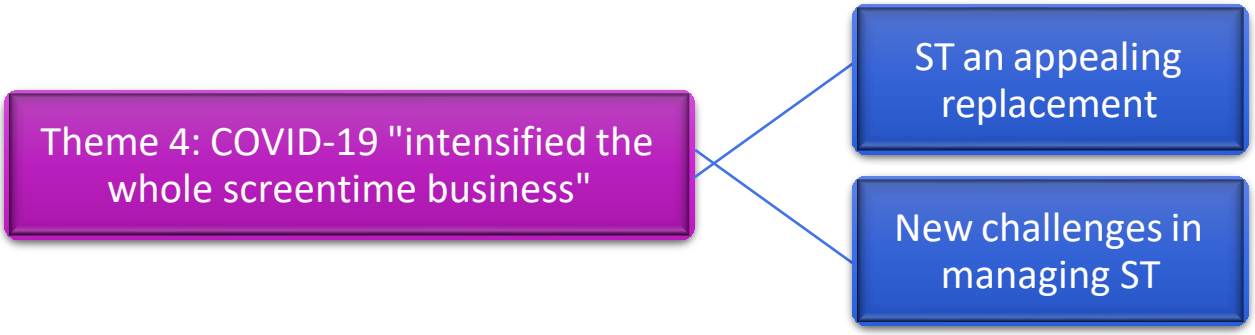

Figure 8. Theme 4 and categories

4.5.1 ST as an appealing replacement

This category describes how the pandemic drove changes and created different challenges in the use of ST.

4.5.1.1 Changes to time and content

When asked about the impact of the lockdown and restrictions caused by the COVID-19 pandemic on their child's ST, parents responded by describing changes in the type of content their children accessed and the time they spent on it.

Three parents noted how the amount of time on screens remained the same despite changes in routines. Ezra described it in terms of how the setting of limits helped to keep it the same for them during this time.

> *As far as I can see no, there was no change in screen, the screen time because then, like eh, I told you earlier on, we have got our own way of our strict routines over screen time.* *(Interview Ezra)*

In contrast, other parents expressed that during COVID-19 lockdown restrictions the resultant limitations of activities outside the home meant that ST greatly increased for their child. It became an appealing replacement to keep their children occupied.

> *I think that that, COVID definitely intensified the whole screen time business, even with the other two, they were watching more movies and, you know," we bored!"*
>
> *(Interview Fran)*

> *There's more screen time now because you hardly go anywhere. So, they're mostly doing things in indoors, so it has changed.* *(Interview Molly)*

For Cynthia, the time on screens was also increased by the demand that online schooling created using the video communications platform, Zoom. Similarly, ST also increased for another parent's child due to the need to access devices, specifically for school learning. During the lockdown, lessons were being sent electronically from the school, where previously they would be sent home already printed out on paper.

> *So, teacher will sometimes like send stuff like passages and stuff so I would let her read from which we can't always print things. I would let her read like her sight words, would be from the phone and stuff, like that didn't happen before COVID. Teachers would print the things and then put it in a bag. And then they had to read it from there so, everything's like from devices nowadays.*
>
> *(Interview Molly)*

For several parents, their child's time on screens increased because it became more readily available when Wi-Fi was installed during the COVID-19 lockdown. This resulted in the introduction of new content on streaming platforms like YouTube causing a greater demand for it from the child.

> *Before it used to just be whatever movies were downloaded its movies, we would just put on anyone. Now that it's because we know there's YouTube. Well, we can now, watch whatever one he wants to.*
>
> *(Interview Fran)*

So, she never used to really watch YouTube before she did, but not because we never had Wi-Fi, so Data is expensive, but now she has more access because of Wi-Fi.

(Interview Molly)

Some parents noted how their children were introduced to video calling as a form of social connection to keep in contact with their relatives during lockdown when restrictions to social contact was severely limited.

Now he used to not pay attention on any, uh, or on he didn't use cameras. He didn't like cameras and everything, but now once the camera flashes and I'm like, here's Granny and he'll run, come in and see Granny and sister. That is a video call. So ever since, uh, we are using video calls and everything. *(Interview Tumi)*

4.5.2 New challenges in managing ST

When parents were asked about their challenges around using screen-based media for their children during the COVID-19 pandemic the following responses were recorded. Cynthia explained her experiences when her child's school had introduced online learning. This was challenging for both her and her child to adjust to, due to the different routine and new demands on attention it created.

We had Zoom. I mean, it was quite intense because now. You know, trying to have to work and then zoom and do all these things. But we did morning ring, like they do in the mornings. Um, good morning, they speak on zoom every morning, but it was quite a mission to get him up and all that. *(Interview Cynthia)*

Several parents described their challenges with limiting ST since the pandemic started. Beth explained how prior to lockdown her child could be kept occupied outside and through socialising with the neighbourhood children. Since the fear of contracting the COVID-19 virus, they were hesitant for him to socialise and restricted him from going outside to play. This resulted in him needing more attention and an increased dependency on ST to occupy him at home.

Researcher: So, if the screens weren't there, what would happen?

Beth: It's quite a mess! He would need a lot of supervision. Yeah. Someone must be with him like 24/7.

(Interview Beth)

4.6 Conclusion

In this chapter the findings of the study were presented as four themes that summarise parents' overall perceptions of ST for their young children diagnosed with ASD. The four objectives were addressed by each of the themes starting with the theme *Seeking out ST opportunities,* which reflected parents' views of how and why ST was used. The two categories described the great

variety of children's preferences and patterns of ST use in keeping with their interests, as well as their limited interest in non-ST activities. The second theme, *ST, a mixed blessing,* captured the parents' perceptions of the effects of ST on their children's lives and summarized their contrasting sentiments about the benefits and drawbacks of ST for their children. The third theme *Striving to provide conditional access to ST,* described how parents endeavoured via the strategies of content monitoring and setting limits, to curb the excessive use of ST due to their perceptions of its potentially negative impact on their child's behaviour. The fourth and final theme, *COVID-19 "intensified the whole screen time business"* captures the impact of the pandemic on ST. During the pandemic, ST became an appealing replacement for other activities and resulted in new challenges in managing it. The next chapter will discuss the findings in relation to the existing knowledge base.

CHAPTER 5 DISCUSSION

5.1 Introduction

This study's intention was to gain a better understanding of the phenomenon of ST of children with ASD in SA from the perspective of their parents. The researcher sought to explore and describe their views on how and why their children use screen-based media, what they understand the effect of ST to be on their children's lives, what strategies they use to manage ST use, and their observations of the changes and challenges on their children's ST during the COVID-19 pandemic. An analysis of the data generated four themes. This chapter discusses each of these themes whilst drawing on existing literature.

5.2 Theme one: Seeking out ST opportunities

This theme highlights how children are seen to be searching for time and opportunities to engage with a wide variety of ST devices and ST content that is in keeping with their interests.

5.2.1 Childs ST preferences and patterns

Parents reported a broad range in the amount of time that their children accessed ST per day. One parent estimated that his child was limited to two hours of ST per day, another parent estimated up to four hours per day, three parents reported between four to six hours whilst two parents estimated more than eight hours of ST per day. In a large study done on 1393 children diagnosed with ASD and 64 163 non-ASD children in the United States of America (USA), it was found that both groups of children spent between three to four hours per day using ST (Montes, 2016). While there appears to be no consensus regarding the amount of ST recommended for children under eight years old, the widely accepted view, based on American guidelines recommends that children up to the age of seven years should only engage for 30 minutes to a maximum of two hours per day (Stiller et al., 2019). No time recommendations for ST during the COVID-19 pandemic lockdown could be located. However, children surveyed in the study by Cardy et al. (2021) found that young children with ASD were spending on average between 6.3 to 6.9 hours, a significant proportion of their day on ST activities during the pandemic. At least five of the children in the current study were reported to exceed the USA recommendations for time on screens, preferring to spend many hours of their day on ST, which was likely to have been exacerbated by the current COVID-19 pandemic. The impact of the pandemic on ST will be discussed later in this chapter.

In this study, a wide variety of ST devices were used. These devices included the TV, the desktop computer (DC) and mobile devices such as smartphones and laptops. The TV was accessed by all children in this study. In addition, some parents had laptops that they allowed their child to access content from. The DC was used by the children of two participants. This could have been attributed to the fact that their parents did not have laptops for their children to access. Furthermore, the DC offered access to word processing apps that the child was interested in but

were not available on other devices they used. These findings were like those reported in other studies in which TV's, touch screens (including smartphones) and gaming consoles were the most frequently reported devices used (Laurie et al., 2019; Nikken & Schols, 2015). However, this current study differed in that none of the children were reported to have access to or use gaming devices. Reasons for this could be the children's young ages in this study and their developmental capabilities that could make gaming device use too complicated for them.

Only two of the children had their own ST devices whilst all of them were found sharing family or parents' devices. In the many studies which have explored device usage, sharing of devices was not previously reported (Laurie et al., 2019; Martins et al., 2019; Mazurek & Wenstrup, 2013; Nikken & Schols, 2015; Stiller & Mößle, 2018; Stiller et al., 2019). Sharing devices was a source of conflict for families in this study and often led to parents considering and purchasing devices for their children.

Preferred devices were those that allowed for independent usage and were easily accessible and portable, allowing the child to use the devices across different contexts. This aligns with existing literature foregrounding that ease-of-use was a key factor determining the child's choice of device (Martins et al., 2019). Mobile devices such as smartphones were preferred as they allowed the child to move around, taking the device with them to various locations in and outside of the home. In the current study, all parents reported that the mother's smartphone was frequently accessible and preferably used by the child. In addition, some parents described how the portability of the device fulfilled their children's need for auditory input. The need for and use of background audio for this purpose was highlighted in other studies, as being commonly used by children with ASD (Shane & Albert, 2008). Parents, in this study, described how wireless headphones were used to comfort the child and to allow access to ST without its sounds disturbing other family members, a finding which could not be located during the process of literature review for this current study. This is an important discovery considering how children with ASD often have hyper or hypo reactivity to sensory input that can result in impairments in their functioning (American Psychiatric Association, 2022). The use of headphones and screen-based audio in this regard could be a significant function of ST that has the potential to assist in the management of these ASD symptoms by being a tool for sensory comfort.

5.2.2 Limited interest in non-ST activities

In the current study, parents reported that the wide variety of ST content accessed by their children was specific to the interests of each child. This was supported by a study that showed how children with ASD accessed online content and websites in keeping with their inclination towards topics of their interest (Shane & Albert, 2008). In addition, Shane and Albert (2008) also found that children with ASD preferred cartoon-like animated content over human character representation. In the current study, content differed in type between children, from animated

shows to action videos not specifically designed for children. This contrasted with what Martins et al. (2019) found where, over half of their study parents reported that their child with ASD preferred programs intended for younger developmentally similar target audiences. Furthermore, two parents in this study, reported how their children did not like animated characters which seemed to bother them, instead preferring non animated action videos such as those found on YouTube. These findings indicate that children with ASD are seeking out and accessing a variety of content that is not limited to just that designed for children but that is also specific to their interests.

Parents reported most content to be viewed from video platforms such as YouTube with all but one of the parents' children using it. This was consistent with findings that YouTube was the favourite and preferred way of using devices amongst younger children with ASD (Laurie et al., 2019; Martins et al., 2019; Mazurek & Wenstrup, 2013; Nikken & Schols, 2015). Only two parents reported the same YouTube content accessed by their children, a popular children's channel called Vlad and Nikki not specifically intended for children with ASD. Other content was also viewed from paid streaming platforms such as Netflix, Showmax and DSTV. This data supports previous study's findings that passive entertainment is one of the most frequently reported uses of ST and the preferred leisure time activity for children with ASD (Nikken & Schols, 2015; Stiller & Mößle, 2018). This is an important finding since passive watching does not demand much mental, physical or social effort. Mazurek et al. (2012) suggested that ST in this form is appealing as it may provide a mental break for youth with ASD due to the impact of their social skills deficits which may make engaging in other activities demanding on their cognitive and behavioural functioning. It may also be appealing as a convenient, relatively inexpensive and accessible activity especially when there are lack of opportunities for participating in other activities due to financial, social and time barriers (Martins et al., 2019; Shane & Albert, 2008). This is especially relevant in contexts such as SA an UMIC, where socio economic factors severely limit this population's access to alternate and affordable services and activities for children. Furthermore, parents in this study also reported the use of educational content by their children. Some parents stated that their children did not access any apps or games specifically designed for neurotypical children's learning, such as those aimed at teaching numeracy and literacy whilst others only allowed their children to access this type of educational content. None of the parents reported using any Autism specific apps such as Autism ABC App (Lollipapps, 2020) with only two parents reporting that they only heard about its benefits from others. This was like a study by Martins et al. (2019) that found parents had limited awareness of these types of software and did not use them citing their high cost to be the main reason.

Parents in this study also described how their children showed limited interest in other activities that excluded ST. Many parents described that although their children had other interests in non-

ST activities such as playing with toys, pets and puzzles, their attention span for these was extremely limited resulting in them losing interest and seeking ST instead. ST sustained their attention for much longer periods of time. This finding was also reported by Shane and Albert (2008) who observed behaviours of children with ASD during ST to have increased attention to the screen with reduced responses to environmental distractions. They also noted how children who had three or more hours of ST per day would use it at the expense of other activities. In this way, getting little done without ST is especially concerning considering that children's development is dependent on their engagement in a broad variety of activities, learning and play experiences. In addition, sustaining their attention on these activities is also key to the mastery of their skills. Having limited interest and engagement in non-ST activities can thus have a negative impact on their development and occupations of play and learning. In the current study, the data also reflects how some children were only willing to participate in other activities such as therapy sessions, physical activity, and kitchen activities if they had access to ST or the promise of ST afterwards. Using ST in this way as a reward for positive engagement, was also supported in a previous study, with some children choosing TV time as reinforcers for participation in other less desired activities (Shane & Albert, 2008).

5.3 Theme two: ST, a mixed blessing

Parents expressed being conflicted about both the positive and negative impacts of ST. This ambivalence has been described in prior research (Stiller & Mößle, 2018). It supports the duality of the benefits and drawbacks of ST use on the occupational engagement of children with ASD.

5.3.1 Benefits of ST

All parents viewed ST to be beneficial to their children's learning, a finding consistent with prior research (Nagar et al., 2013; Nikken & Schols, 2015). Some parents were deliberate in their intention to only allow content for educational purposes such as how-to-videos and children's shows aimed at teaching basic concepts like rhymes, numeracy, and literacy skills. Parents reported how they noticed improved cognitive and behavioural skills in their children as a result of ST even when content viewed was not intentionally educational. For example, a mother reported how she viewed her son to be learning social skills when he watched YouTube videos of children, called Vlad and Niki interacting and playing together. A systematic review of studies exploring media use by children and adolescents with ASD, found the positive effects of ST to include improved cognitive and social skills (Stiller & Mößle, 2018). These positive impacts on child learning and development show that the value of ST extends beyond that of entertainment and leisure. All parents described how they saw their child mimicking either sounds, words, song lyrics or actions of what they viewed on screens, which they then perceived as learning. This manner of learning skills is what Shane and Albert (2008) described as observational learning; learning that occurs because of children watching actions and behaviours of a model and then imitating these for themselves. Their study survey findings indicated that more than half of the

90 parents of ASD children under the age of 18 years, reported that their child had developed some form of physical or verbal imitation because of viewing ST. Imitation and mimicry are necessary for neurotypical children and children with ASD to develop through what is known as procedural skill learning and social bonding (Tunçgenç et al., 2020). This learning, that occurs through copying the actions of others is used to acquire and master motor and communication skills. In the current study, parents who reported on how ST created opportunities for copying and mimicking, showed how they viewed this as a positive effect of ST because of its role in helping their child learn and develop.

In the current study the data suggests that ST was used for its relaxing, calming effect on the child's elevated levels of activity. This finding was reported in existing literature as an essential purpose of ST for children with ASD (Stiller et al., 2019). Although hyperactivity is not a diagnostic feature of ASD, attention deficit hyperactivity disorder (ADHD) has been found to be a common co-occurrence along with ASD (American Psychiatric Association, 2022; Reiersen & Todd, 2008). In this study, none of the parents disclosed such co-diagnoses, however they reported that their children displayed symptoms such as impulsivity and hyperactivity sometimes labelled as busyness. In addition, some parents reported how the repetitive behaviour of their children with ASD was challenging to manage. Moreover, parents described how ST was used to distract their children from otherwise engaging in unwanted busy behaviour both at home and especially when out and about in the community. The potential for using ST for calming in these instances offered parents respite and relief from caring for their busy and often demanding child. In addition, parents in this study reported how their children used ST to self-regulate their sensory overload. Using ST to reduce or tune out overwhelming sensory stimuli in this way has also been reported in other studies (Shane & Albert, 2008; Stiller et al., 2019). Furthermore, in the current study several parents also noted how their children used ST as a "pacifier" to self soothe, which was again identified as a function of ST by Nikken and Schols (2015) in their study on how and why parents' guide media use of their young ASD children. Using ST for its functionality, to help the child self soothe and modulate their sensory systems was a beneficial tool that helped their children calm during, or after distressing sensory experiences in the absence of other sensory regulation practices such as sensory integration therapy. Considering that hypo or hyper reactivity to sensory input is a diagnostic feature of ASD, responsible for clinically significant impairment in functioning (American Psychiatric Association, 2022), this would be an important finding that could help establish a potential role of ST in the management of ASD symptoms. In addition, parents in this study also described how their children used ST to avoid having to directly interact with others especially in unfamiliar or sensory overwhelming situations. A finding that was consistent with previous literature (Stiller et al., 2019). This function of ST for avoidance and distraction was also identified by Stiller et al. (2019) in their study. This is also a pertinent finding for the management of children with ASD

who exhibit restrictive fixated interests and repetitive behaviour displayed as inflexibility and distress at minor changes and transitions. Using ST for the function of distraction from these interests and behaviours could be significant in helping parents to cope when having to transition to other activities and especially when needing to mobilise in their communities, without the concern of challenging behaviour from the child. However, this parental view of ST as being beneficial to children with ASD who have deficits in social-emotional reciprocity, could also be viewed negatively as it may exacerbate their challenges in responding appropriately to social interactions due to the escapism or divergence of attention that ST offers. Furthermore, using ST for distraction could also mask the need for applied behavioural intervention that could be more beneficial in teaching the child other sustainable ways to cope with transitioning, handling social situations and integrating into their communities.

Three parents noted how co-viewing ST with their child was a benefit as it fostered opportunities for parent–child interaction and helped them engage in ways that were meaningful to both them and the family. This was consistent with findings of a systematic review conducted by Stiller and Mößle (2018) who found that watching TV with family and friends was one of the preferred joint activities for families of children with ASD. In the current study social interactions created by co-viewing ST were seen as meaningful occupations for both child and parent that contributed to it being perceived for its positive effects. This was a similar finding to a previous study that showed how parents had positive perceptions of ST when they reported that they co-viewed and engaged with their ASD child during ST (Kuo et al., 2015). In addition, Nikken and Schols (2015) identified that co-using media with the child, intentionally for entertainment or educational purposes, was one of the ways that parents mediated ST. In this study, co-viewing was also seen as a way to engage meaningfully in activities that they would not otherwise have been able to do with their child. For example, one parent described how ST created an opportunity for her and her son to spend time together sharing new interests in the kitchen doing baking activities that they watched together. Parents reported how ST allowed the child to be calm, alert and more amenable to this form of interaction and participation in activities. These included activities from singing and dancing to more purposeful activities like food preparation and science experiments. Using ST in this way, for its function as a means for engagement with others and to enhance the child's participation in other activities is an important finding as it has the potential to be used as a therapeutic tool to assist in the intervention of ASD.

Children's use of ST offered respite for parents, affording them time to engage in other activities while their child was occupied with ST. Feelings of relief linked to this respite were consistent with literature that found how ST helped with parental well-being when it was used to preoccupy the child in order to allow the family time to relax or when it used as a babysitter to keep the child busy and out of harm's way when the family were needing to do other activities (Cardy et

al., 2021; Nally et al., 2000; Nikken & Schols, 2015; Stiller & Mößle, 2018; Stiller et al., 2019). For other parents in this study, seeing their child relaxed and learning, created positive feelings for them personally and validated their decisions to allow its frequent use. In this way ST appeared to offer many parents a form of respite from the demands of caring for a young child with ASD and especially necessary in the context of the COVID-19 pandemic lockdown restrictions where many external support systems such as schooling and therapy services were not accessible.

5.3.2 Drawbacks of ST

Drawbacks were captured as parents' reports of the negative effects of ST, such as evoking challenging behaviour in the child, creating dependency on screens, interference with family–child interactions, as well as for its role in creating parental stress through feelings of worry, social stigma and feeling judged by others.

Almost all the parents described how ST evoked challenging behaviour such as tantrums, meltdowns, and aggression when the device was switched off, needed to be charged or was not accessible for any reason in the way that the child wanted it to be. Although the literature around how ST affects negative behaviour in children with ASD is very limited, the findings in this study were consistent with one qualitative study reporting on similar parent views i.e., that switching off television triggered crying and tantrums and behavioural problems in ASD children under the age of six years (Nally et al., 2000). This finding is congruent with some of the diagnostic traits of ASD, such as, inflexible adherence to routines, repetitive patterns of behaviour, excessively circumscribed or perseverative interests or activities and strong attachment to, or preoccupation with objects (American Psychiatric Association, 2022). These features could make it challenging for children with ASD to relinquish engagement in ST.

Parents also noted how their children showed persistent dependency on ST engagement, asking for the device immediately upon waking, continually requesting access, and always wanting devices on during the day for companionship. Some parents reported how ST appeared to be addictive in nature and resulted in their child not wanting to participate in any other activities if ST was not accessible in some way. The systematic review of ST and ASD by Stiller and Mößle (2018) presented parent reports of similar uncooperative and oppositional behaviour in the child when ST was restricted. Furthermore, this type of behaviour was consistent to what Bozoglan and Kumar (2021) described as child internet addiction (CIA). In their study, they defined CIA as the child's preoccupation with internet use, loss of interest in other activities and difficulty with stopping or being denied access to it. Moreover, these researchers also found that the parental stress was significantly affected by the level of their child's addiction. This finding compares with the negative feelings experienced by parents in the current study in relation to the challenging behaviour that ST evoked in their children.

In the current study many parents noted how ST also caused parental and child stress when it

interfered with social interaction and engagement, for example when implementing ST limits resulted in conflict for the whole family. Its role in contributing to family stress was consistent with findings in previous literature (Stiglic & Viner, 2019; Stiller & Mößle, 2018; Stiller et al., 2019). In the current study it is interesting to note how this finding is in direct contrast to some of the positive effects of ST that parents also reported on, for example, how ST allowed for meaningful engagements with their child in dancing and kitchen activities, thereby resulting in the conflicted feelings that parents experienced. Furthermore, the current study found that ST was also seen as a barrier for family social engagement and for how it restricted communication between the child and others with one parent describing how her son used her phone to avoid engaging with others by turning the volume to its loudest setting. This finding was in line with other literature indicating how children with ASD interacted less with others when watching TV compared to neurotypical children and how ST had a negative impact on mother child reciprocal interaction (Cardy et al., 2021; Krupa et al., 2019). Cardy et al. (2021) also found how increased ST by ASD children during the COVID-19 pandemic, discussed later in this chapter, led to losses in time available for social interactions which further contributed to their difficulties with social functioning. The findings in the current study supported this, describing how ST negatively affected the child's social behaviour and interaction with others. For example, one parent explained how ST influenced her son's social behaviour around others as when he saw them with their devices, he would grab the device from strangers or would become intrusive of their personal space as he tried to gain access to the device somehow. In this example, ST exacerbated the already present social communication and interaction challenges of the child.

In this study parents also expressed how the nature of their child's engagement with ST, evoked a wide array of negative feelings for themselves. These ranged from feeling helplessness, to feeling conflicted about the role of ST role in their child's life, feelings which gave rise to worry and self-doubt. This finding was supported in recent literature on how negative emotions including guilt and frustration were also found to be those most frequently endorsed by parents reporting on the ST engagement of their child with ASD during the pandemic regardless of socio-economic status and demographic factors (Cardy et al., 2021; Jacques et al., 2021). In addition, the current study reported on findings which could not be located in published literature, introducing how ST resulted in parents feeling judged by others, like their extended family about their child's ST habits. This judgement further contributed to their mixed feelings and views on the varied effects of ST on their child's life. Furthermore, some parents also expressed how they felt helplessness when it came to their child's excessive ST due to a perceived lack of options and alternative activities to occupy their children. This adds to existing evidence found in a systematic review of literature about ST related to leisure time, describing the many challenges regarding accessing, organising, and participating in leisure activities for parents of children with ASD (Stiller & Mößle, 2018). Challenges linked to finding alternative activities to ST could have

contributed to the feelings of powerlessness that the parents described and would have been particularly poignant in impact in the context of the COVID-19 pandemic and associated restrictions on activities during periods of lockdown.

5.4 Theme three: Striving to provide conditional access

The third theme refers to the strategies that parents used to manage and mediate ST use. Parents in this study described different ways of mediating ST for their children, through content monitoring and setting limits. In these ways they endeavoured to provide conditional access by allowing their child access to ST under certain conditions.

5.4.1 Content monitoring

Mediation of ST was defined by Valkenburg et al. (1999) and Warren (2001) as strategies that parents use to control, supervise, or interpret the screen media that their children have access to. According to these earlier theorists, mediation of ST can be divided into three types: restrictive, social, and active strategies. Restrictive mediation involves having rules for the amount of time allowed for ST and for the type of content that can be accessed (Valkenburg et al., 1999). In this study, the findings indicate that parents mediated their child's ST using restrictive mediation through content monitoring by actively choosing, selecting, and curating content that they deemed appropriate for their child to access. This deliberate selection of content and being vigilant on what was being accessed by their children are examples of restrictive mediation strategies found in other literature (Stiller et al., 2019). Similarly, restrictive mediation was also reported in a study by (Kuo et al., 2015), to be a frequently used strategy of parents with children diagnosed with ASD, who reported restricting their video gaming and television viewing. Although their study investigated older adolescent children with ASD who used video gaming (content which was not found to be accessed by the younger children in the current study), the strategy to monitor the content of what their children were accessing is similar in this study.

5.4.2 Setting limits

Restrictive remediation as the most frequently reported mediation strategy used in this study was also highlighted under one of this theme's categories i.e., setting limits. Here, parents reported how they used the "no phones rule" during certain activities or times during the day in order to limit its use. This method was not reported on in any published literature searched. In addition, the findings in this study described another way of limiting use that included how parents allowed children access to devices on condition that they participated in other activities like homework or play either before or after ST access. This way of reinforcing desired behaviour was also found to be used by parents in a study by Stiller et al. (2019). Allowing access to ST under these conditions could be regarded as an important behavioural intervention strategy for managing the participation and behaviour of children with ASD.

Furthermore, the data in this study confirmed that parents use technical restrictions (TR) to mediate their child's ST, for example by accessing YouTube kids which already has built in safety parameters for children or through linking their children's devices to their own in order to set safety controls. TR is defined as using parental controls that are built into devices and software settings that allow parents to monitor, regulate or block content and time (Nikken & Schols, 2015). This was reported to be used in a previous study that found that parents of neurotypical children under the age of eight years frequently used restrictive mediation that included TR. However, none of the parents in the current study reported that they used the time limit controls that automatically turn devices off after a predetermined period of use. Possible reasons for this could be linked to a previous study by Polfuss et al. (2016), who also reported this finding and discovered that parents of children between the ages of six-16 years with ASD did not put time limits on their children's ST use when they perceived it as being beneficial for their child or as a way to avoid negative behaviours such as meltdowns. Less restrictive mediation strategies were found to be used when parents had positive attitudes to ST like perceiving it to be beneficial for the child (Kuo et al., 2015; Nikken & Schols, 2015).

Since children with ASD have difficulty with sudden transitioning between activities and require time and preparation to adjust (Colizzi et al., 2020), the sudden switching-off of devices might prove too challenging for this group of children resulting in unwelcomed meltdown behaviour that parents would want to avoid. Parents in the current study reported how they used other restrictive mediation strategies that allowed for a more willing transition to other activities. These included verbally giving time warnings like the "five-minute-rule" limit to prepare the child to switch off the device on their own or hand it over to the parent. This strategy was not found in the literature search. Further examples of restrictive mediation strategies not previously reported in any literature that were less disrupting to the child, included how parents used distraction and telling fibs in setting limits to ST. Distraction was reported in this study as a way to gently persuade the child to leave the device and move onto other activities. Similarly, telling the child fibs or lies about the battery being dead or the data having run out allowed the parent to limit its use whilst avoiding conflict and negative behaviours. Negative behaviours related to restrictive mediation were found to be a notable source of parental stress (Kuo et al., 2015). This was also found and reported on in this study under theme two above. The techniques used by parents in this study are a significant finding as they could suggest practical ways for parents to reduce the stress they may experience on a daily basis as a result of wanting to manage ST.

Another mediation strategy reported in the literature as social mediation (SM) included co-viewing or co-playing for entertainment purposes, was also found in this study. In a previous study SM was also applied by parents of young children with ASD (Nikken & Schols, 2015). However, in the current study co-viewing was not only identified as a ST management strategy

but was also described as a benefit of ST that aided in the interaction between the child and the family as discussed under theme two above. In addition, the use of active mediation (AM) that would include talking to the child about the content accessed was not reported to be used by any of the parents in this study. Kuo et al. (2015), found that AM -discussing content and giving explanations or instructions to the child to enhance safety and stimulate learning (Nikken & Schols, 2015), was used most frequently through supervising program viewing and giving instructions to adolescent children with ASD. In the current study, this lack of finding could have been attributed to the younger ages of the children as well as the lower verbal and language capabilities of each child, which were not part of the objectives of this study.

5.5 Theme four: COVID-19 "intensified the whole screen time business"

The theme COVID-19 "intensified the whole screen time business" captures the overall sentiment of parents with respect to how ST became an appealing replacement and highlights the new challenges linked to managing ST as a direct result of the pandemic.

5.5.1 ST an appealing replacement

In this study many parents reported how the amount of time their children were accessing ST had increased since the start of the pandemic. This was in keeping with emerging literature about the pandemic effects, that reported on the increased amount of time spent on devices by children with ASD ranging from an increase of between three to six hours on average per day during the pandemic compared to before its onset (Bozoglan & Kumar, 2021; Cardy et al., 2021; Jacques et al., 2021; Nithya et al., 2021). For some parents in the current study, this change in time was attributed to the new demands created by digital based schooling, such as accessing online lessons and worksheets, that started during school closures in the pandemic, consistent with literature (Cardy et al., 2021). Other reasons for this increase in the current study, included the use of video calling, as a replacement for in-person contact and which allowed for social connection and communication with loved ones during the lockdown restrictions. For other parents, the sudden introduction of Wi-fi during the lockdown increased data available for streaming online content through the internet. This was consistent to findings in another study that found excessive internet use amongst Japanese children between the ages of six-18 years with ASD, especially during pandemic, citing boredom and social connection as reasons for use (Kawabe et al., 2020). This access to the internet created greater demand from the children for new and voluminous content to be accessed thereby increasing the appeal of devices and their time on them. A surprising finding not reported in other literature was how two parents in the current study reported that they maintained similar routines and there were no significant changes in the ST habits of their children, because these families already had limited social engagements and activities outside of their home environments prior to the pandemic. Although no causal links can be proven, possible reasons for maintaining ST routines and staying home prior to the pandemic could be attributed the child's young age, severity of ASD symptoms,

busyness, behaviour challenges, lack of resources or socio-economic status that may have made it easier to stay home and limited their social participation and community access even prior to the start of lockdown restrictions.

5.5.2 New challenges in managing ST

Parents in this study described many new challenges relating to ST use for their children which were brought about during the pandemic. For some parents, this was highlighted by ways they had to adjust to the demands of formal online lessons and the different routines it created, which was challenging for them and their children to implement. This perception was in keeping with previous research that found parents reported how school support offered during the pandemic did not consider each child's unique ASD traits, could not meet their need for intensive face to face education, caused more stress and reduced its effectiveness (Jacques et al., 2021; Meral, 2021). Considering the young ages of the children in this study with their specific functional capabilities and challenges, digital schooling may have been difficult for these parents and children. Online lessons demand a certain level of engagement and attention in learning activities that parents and children were not equipped to provide at home especially when the children depended on the face to face, responsive interaction from their educators that they were accustomed to getting prior to the lockdown.

Mediating ST during this pandemic proved challenging for some parents as there were fewer options and interests in other activities to keep their children occupied within the home. This resulted in ST becoming the child's main pursuit for entertainment. This data supported literature that found that electronic device use was one of the main interests of children with ASD during the COVID-19 pandemic (Jacques et al., 2021). ST thus offered an appealing distraction from boredom and a replacement for social activities considering the extended periods of strict lockdown measures at the onset of the pandemic. Furthermore, Jacques et al. (2021) reported that parents of preschool children with ASD thought that a major barrier to well-being for their preschool child was that they had too much access to electronic devices even though they continued to implement broader access to ST to accommodate their children's growing desire for it. This was in keeping with results found in the current study where one parent expressed how she felt it was "too much" but confessed how she did not know of any other way to keep her child occupied at home under the circumstances of the pandemic lockdown restrictions. Whilst ST had offered a replacement for activities during the lockdown, this solution to occupy the child at home, could have exacerbated the challenges that parents experienced in managing it due to the tendency to become fixated on limited interests that children with ASD have.

5.6 Summary

In summary, the study findings both confirmed and added to existing literature. The first theme included a discussion on the time use, functionality and content of ST that described parents' reports as patterns and preferences of how their children use a wide variety of time, devices, and content in line with their interests, as well as how their limited interest in non-ST activities cause them to *seek out opportunities for ST*. The findings from the second theme, *ST, a mixed blessing,* confirmed and adds to the literature on how parents perceive benefits of ST being a tool for learning, self-regulation, parent child interaction and respite and perceive drawbacks of ST to increase challenging behaviour, dependency, negative feelings and interfere with social engagement. It highlighted how they tried to come to terms with ST as it creates many opposing effects on their children's lives often leaving them conflicted. The third theme, *Striving to provide conditional access* supports previous literature that found that parents of children with ASD use a variety of restrictive mediation strategies to manage the ST of their young children and to allow its use under certain conditions. Furthermore, this theme also builds on existing literature describing how parents try to avoid stress caused by limiting ST by using negative behaviour avoidance techniques such as distraction and preparation in order to assist their children to engage in various other activities. The fourth theme, *COVID-19 "intensified the whole screen time business"* identifies and describes how the COVID-19 pandemic marked the onset of many changes to ST for children with ASD. These changes ranged from increased time on devices, to accessing of new and voluminous content through the introduction of the internet and digital online schooling. The changes resulted in ST becoming an appealing replacement whilst presenting new challenges that parents experienced managing its use during the lockdown restrictions, findings all similar to previous studies. The following chapter will describe the strengths and limitations of the study and provide recommendations for practice, policy, and future research.

CHAPTER SIX CONCLUSION

6.1 Introduction

This chapter will address the strengths, limitations and recommendations that have emerged from this study, followed by a concluding statement that offers a view of the key message of the study.

6.2 Summary of key findings and study

This qualitative descriptive study aimed to explore parents' perceptions of ST of their children with ASD. The findings supported how children with ASD living in communities in CT were seeking time and opportunities to engage with a wide variety of devices and content that was in keeping with their interests. Their limited interest in non-ST activities contributed to the persistent presence of ST within their occupational engagement. Further findings showed how parents viewed ST as a mixed blessing as they tried to come to terms with its positive and negative effects. It highlights how they viewed many opposing effects of ST on their children's lives and left them conflicted about its use. Parents attempted to implement a variety of strategies to manage and allow their children access ST, only under certain conditions. Finally, the findings suggest how the onset of the COVID-19 pandemic and its restrictions escalated ST use as it became an appealing replacement and contributed new challenges that parents experienced when trying to mediate it during this time.

6.3 Strengths and limitations of this study

6.3.1 Strengths

The iterative nature of this qualitative descriptive inquiry created opportunities for the parents' responses to not only meet the studies objectives but also added further information which led to the generation of data that identified and described the strategies they used to manage ST use.

Parents of children with ASD are often stigmatised in the community and judged for their parenting approaches especially in relation to how much ST their children are allowed (Bozoglan & Kumar, 2021; Nally et al., 2000). This study gave voice to this often-marginalised group describing how they endeavoured to mitigate ST use especially in the context of the COVID-19 pandemic restrictions, highlighting their lived experiences and many challenges with parenting their child with ASD.

This study sample included a diverse sample of participants representing variation in ethnicity, socio-economic status, culture, and belief systems within the CT area of SA. This provided for a variety of perspectives from which comparisons and contrasts could be drawn. The study findings also suggest that there is much similarity of parent's perceptions of ST of their children with ASD in South Africa compared to the literature from the Global North despite the vast differences in context.

6.3.2 Limitations

This study was based on parental perspectives (mostly maternal) of the ST of children with ASD. The children themselves were not interviewed or observed directly. Although parental reports have been found to be a convenient, ethical, and reliable source of information for this population (Laurie et al., 2019; Yin, 2015), they may be limited in their information based on parent's memories and recall of events, their attitudes, and biases towards the topic.

Due to the limitations in resources for this minor dissertation study, the study population was restricted to that of the greater Cape Town area and may not have reflected the full spectrum of languages and contexts within South Africa. Furthermore, participants were selected from the pool of clients that were already in contact with the recruiter body and excluded those who did not have access to their services.

6.4 Recommendations

6.4.1 Recommendations for OT practice

Occupational therapists need to be aware of the perceived benefits and drawbacks of ST that were reported in this study in order to enhance their clinical practice and advice to parents. For example, the findings suggest how headphones could provide comfort and auditory stimuli as well as how ST can be used to help the child with ASD to self soothe and modulate their sensory systems. These could be potential intervention tools in helping children calm during or after distressing sensory experiences and hence requires further study. The literature and findings also imply that connecting the child to ST functions to assist them to calm and relax their overactive states. Further investigation is required into this function of ST to compare its effectiveness to other strategies used for this purpose such as sensory integration techniques.

Furthermore, the findings of this study also indicate that in the absence of alternative activities for example during the pandemic restrictions, ST became a convenient and appealing replacement and a significant interest for these children. This has the potential to result in dependency on ST at the expense of other activities needed for learning, play and development. In cases such as these where it is found to be of excessive use, clinicians are in a position to provide intervention that includes support for parents to achieve occupational balance between different activities in their children's lives. This should include recommendations for mediation strategies that emerged from this study and the importance of parental involvement in the monitoring of ST use of their children. Moreover, clinical practice needs to include advocacy for the accessibility and availability of options for leisure time such as sport, education, and social opportunities for this population. This can be done in collaboration with non-profit organisations such as AWC who already provide services in this regard. More specifically, it is recommended that the findings from this study be used to generate a policy brief to initiate this advocacy in collaboration with AWC. This would contribute to the achievement of the

United Nations sustainable development goals (SDG) 3: Good health and wellbeing (Costanza et al,2016), for families affected by ASD

The findings in this study imply that ST is a prevalent and significant occupation in the lives of families and children with ASD. Therefore, assessment in OT needs to include an exploration of ST use by these children and their families so that interventions can be directed accordingly if there are concerns. Considering how much technology is a part of children with ASD's everyday lives and of such a valued interest as reported in this study, it is also recommended that attention be directed into how to incorporate ST as a therapeutic modality for example, using learning software, as a means towards achieving therapy goals or as a way to facilitate children's participation and engagement in activities and education that they need to do but may not be interested in. In doing so, practice would support the drive towards SDG 4: Quality Education for the inclusion of persons with disabilities (Boeren,2019), specifically within the ECD context

6.4.2 Recommendations for future research

The study findings provided an overview of preferences and patterns of ST use that included time, content, and functionality. Future studies could explore this further using a quantitative approach with a focus on including a larger study sample. In order to reach more participants, the use of digital surveys needs to be considered for future research to allow for greater access, reach and participation. In order to ensure the accurate recall of children's ST use, further studies should include the use of parent diaries and logs to record concrete information about time, device use and content. In addition, future study design could include the use of observational data collection, such as observing the child in the home using ST and recording behaviour before and post ST in order to gain more accurate information.

This qualitative descriptive research design offered a summary of parents' individual views of the ST of their children, of which little was known about especially in this MIC context. Following on from this basic investigation, other qualitative research designs could offer deeper analysis that would allow for greater exploration and interpretation of the phenomenon of ST. This could include case study design that allows for observations of ST engagement in context thereby augmenting reports of ST use. Furthermore, future methods could include studying other caregivers of the child such as extended family members. Studies could also include the use of focus groups utilising in depth interviews that would facilitate deeper collective discussion and nuanced interactions adding complexity to the data. In addition, participants could be given reflective journals with guiding questions to invite meaningful discussion at follow up interviews that will allow for rich data to be collected.

Although learning was reported to be a perceived benefit of ST in this this study, none of the parents used any autism specific Apps for this purpose. Considering the growing availability of

mobile technology especially in South Africa, the potential to use it for wellbeing and learning intervention especially in contexts where there are limited health and educational resources in this population remains largely unexplored and underutilised. Therefore, further investigation into this functionality for educational use as well as for therapeutic use is recommended especially with limited access to support services for ASD like in CT, SA. In this context technology such as mobile health (mHealth) Apps which have been reported to have great potential to increase access to ASD intervention globally (Chen, 2012; Kumm et al., 2021), remains an unexplored option that warrants further investigation.

6.4.3 Recommendations for future policy

The National Integrated Early Childhood Development Policy 2015 recommends that curriculum development, training and guidance should be provided for ECD practitioners to deliver services to children with disabilities and their families (Department of Social Development, 2015). Bearing in mind the findings in this study that indicate the growing presence and impact of ST in the lives of children with ASD and the need to mediate it, it is recommended that future policy needs to include guidelines for ECD practitioners to assist children and families affected by ASD to manage time, monitor content, and optimise the functionality of ST that these children will all most inevitably be exposed to. The findings from this study can be used to generate a policy brief in this regard.

This study has also highlighted the impact of the COVID-19 pandemic policy on the lives of those affected by ASD. It is recommended that any emerging policy not only considers the potential role that ST can play to support this population during lockdown restrictions but also considers the challenges and risks that it can create with regards to excessive use, in the absence of providing guidelines for its use or other accessible alternatives.

6.5 Conclusion

This research gave a voice to parents of children with ASD to share their lived experiences about the presence and impact of ST use of their children in a way that acknowledges the many adversities they encountered as technology permeated into all aspects of their children's lives especially during the COVID-19 pandemic. Moreover, it drew attention to their positive perceptions of ST that included the many beneficial contributions it played in the lives of their children with ASD and gave recognition to parents' striving to mediate its use.

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APPENDICES

Appendix A

Permission to conduct study and recruit participants.

01/08/2021

Dear Zaida Frank

Managing Director/ Manager at Autism Western Cape

I am writing to request permission to conduct a postgraduate research study through your organisation. I am currently enrolled in a master's degree in Occupational Therapy at the University of Cape Town and wish to access participants for my study with the help of your organisation. The study is titled: Parent's perceptions of Screen time use in young children with autism spectrum disorder (ASD). This study has been approved for ethical clearance by the University of Cape Town Faculty of Health Sciences Human Research Ethical Committee*. HREC REF 253/2021.* Screen time in this study refers to the use of exposure to and interaction with all technological devices that involve a screen and includes the elements of time spent, functionality and content of screen media. The focus of this study is on the perceptions that parents of children with ASD hold, about how and why their children use screen time. The objectives of this study are to describe their understandings of how and why their children use screen time, to identify the impact that it has on their children's lives and to identify how screen time has changed for their children during the COVID-19 pandemic.

The information gained from this study may benefit practice and provide guidelines for interventions focussing on including parental involvement in the management of the health, well-being and development of young children affected by ASD. Data obtained may guide the process of advocating for resources and creating education strategies to optimally support parents to assist their children's engagement in meaningful occupations. In doing so this study may contribute to the achievement of the United Nations Sustainable Development Goals (SDG) number 3; Good health and wellbeing and SDG 4; Quality Education for the inclusion of persons with disabilities. Furthermore, the information from this study may address a gap in the literature as it offers unique data from the South African context that has not been researched in this regard to date.

I hereby request permission to contact your manager and training coordinators, in order for them to assist me in the process of recruiting parents as research participants. I request that your organisation screen potential participants from your database who meet the selection criteria and contact them to determine if they are willing to participate in this study. For this study I aim to interview between 6-8 participants of maximum variance. Their contact and profile details should only be passed on to me once permission is obtained from potential participants to be contacted by myself. I will then arrange to meet them to start the interview process. I aim to interview the parents to explore their perceptions of screen time related to their children with ASD. The inclusion criteria for participants for this study are:

- Parents must be able to converse in English and or Afrikaans or be accompanied by their own self-selected volunteer translator who speaks English if their home language is neither English or Afrikaans and should be willing to participate in this study.
- Parents for this study will be limited to the parent/s, i.e., mother and or father of children/child diagnosed with ASD under the age of 8 years. Parents have been chosen in this study as they are often the key decision makers around issues regarding their young children's health and well-being.
- Parents must be residing with their children.
- Parents may include single parents where only the mother/father has the responsibility for parenting or may include co-parent/s where both the mother/s and father/s are involved in the raising of their child/children. If both parents of a child wish to participate, this will only be considered as a single research participant.
- Although children will not be participating directly in this study their experiences will be reported on by the parents as key participants. The child/children must be under the age of 8 years and have been formally diagnosed with ASD by a qualified healthcare professional and that you are able to verify. This age group has been chosen as it represents a critical stage in early childhood whereby interventions can have significant effect on long term developmental outcomes.
- Parents and children in this study must have access to technology and devices for screen time.
- Parents will be excluded if they are participating in any current research studies related to their children with ASD to limit the burden of research on them.

I request that your organisation identify and contact at least ten suitable parents or parent couples meeting the above criteria to ascertain their willingness to be contacted by myself. Information leaflets can be given to the parents identified as suitable participants. I will then contact the parents directly to arrange for suitable meeting places of their choice and times that are mutually convenient. Parents will be given research information and informed consent forms prior to the start of the data collection.

If permission is granted, parents as research participants will be expected to take part in a set of private interviews (approximately two/three interviews of 60minutes long) with me directly. I will contact them directly to select and agree on a convenient safe location for in person interviews to occur that will allow for their confidentiality and that complies with COVID-19 Regulations. Where possible Zoom meetings will be arranged. The planned start date for data collection through interviewing will be from August 2021 and will continue until completion until 30 November 2021. All data collected will remain confidential as it will be stored on a password protected platform. Data will be stored for a period of 5 years and then disposed of. No names of parents or their children will be reflected in the reporting of the results or in the thesis. There will be no costs incurred by your organisation. Where applicable transport/data costs will be reimbursed to participants up to the value of R80 per interview.

There will not be any reimbursement for participation in this study. Should parents not agree to be contacted by the researcher or to participate in this study there will be no consequences for them.

Your approval to assist in conducting this study will be greatly appreciated. I will follow up with you and would be happy to answer any questions or concerns that you may have at that time. You may contact me via email at ebrfaa002@myuct.ac.za or telephonically at 0823626045.

If you agree, please sign below and return the signed form as an attachment to my email address. Alternatively, please submit a signed letter of permission on your institution's letterhead acknowledging your consent and permission for me to conduct this study at your institution.

Sincerely,

Faatima Ebrahim

BSc (Occupational Therapy)

MSc student

Permission slip

Permission to conduct research is approved by:

Zaida Frank

Education & Outreach Manager

Registered Counsellor: PRC 0033936

autism WESTERN CAPE

NATIONAL LOTTERY NLDTF

_____04/08/2021

Appendix A.1

Information sheet for recruiters

Thank you for assisting in participant recruitment in this study. This document is meant to assist you in your selection of potential participants for this study and make it easier to record details for the researcher.

Please fill the following pages out for each potential participant identified (at least 10 participants are required for this process. From this list the researcher will select between 6-8 parents for the data collection phase.

The following information may be read out/ explained to the parent to obtain permission for the researcher to contact them directly:

A student at UCT would like to do research for her master's study titled: Parent's perceptions of Screen time use in young children with ASD.

She is looking for parents to participate in this study to assist her to understand the perceptions that you as parents of children with ASD hold, about how and why your children use screen time. She would like to describe your understanding of how and why your children use technology /devices with screens such as tv, laptops, tablets, smartphones, to identify the impact that it has on your children's lives and to identify how screen time has changed for your children during the COVID-19 pandemic.

Should you agree to participate in the study you will be expected to take part in two or three interviews over a three-month period from of approximately sixty minutes each with the researcher. These will be done either through in person interviews or preferably through online zoom meetings where possible. You will only be reimbursed for your data/transport costs up to a maximum of R80 per interview. In order to minimise the risk of spreading the COVID-19 virus during in person interviews, you and the researcher will be expected to follow COVID-19 protocols such as social distancing, wearing masks, handwashing/ sanitising guidelines during your interview.

During the interviews you will be invited to share your views and experiences around screen time of your children. This study will allow you the opportunity to share with other who may also be affected by ASD what your perceptions are about screen time use. Your names and any identifying information about you or your child will not be documented nor shared with anyone. Should you agree to be contacted by the researcher she will go into greater detail about the study and this process with you directly. Do you agree to be contacted by the researcher?

Thank you for your time.

Name of parent	Add details as requested
Contact details:	phone mobile email
Culture/Ethnicity. (This information will only be used to ensure diversity is represented in this study and will not be used to discriminate)	
Geographical location/area that parent resides. (For diversity representation)	
First language of parent	

Selection criteria?	Please tick/circle where applicable/ include details were indicated
Does the parent reside in or near Cape Town?	
Is the parent able to converse in English and or Afrikaans or would they need to be accompanied by their own self-selected volunteer translator who speaks English?	Indicate which
Is the participant a parent (biological/foster/adoptive) of a child /children diagnosed with ASD?	Indicate which: Biological Foster adoptive
Is the child with ASD under the age of 8 years?	Indicate exact age in years and months
Has the child been formally diagnosed by a medical doctor? a confirmed diagnosis is necessary for participation.	Has the parent confirmed this?
Parent/s must be living with their child. Does the parent reside with their child?	

Please indicate who is the parent/s to be contacted for participation and select which is relevant from the list.	Indicate which is applicable: single Divorced Married Who should be contacted: Mother Father
Does the parent and child/children have access to technology and devices such as smartphones, laptops, tv, tablets, gaming stations necessary for participation in this study.	indicate which
Is the parent/s actively involved in other ASD related research currently? They will be excluded if yes.	
Does the parent agree to be contacted by the researcher for participation in the study? Informed consent will be done by the researcher.	
What is the preferred time that the researcher may contact the parent?	

Appendix B

Information letter

Dear Parent/s

I am a postgraduate student enrolled in a master's degree in Occupational Therapy at the University of Cape Town. I practice as an Occupational Therapist working with families and children who have special needs, learning difficulties and developmental delays. As part of my degree, I am conducting a research study in the field of autism spectrum disorder (ASD). The title of my research is: Parent's perceptions of Screen time use in young children with ASD. Children referred to in this study are under the age of 8 years. Screen time in this study refers to the use of exposure to and interaction with all technological devices that involve a screen and includes the elements of time spent, functionality and content of screen media. This study has been approved for ethical clearance by the University of Cape Town Faculty of Health Sciences Human Research Ethical Committee. *HREC REF 253/2021* See contact details at end of this document.

The focus of this study is on the perceptions that parents of children with ASD hold, about how and why their children use screen time. The objectives of this study are to describe parents understanding of how and why children with ASD use screen media, to identify the impact that it has on the children's lives and to identify how screen time has changed for children during the COVID-19 pandemic.

The findings of this study may have relevance to most children and families that are affected by ASD and screen time. The information gained from this study may contribute to practice and provide guidelines for interventions focussing on including parental involvement in the management of the health and development of young children affected by ASD. In addition, this study may inform ongoing research and practice in relation to screen time to advocate for resources and create education strategies that will optimally support parents as well as their children's engagement in meaningful occupations. The information from this study could offer unique information from the South African context that has not been researched in this regard to date.

The study will recruit participants from different areas within Cape Town. Six to eight parents of children under the age of 8years and who have been diagnosed with ASD will be identified and invited to participate in this study. Should you agree to participate in the study you will be expected to take part in two or three interviews over a three-month period from *[insert dates here]* of approximately sixty minutes each with the researcher. These will be done either through face-to-face interviews or preferably through online zoom meetings where possible. In order to minimise the risk of spreading the COVID-19 virus during face-to-face interviews, you and the researcher will be expected to keep appropriate social distancing, use a well ventilated or outdoor space (preferred), wear a mask, follow proper hand-washing and disinfectant guidelines during your interview.

During the interviews you will be invited to share your views and experiences around screen time of your children. Your names and any identifying information about you or your child will not be documented nor shared with anyone. All interviews will need to be audio recorded in order to be transcribed at a later date

by the researcher for data analysis. These audio recordings and all written information will be stored confidentially and on a database that only the researcher and her supervisors will have access to. All data will be deleted after five years. The researcher will present the findings of the study to you to verify that it reflects what you have said, to ensure that there is clarity on what was shared and how it was interpreted. You will receive a summary of the research findings once it is completed should you wish. You may experience some discomfort when being interviewed if you recall a bad experience that you had related to your child's screen time use. The researcher will try to best support you through this should it occur and refer you for further free professional support if necessary. The study will provide you with opportunities to appreciate and to share with others, who may be affected by ASD, of your understanding and perceptions towards screen time of your children. The researcher will not evaluate or judge your skills and abilities as a parent of a child with ASD but instead intends on gaining insight and understanding of the complexities around screen time of your children. Please note that this study does not receive any external funding and so there will be no remuneration for participating in this study. You will be reimbursed for transport costs or data charges for an amount of up to R80 per interview where applicable.

I trust that this information assists in understanding what this research study entails. Feel free to contact me regarding any questions or should you require additional information.

Thanking you.

Faatima Ebrahim email: Faatima.e.a@gmail.com Tel: 0823626045

BSc (Occupational Therapy)

MSc student

Researchers' supervisor: Dr Pam Gretschel email: pam.gretschel@uct.ac.za and Mr Iesrafeel Abbas email: iesrafeel.abbas@uct.ac.za

HREC contact details:

Professor Marc Blockman Marc.blockman@uct.ac.za

The Human Research Ethics Committee

Floor E53, Room 46

Old Main Building

Groote Schuur Hospital

Observatory, 7925

Appendix B.1
Inligtingsbrief

Liewe ouers

Ek is 'n nagraadse student wat my meesters graad in Arbeidsterapie aan die Universiteit van Kaapstad voltooi. Ek praktiseer as Arbeidsterapeut en werk saam met gesinne en kinders met spesiale behoeftes, leer probleme en ontwikkelings agterstande. As deel van my graad doen ek 'n navorsingstudie op die gebied van outisme spektrum versteuring(OSV). Die titel van my navorsing is: Ouers se persepsies van die gebruik van Skermtyd by jong kinders met OSV. Kinders waar in hierdie studie verwys word, is jonger as 8 jaar. Skermtyd verwys in hierdie studie na die gebruik van en blootstelling aan alle tegnologiese toestelle waarby 'n skerm betrokke is, of dit nou passief verbruik is in die vorm van slegs kyk en luister of aktiewe betrokkenheid interaksie met aanraakskerms en bedieningspanele.

Hierdie studie is goedgekeur vir etiese goedkeuring deur die Universiteit van Kaapstad Fakulteit Gesondheidswetenskappe etiese komitee vir menslike ondersoek. *[voeg verwysingsnommers hier in hangende]*. Sien kontakbesonderhede aan die einde van hierdie dokument.

Die fokus van hierdie studie is op die persepsies wat u as ouers van kinders met ASS het, oor hoe en waarom u kinders die tyd gebruik. Die doelstellings van hierdie studie is om u ouers se begrip te beskryf van hoe en waarom u kinders met OSV skermmediatyd gebruik, om die impak wat dit op u kinders se lewens het, te identifiseer en om te bepaal hoe die tyd vir u kinders tydens die COVID-19-pandemie verander het.

Die bevindings van hierdie studie kan van toepassing wees op die meeste kinders en gesinne wat deur OSV en tydelik geraak word. Die inligting wat uit hierdie studie verkry word, kan bydra tot die praktyk vir intervensies wat fokus op die insluiting van ouerbetrokkenheid by die bestuur van die gesondheid en ontwikkeling van jong kinders wat deur OSV geraak word. Daarbenewens kan hierdie studie deurlopende navorsing en praktyk in verband met die tyd van informasie inlig om hulpbronne te bepleit en onderwys strategieë te skep wat ouers optimaal sal ondersteun, sowel as hul kinders se betrokkenheid by betekenisvolle beroepe. Die inligting uit hierdie studie bied unieke inligting uit die Suid-Afrikaanse konteks wat tot dusver nog nie nagevors is nie.

Die studie sal deelnemers uit verskillende gebiede in Kaapstad werf. 'n Totaal van tien biologiese ouers van kinders onder die ouderdom van 8 jaar en wat met ASS gediagnoseer is, sal geïdentifiseer word en uitgenooi word om aan hierdie studie deel te neem. As u instem om aan die studie deel te neem, word daar van u verwag om twee of drie onderhoude gedurende drie maande te neem gedurende die periode vanaf *[voeg datums hierin in]* van ongeveer sestig tot negentig minute elk met die navorser. Dit sal gedoen word deur middel van aangesig tot aangesig onderhoude, of verkieslik deur middel van aanlyn-vergaderings waar moontlik. Ten einde die risiko van verspreiding van die COVID-19-virus tydens onderhoude tot die minimum te beperk, sal daar van u en die navorser verwag word om die nodige sosiale afstand te hou, 'n goed geventileerde of buitenshuise ruimte te gebruik (verkies), 'n masker dra, die regte handwas- en ontsmettingsmiddelriglyne tydens u onderhoud te behou.

Tydens die onderhoude sal u uitgenooi word om u sienings en ervarings rondom u kindertyd te deel. U name en enige identifiserende inligting oor u of u kind sal nie gedokumenteer of met iemand gedeel word nie. Al die onderhoude moet deur die navorser opgeneem word, om later deur die navorser getranskribeer te word vir data-analise. Hierdie klankopnames en alle geskrewe inligting sal vertroulik geberg word en op 'n databasis wees waartoe slegs die navorser en haar studieleiers toegang het. Alle data sal na vyf jaar verwyder word. Die navorser sal die bevindinge van die studie aan u voorlê om te verifieer dat dit weerspieël wat u gesê het, om te verseker dat daar duidelikheid is oor wat gedeel is en hoe dit geïnterpreteer is. U ontvang 'n opsomming van die finale navorsingsbevindingsprojek sodra u dit sou voltooi. U mag ongemaklikheid ervaar wanneer u ondervra word as u 'n slegte ervaring onthou met u kind se blootstelling aan skerms. Die navorser sal probeer om u hierdeur ten beste te ondersteun indien dit sou gebeur, en verwys u indien nodig vir verdere professionele ondersteuning. Die studie bied u die geleentheid om ander, wat deur ASD geraak kan word, te waardeer en te deel, van u begrip en persepsie ten opsigte van die tyd van u kinders. Die navorser is nie van plan om u vaardighede en vermoëns as ouer van 'n kind met ASS te evalueer of te beoordeel nie, maar is eerder van plan om insig en begrip te kry oor die ingewikkeldheid rondom u kind se tyd.

Let daarop dat hierdie studie geen eksterne befondsing ontvang nie. Daar is geen koste verbonde aan u nie en geen vergoeding vir deelname aan hierdie studie nie. Vervoer of datakoste word vergoed vir 'n bedrag van tot R80 per onderhoud, waar van toepassing.

Ek vertrou dat hierdie inligting help om te verstaan wat hierdie navorsing behels. Kontak my gerus oor enige vrae of indien u addisionele inligting benodig.

Met bedanke.

Faatima Ebrahim- e-pos: Faatima.e.a@gmail.com tel: 0823626045

BSc (Arbeidsterapie)

MSc-student

Studieleier: Dr. Pam Gretschel e-pos: pam.gretschel@uct.ac.za en

Mnr. Iesrafeel Abbas e-pos: iesrafeel.abbas@uct.ac.za

HREC kontakbesonderhede:

Professor Marc Blockman Marc.blockman@uct.ac.za

Die Etiese Komitee vir Menslike Navorsing.

Vloer E53, Kamer 46

Old Main Building

Groote Schuur-hospitaal, Observatory, 7925

Appendix B.2

Ifom yemvume eyazisiweyo yabathathi-nxaxheba

Ukutyikitywa kwam apha ngezantsi kubonisa ukuba ndiyifundile ingcaciso ebonelelweyo kwaye ndigqibe kwelokuba ndithathe inxaxheba kwiprojekthi enesihloko: Umbono wabazali ngokusetyenziswa kwesikrini kubantwana abancinci abane-autism spectrum disorder (ASD).

Ndiyavuma le miqathango idweliswe ngezantsi:

1. Imvume yam ikhethwa ngokuzithandela. Isigqibo sam sokuba ndithathe inxaxheba okanye andithathi, asizukuthintela ubudlelane bam neYunivesithi yaseKapa kunye ne-Autism Western Cape endifumana kuyo iinkonzo.
2. Ukuba ndithatha inxaxheba kolu phando, ndingafumana okanye ndifumane ulwazi kunye neekopi malunga neprojekthi ngokunxibelelana nomphandi oqhuba isifundo.
3. Ndiyayamkela into yokuba ukuthatha kwam inxaxheba kolu phando kuyimfihlo, kwaye akukho mfuneko yokuba ndixele nakubani na othabatha inxaxheba kwaye akufuneki ndibelane ngolwazi olumalunga nolu phononongo kuye nabani na ongabandakanyekanga kolu phando.
4. Ndiyaqonda ukuba akusayi kubakho zibonelelo zemali kum ngokuthatha inxaxheba kolu phando.
5. Ndiyayiqonda into yokuba ndingabuyiselwa iindleko zothutho okanye zeedatha ukuya kwelona xabiso liphezulu le-R80 kudliwanondlebe apho kufanelekileyo.
6. Ndiyabhengeza ukuba andibandakanyeki nakuluphi uphando lwangoku olunxulumene nabantwana abane-Autism
7. Ndiyaqonda ukuba ndingarhoxa ekuthatheni inxaxheba kwam kuphononongo nangaliphi na ixesha kwaye ndinokukhetha ukungaphenduli nayiphi na imibuzo endingafuni kuyiphendula. Ukuba ndithatha isigqibo sokuthatha inxaxheba, ndikhululekile ukuyeka ukuthatha inxaxheba nangaliphi na ixesha ngaphandle kokukhetha. Ukuba ndinqwenela njalo, ulwazi lwam lunokususwa kuphando olubhaliweyo.
8. Ndiyaqonda ukuba ndinganxibelelana neKomiti yeeNqobo eziseSikweni yoPhando lwaBantu (iinkcukacha zoqhakamshelwano: UNjingalwazi Marc Blockman Marc.blockman@uct.ac.za, iKomiti yeeNqobo eziseSikweni yoPhando lwaBantu, kuMgangatho E53, Igumbi lama-46, e-Old Main Building, eGroote Schuur Hospital, I-Observatory, 7925) kunye nenombolo yenombolo yeenqobo ezisesikweni: _____ [isalindile] okanye ungaqhagamshelana neesuphavayiza zabaphandi uGqirha Pam Gretschel: pam.gretschel@uct.ac.za noMnu Iesrafeel Abbas: iesrafeel.abbas@uct.ac.za, ukuba Ndinezikhalazo kunye nemibuzo malunga namalungelo kunye nentlalontle njengomthathi-nxaxheba kuphando nangaliphi na ixesha ngeli xesha lokufunda
9. Ndiyaqonda ukuba olu phononongo aluhlawulwa yi-inshurensi yolwaphulo olunxulumene nophando.

Ukutyikitya kwakho apha ngezantsi kubonisa ukuba ufundile kwaye waqonda ulwazi olunikezwe apha ngasentla, unethuba lokubuza imibuzo, kwaye uyavuma ukuthatha inxaxheba kolu phando.

Utyikityo: _____Umhla: ____Faatima Ebrahim

BSc (Unyango emsebenzini)

Umfundi weMSc

Appendix C

Informed consent form for participants

My signature below indicates that I have read the information provided and have decided to participate in the project titled: Parent's perceptions of screen time use in young children with autism spectrum disorder (ASD).

I agree to the conditions listed below:

1. My consent is optional and voluntary. My decision whether to participate or not, will not prejudice my present or future relations with the University of Cape Town nor with Autism Western Cape (AWC) that I receive services from.
2. If I participate in this research, I can receive or gain access to the information and copies about the project by contacting the researcher conducting the study.
3. I accept that my participation in this study is confidential, that I do not have to disclose to anyone of my participation nor do I have to share information relating to this study with anyone not involved in the research.
4. I understand that there will be no financial benefits to me for participating in this study.
5. I understand that I may be reimbursed for transport or data costs to a maximum amount of R80 per interview whichever is applicable.
6. I declare that I am not involved in any current research study related to children with ASD.
7. I understand that I may withdraw my participation from the research study at any time and that I may choose not to answer any questions that I do not want to answer. If I decide to participate, I am free to discontinue participation at any time without prejudice. If I so wish, my information can be removed from the research write up.
8. I understand that I may contact the Human Research Ethics Committee (*contact details: Professor Marc Blockman Marc.blockman@uct.ac.za, The Human Research Ethics Committee, Floor E53, Room 46, Old Main Building, Groote Schuur Hospital, Observatory, 7925*) and quote Ethical clearance number: *HREC REF 253/2021*] or may contact the researchers' supervisors Dr Pam Gretschel : pam.gretschel@uct.ac.za and Mr Iesrafeel Abbas: iesrafeel.abbas@uct.ac.za, if I have complaints and questions about my rights and welfare as a research participant at any point during this study.
9. I understand that this study is not covered by insurance for research related injury.

Your signature below indicates that you have read and understood the information provided above, have had an opportunity to ask questions, and agree to participate in this research study.

Signature: _____ Date:

_____Faatima Ebrahim

BSc (Occupational Therapy)

MSc student

Appendix C.1

Ingeligte toestemmingsvorm vir deelnemers

My onderstaande handtekening dui aan dat ek die verstrekte inligting gelees het en besluit het om deel te neem aan die projek getiteld, Ouers se persepsie van die gebruik van die groot tyd by jong kinders met outismespektrumversteuring (ASS).

Ek stem in tot die onderstaande voorwaardes:

1. Ek verstaan dat ek te alle tye my deelname aan die navorsing mag onttrek en dat ek mag kies om nie vrae te beantwoord wat ek nie wil beantwoord nie.

2.My toestemming is opsioneel en vrywillig. My besluit om deel te neem of nie, sal nie my huidige of toekomstige betrekkinge met die Universiteit van Kaapstad of die outisme Wes-Kaap waaruit ek dienste ontvang, benadeel nie. As ek besluit om deel te neem, is dit my vry om die deelname te eniger tyd te staak sonder om te benadeel. As ek wil, kan my inligting uit die opskrywing van die navorsing verwyder word.

3. As ek aan hierdie navorsing deelneem, kan ek die inligting en afskrifte van die projek ontvang of verkry deur kontak te maak met die navorser wat die studie uitvoer.

4. Ek aanvaar dat my deelname aan hierdie studie vertroulik is, dat ek aan niemand van my deelname hoef bekend te maak nie en dat ek ook nie inligting rakende hierdie studie moet deel met iemand wat nie by die navorsing betrokke is nie.

5. Ek verstaan dat daar geen finansiële voordele vir my sal wees vir deelname of koste wat my aangegaan het as gevolg van deelname aan hierdie studie nie.

6. Ek verstaan dat ek, indien van toepassing, vergoed kan word vir vervoer- of datakoste tot 'n maksimum bedrag van R80 per onderhoud.

7. Ek verklaar dat ek nie betrokke is by enige huidige navorsing wat verband hou met kinders met outismespektrumversteuring nie

8. Ek verstaan dat ek my deelname te eniger tyd uit die navorsing mag onttrek en dat ek mag kies om nie vrae te beantwoord wat ek nie wil beantwoord nie. As ek besluit om deel te neem, is dit my vry om die deelname te eniger tyd te staak sonder om te benadeel. As ek wil, kan my inligting uit die opskrywing van die navorsing verwyder word.

9. Ek verstaan dat ek die Etiese Komitee vir Menslike Navorsing mag kontak (kontakbesonderhede: HREC kontakbesonderhede:

Professor Marc Blockman Marc.blockman@uct.ac.za, Die Etiese Komitee vir Menslike Navorsing, Vloer E53, Kamer 46, Ou Hoofgebou, Groote Schuur-hospitaal, Observatory, 7925, en haal die etiese klaringsnommer aan: *HREC REF 253/2021*] as ek op enige stadium tydens hierdie studie klagtes en vrae het oor my regte en welsyn as navorsingsdeelnemer.

10. Ek verstaan dat hierdie studie nie gedek word deur versekering vir navorsingsverwante beserings nie.

U onderstaande handtekening dui aan dat u die inligting hierbo gelees en verstaan het, die geleentheid gehad het om vrae te stel en instem om deel te neem aan hierdie navorsingstudie.

Handtekening: _____Datum: _____

Faatima Ebrahim

BSc (Arbeidsterapie)

MSc-student

Toesighouers: Dr. Pam Gretschel e-pos: pam.gretschel@uct.ac.za en

Mnr. Iesrafeel Abbas e-pos: iesrafeel.abbas@uct.ac.za

Appendix D

Interview guide

Conversation starters:

Researcher to introduce self, enquire about participants comfort, Recap purpose of study and process of this interview. Ask if participants have any questions or need clarity on study related matters. Remind participants that interviews are recorded before agreeing to begin the data collection.

Introductory questions

Tell me a little bit about yourself with respect to your child and family?

Where do you live and who lives with you? Are you employed?

How old is your child?

How old was your child when they were diagnosed with ASD? Who diagnosed your child?

Who is involved in caring for your child?

Tell me about your child's abilities and challenges?

How does your child communicate with you?

How does your child engage with others in your family?

Study specific directed questions

Objective 1: To identify and describe parents understanding of how and why their children use screen-based media.

What technology and devices that involve screen time does your child have access to?

What do you know about Screen time related to children with autism spectrum disorder?

Can you tell me about how and why your child uses Screen time?

- Which devices do they use mostly?
- What do they use it for?
- When do they use it?
- How much of their day do they use it? Is it 30mins -2 Hours or 2-4 hours or 4-8 hours or more than 8 hours per day?

- Is screen time for your child different on the weekends and why?

- What content do they access during screen time? Is it movies, you tube, games, learning apps, video conferencing, online schooling?

Objective 2: to identify and describe parents' percptions of the effects of screen time on their children's lives.

Can you tell me how you feel about your child's Screen time?

Can you tell me how does Screen time of your child benefit you and your child? Are there any benefits? What are the benefits to your family?

Can you tell me about how screen time negatively affects your child, and your family?

Do you think you need to manage the screen time of your child in any way? (If yes, how do you manage the screen time of your child?)

Can you tell me how Screen time affects your relationship and ability to engage with your child?

Objective 3: To identify and describe how screen time has changed and the challenges around using screen-based media *for their children during the COVID -19 pandemic.)* to identify and describe changes in screen time, (including time spent, functionality and content) and challenges around using screen-based media for their children during the COVID -19 pandemic.

Tell me about how screen time has changed for your child since the start of the COVID-19 pandemic.

What has changed and why?

- Is your child using screen time more or less?
- Has the content of what they use changed?
- why are they using it?

What are the challenges now?

How has screen time been of benefit to your child during the pandemic?

Do you have any questions or comments for the researcher? would you like to know more about anything? if you think of anything after the interview that you would like to add, please make a note of it and let the researcher know at the next interview.

Schedule next interview date.

Appendix D.1

Follow up-member check interview guide.

Researcher to enquire about participants comfort, Recap purpose of study and process of this interview. Ask if participants have any questions or need clarity on study related matters. Remind participants that interviews are recorded before agreeing to begin the data collection.

Researcher will confirm that the participant verifies the transcribed interview that was emailed to them before this phone call. Then present a summary of key points and any emerging codes and themes (if established), for member checking and verification. Participants will be encouraged to ask questions and clarify or add to any points that need further explaining.

Remind participants that a summary report of the data from the study can be disseminated to them if they so wish via email.

Do you wish to receive such a report on completion of the study? If so, please provide an email address for it to be sent to.

Researcher to thank participants and terminate the research process.

Appendix E

Confidentiality agreement - Translator

I, _____

have been engaged as a research translator for the study titled: Parent perceptions of Screen time use in young children with autism spectrum disorder, and may be required to interpret, translate or transcribe interviews in this role. In carrying out these activities, I undertake to communicate information fully and faithfully, to the best of my abilities.

I understand that all information provided by interview participants is confidential, and I agree not to use or disclose this information except as required during my duty as a translator. My participation is voluntary. I will not receive any financial remuneration for assisting in this study, nor will there be any costs incurred to me for volunteering.

My signature below indicates that I have read and understood the information provided above, have had an opportunity to ask questions, and agree to volunteer as a translator in this research study.

Translator Signature: _____ Date:

Researcher: Faatima Ebrahim

BSc (Occupational Therapy)

MSc student

Supervisors: Dr Pam Gretschel and Mr Iesrafeel Abbas UCT

Appendix F

Ethics approval letter

UNIVERSITY OF CAPE TOWN
Faculty of Health Sciences
Human Research Ethics Committee

Room G50- Old Main Building
Groote Schuur Hospital
Observatory 7925
Telephone [021] 406 6492
Email: hrec-submissions@uct.ac.za
Website: www.health.uct.ac.za/fhs/research/humanethics/forms

29 June 2021

HREC REF: 253/2021

Dr P Gretschel
Division of Occupational Therapy
F-45, OMB
Email: pam.gretschel@uct.ac.za
Student: Ebrfaa002@myuct.ac.za

Dear Dr Gretschel

PROJECT TITLE: PARENT PERCEPTIONS OF SCREENTIME USE IN YOUNG CHILDREN WITH AUTISM SPECTRUM DISORDER-MSC CANDIDATE-MRS FAATIMA EBRAHIM

Thank you for the thoughtfully and comprehensively response addressing the comments. The HREC wish you all the best with the research.

It is a pleasure to inform you that the HREC has **formally approved** the above-mentioned study.

This approval is subject to strict adherence to the HREC recommendations regarding research involving human participants during COVID -19, dated 17 March 2020 & 06 July 2020.

Approval is granted for one year until the 30 June 2022.

Please submit a progress form, using the standardised Annual Report Form if the study continues beyond the approval period. Please submit a Standard Closure form if the study is completed within the approval period.
(Forms can be found on our website: www.health.uct.ac.za/fhs/research/humanethics/forms)

The HREC acknowledge that the student: - Mrs Faatima Ebrahim will also be involved in this study.

Please quote the HREC REF 253/2021 in all your correspondence.

Please note that the ongoing ethical conduct of the study remains the responsibility of the principal investigator.

Please note that for all studies approved by the HREC, the principal investigator **must** obtain appropriate institutional approval, where necessary, before the research may occur.

Appendix G

COVID-19 Screening checklist

Date: On the day of the scheduled interview

Participant's name:

Dear Participant

Thank you for your cooperation and understanding during this difficult time. We appreciate your commitment to this research study.

In order to minimise the risk of spreading the COVID-19 virus you and the researcher will be expected to keep appropriate social distancing, use a well ventilated or outdoor space (preferred), wear a mask, follow proper hand-washing and disinfectant guidelines during your interview.

please answer the following questions prior to your research interview. Your interview will need to be rescheduled to another time if you answer yes to any of these questions.

1. Have you had any of the following symptoms in the past two weeks, even if they were mild? (Note: the incubation period for COVID-19 is believed to be 2 to 14 days.)

Symptom	Yes	No
Cough		
Shortness of breath		
New loss of taste or smell		
Congestion or runny nose		
Nausea or vomiting or Diarrhoea		
Fever or chills		
Throat pain		
Headache		
Muscle aches that are not attributable to another medical condition or another specific activity		

2. Have you had close contact with a person who tested positive for or is under investigation for possible COVID-19 in the last two weeks? being within approx. 2 meters of a COVID-19 case for a period of 15 mins or more. Close contact can occur while caring for, living with, visiting, or sharing a health care waiting area or room with a COVID-19 case OR (b) having direct contact with infectious secretions of a COVID-19 case (e.g., being coughed on).

3. Do you have any co morbidities or health conditions that could put you at greater risk of the COVID-19 virus effects such as?

- Over 60 years of age
- Underlying health conditions including heart disease, lung disease, or diabetes.
- Weakened immune systems.
- Pregnant

Thank you for answering these questions.

Faatima Ebrahim

BSc (Occupational Therapy)

MSc student

Supervisors: Dr Pam Gretschel and Mr Iesrafeel Abbas UCT