LIVED EXPERIENCES OF PARENTS AND PROFESSIONALS WITH TECHNOLOGY AND EMOTIONAL DYSREGULATION IN CHILDREN AGES 3-5-YEARS OLD: A PHENOMENOLOGICAL STUDY

by

Angela Rathkamp

Liberty University

A Dissertation Proposal Presented in Partial Fulfillment

of the Requirements for the Degree

Doctor of Philosophy

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ABSTRACT

Digital devices have become more extensively used and have created a dramatic shift in how children, adolescents, and families use this technology. Excessive screen time has been associated with increased behavioral health problems, sleep disturbances, anxiety, depression, and decreased family functioning. The relationship between problematic technology use and emotional dysregulation in young children is just emerging, therefore leaving a gap in research literature. The purpose of this study was to explore the lived experiences of parents and professionals with technology and emotional dysregulation in children ages 3-5-years-old and to identify emotional characteristics specific to technology and emotional dysregulation. It further explored the lived experiences of parents and professionals of children ages 3-5-years-old to identify themes from semi-structured interviews. Computer-assisted qualitative data analysis software, NVivo 12, was used to conduct a thematic analysis which revealed five valuable domains from the semi-structured interviews with parents and professionals. The domains included, 'responses are different and emotionally intense;' 'a subset group of children reported showing extreme reactions;' 'professionals have concerns;', 'there is a need for parental guidelines;' and 'there is a lack of tolerance in young children to any uncomfortable feelings or emotions.' These findings revealed valuable information on emotional characteristics related to this phenomenon which will bring much-needed awareness to parents, professionals, and the community. Specifically, these findings will help to better inform and prepare professionals to provide competent care to children who may be predisposed to problematic digital device use and/or adverse outcomes.

Keywords: digital devices, technology use, problematic technology use, emotional dysregulation, excessive screen time, social-emotional development, phenomenon

Dedication

I dedicate this project, first and foremost, to my Lord and Savior. It was His strength, wisdom, guidance, knowledge, and understanding that saw me through this program. I also dedicate my dissertation to many family and friends who have supported me through this arduous process. I greatly appreciate their understanding of my many hours writing and studying, the many hours of proofreading, and listening to me read page after page, night after night. A special feeling of gratitude to my colleagues and friends at the Child and Family Center. I appreciate you all more than you will ever know. Finally, I am dedicating this dissertation to several very special people who meant so much to me. Although they are no longer here on this earth and will not be here to celebrate, their memories will continue to resonate throughout my life.

Acknowledgments

There are so many individuals who helped me along this journey. I want to take a moment to thank them. First, and foremost, I want to thank God for his unfailing love. He was and continues to be a constant source of strength and wisdom. I also want to thank my dissertation committee. Without their expertise, guidance, and support, the completion of this project would not have been possible. To Dr. Margaret Gopaul, my professor and dissertation chair, I am incredibly grateful for your wisdom, constant encouragement, and guidance. You truly went above and beyond to help me reach my personal goals. To Dr. Brittany Hernandez, your knowledge and detailed feedback as a professor and dissertation member was so much appreciated. I also am grateful for all those whom I have had the pleasure to work with during this project. Each of you have provided me extensive personal and professional guidance. I would especially like to thank Svetlana McLaughlin and Chelsea Corbett for being my biggest fans. You both have listened and supported me through each stage of development of this project. I also would like to thank Dr. Abbey Tingle for her love, emotional support, IT support, and my source of laughter through this process. To Dr. Samantha Scott, I am thankful for your time, support, and guidance in the development of my research topic. Finally, to my husband, Jim, and three daughters, Allison, Emily, and Sarah. I so much appreciate your unconditional, unequivocal, and loving support. Your constant love and support kept me motivated through each stage of this journey.

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CHAPTER 1: INTRODUCTION TO THE STUDY

Introduction

Research on digital device usage and its detrimental effects in young children is still limited. However, emerging research suggested that the overuse/misuse of digital devices is negatively affecting children's sleep, emotional regulation, behaviors, attention problems and family functioning (Danet, 2020; Lin et al., 2020). The purpose of this qualitative phenomenological study was to explore and understand the lived experiences of parents and professionals with technology and emotional dysregulation in children ages 3-5-years-old. Gaining an understanding of the emotional reactivity in young children when using digital devices aided in the identification of emotional characteristics that are specific to technology use and emotional dysregulation in children which could potentially provide data to be used in future research for the development of a rating scale. Understanding the phenomenon of emotional dysregulation as it relates to technology usage in children ages 3-5-years-old will aid in the early identification of children who may be more prone to problematic device usage. Furthermore, it will aide professionals in the development of treatment protocols for these children in order to prevent adverse outcomes later in life (Conye et al., 2021; Giordano et al., 2021).

Background

The Uprising of Digital Devices

The way children and adolescents today learn, play, and interact with one another has drastically changed over the past 15-20-years (Kushley & Dunn, 2019). In 2017, nationwide, parents of children 2-years-old and younger reported their child consumed on average 1 hour of digital media per day. Furthermore, 75-96% of infants used media

daily. This explosion of technology (use and ownership) has created this dramatic shift in how individuals and families interact (Kushley & Dunn, 2019). Smartphones have penetrated society at an unprecedented speed. This trend is revolutionizing not only when, but where and how people work, play, and socialize (Coyne et al., 2021; Kushley & Dunn, 2019).

Almost every area of modern life is permeated by digitalization (Braune-Krickau et al., 2021). Newer types of media, such as tablets and smartphones, are also contributing to the increased average screen exposure time in children and adolescents (Parent at al., 2017). Digital media has flourished in the digital age, allowing additional opportunities for individuals to use technology any place at any time. The number of children ages 0-8-years-old who have access to digital media increased from 52% in 2010 to 75% in 2013 (Domoff et al., 2019). With this growing influx of use and ownership also comes growing concern about the potential negative implications the newer media have on a child's development and how parents can monitor and manage its use.

Young Children's Digital Media Use

Children are being introduced to digital technology almost immediately after their birth due to the advances made in communication and information technologies (Kulakci-Altintas, 2020). The activities that children engage in while using digital technology can lead to negative experiences, such as seeing upsetting pictures, receiving unwanted messages from strangers, and online aggression or cyberbullying (Bolenbaugh et al., 2019, Smahelova et al., 2017). Alternatively, engaging in digital technology use can also lead to positive experiences and outcomes, such as learning new information, enhancing social skills, and expression of identities (Smahelova et al., 2017).

During early childhood, physical, psychomotor, social-emotional, and language development is happening rapidly, and the child's personality is constantly changing and being molded (Kalakci-Altintas, 2020). Children tend to adapt to their environment during this time of constant change; however, they also are completely dependent upon adults for their physical, psychological, and emotional needs. Furthermore, a child's relationship with technology, according to several studies, may be learned from observing their parents' relationship with digital technology (Giordano et al., 2021; Hefner et al., 2019)

Problematic Technology Use in Young Children

Problematic technology use is defined as excessive media use that disrupts the child's functioning (Coyne et al., 2021, Radesky, 2020). The excessive use/misuse of the technology encapsulates a dysfunction in both social and behavioral development (Coyne et al., 2021). The role of technology and persuasive design may actually contribute to problematic use in young children (Domoff et al., 2020).

The growth of the ownership and access to digital devices has not only created opportunities but challenges as well for raising young, healthy digital users (Domoff et al., 2020). The digital device designs are allowing for more independent use at a younger age, and the apps and various platforms are using marketing techniques to attract very young children for educational or entertainment purposes (Domoff et al., Radesky et al., 2020). Many of the apps and platforms are designed so that children may not be able to resist them due to the persuasive design features, such as designs that prolong use and provide content feed that is tailored specifically to the interests of the child (Domoff et al., 2020).

Research has indicated that parents perceive the internet and social media to be an integral part of their children's lives but feel that their use of technology is excessive; they lack an understanding of harmful and inappropriate content, and they do not always understand the implications of their behaviors when using technology (Bolenbaugh et al., 2020).

Emotional Effects of Young Children's Media Use

The effects of young children's media use differ based on content and context (Domoff et al., 2020). Some digital media use promotes positive social-emotional skills and emotional development while other use may be linked to adverse outcomes. Research has indicated that such outcomes may include a decrease in cognitive development and language development, as well as poor emotional regulation (Coyne et al., 2021).

A strong emotional reaction or emotional reactivity to the removal of digital technology may possibly indicate the young child is developing problematic digital technology usage (Coyne et al., 2021). This strong emotional reaction consists of the young child throwing tantrums, whining, crying, hitting, or resisting in stopping the use of the digital technology. Coyne et al. (2021) suggests that the young child's temperament, problematic technology usage and the use of technology to regulate emotions may all be related.

Biblical Foundation

Understanding science from an integrated perspective is important to effectively intertwine psychology and Christianity when conducting research. Using a true integrated approach to psychology and Christianity means one would approach the discipline of

psychology with a commitment to God's word as a solid foundation for one's beliefs and assumptions that will shape every aspect of one's work.

In his letters to Ephesus, Paul writes in Ephesians 6:1-3 (*Christian Standard Bible*, 2017), "Children, obey your parents in the Lord, because this is right. Honor your father and mother, which is the first commandment with a promise, so that it may go well with you and that you may have a long life in the land." Research indicates that the persuasive design techniques of digital technology can lead to more prolonged use, sleep disturbances, and a preference for digital activities that provide an external reinforcement (Domoff et al., 2020). The very nature of this digital technology design could challenge a child's ability to obey and honor their parents' rules regarding limits and boundaries set for digital technology usage.

Human suffering is universal and pervasive and entered the world because of the Fall (Clinton & Ohlschlager, 2002). It can affect one's body, soul, and spirit, affect family units, and damage relationships. Similarly, problematic technology use can challenge children's behaviors, elicit non-compliance when redirected to a undesirable activity, affect emotion regulation, and affect parent-child relationships (Capri et al., 2019; Coyne et al., 2021; Danet, 2020; Domoff et al., 2020).

Problem Statement

The problem is the relationship between problematic technology use and emotional dysregulation in young children is just emerging, therefore leaving a gap in research literature (Conye et al., 2021; Domoff et al., 2020; Lin et al., 2020). Current research in this area focused mainly on the effects digital technology had on the health and wellbeing of school-aged children and adolescents (Danet, 2020; Giordano et al.,

2021). Additionally, measurements that effectively identify young children who are more prone to problematic technology usage and adverse outcomes appeared to be non-existent.

Digital devices are becoming more widely used and have created a dramatic shift in how children, adolescents and families use this technology (Domoff et al., 2019; Lin et al., 2020; Radesky, 2018). Excessive screen time has been associated with behavioral health problems, sleep disturbances, increased anxiety and depression symptoms, and adverse effects on family functioning (McDaniel & Radesky, 2018). Additionally, research indicated that young children who spend more time on digital devices are more likely to have emotional problems, attention problems, and aggressive behaviors due to being more susceptible to exposures during this critical period in brain development and in the development of emotional regulation (Domoff et al, 2020; Lin et al.; Radesky et al., 2016).

Purpose of the Study

The purpose of this qualitative phenomenological study was to explore and understand the lived experiences of parents and professionals with technology and emotional dysregulation in children ages 3-5-years-old. Furthermore, this research study aimed to develop domains, which emerged from themes from the semi-structured interviews, to potentially be used for future research and rating scale development. Such a rating scale could be used in the future by pediatricians and clinicians when determining diagnosis and treatment of behavioral problems associated with emotional dysregulation in young children as it relates to their technology usage.

Research Question(s)

RQ1: How did parents of children ages 3-5-years-old who are experiencing emotional dysregulation as it relates to their technology usage describe their lived experiences?

RQ 2: How did teachers of children ages 3-5-years-old who are experiencing emotional dysregulation as it relates to their technology usage describe their lived experiences?

RQ 3: How did physicians of children ages 3-5-years-old who are experiencing emotional dysregulation as it relates to their technology usage describe their lived experiences?

RQ 4: What were the distinguishing emotional characteristics of emotional dysregulation as it relates to technology usage based on the parents of children ages 3-5-years-old lived experiences?

RQ 5: What were the distinguishing emotional characteristics of emotional dysregulation as it relates to technology usage based on the teachers of children ages 3-5-years-old lived experiences?

RQ 6: What were the distinguishing emotional characteristics of emotional dysregulation as it relates to technology usage based on the physicians of children ages 3-5-years-old lived experiences?

RQ 7: What themes emerged from the semi-structured interviews to inform and develop a future rating scale for children ages 3-5-years-old who are experiencing emotional dysregulation as it relates to their technology usage?

Assumptions and Limitations of the Study

There were several assumptions made about the current research study. The first assumption was the information gathered from semi-structured interviews would provide the needed information to generate themes from the parents', teachers', and

professionals' lived experiences. Additionally, identified themes would show consistency in the emotional characteristics of children ages 3-5-years-old who are experiencing emotional dysregulation as it relates to their technology usage. It was also assumed parents' self-reports could be biased and are based on their perceptions and the gathering of data could be time consuming. Furthermore, there was an assumption that emotion regulation difficulties predict both substance-related and non-substance related behavioral addictions.

Several limitations were also noted. The researcher for this study interviewed 6 parents, 6 teachers/daycare providers and 3 physicians from one area on the Eastern Shore of Maryland, thus limiting the generalizability of information gathered. Another major limitation was the inability to ensure reliability and validity of the semi-structured interviews since the interview questions were created by the researcher. Also, the limited time/availability of the professionals (physicians, teachers) due to their busy work schedules created a potential challenge for the researcher. Additionally, the limited time availability impeded upon the responses that were given and how much time individuals had for the actual interview. It is also possible that since information was gathered based on the lived experiences of parents, the perceptions of the emotional dysregulation may have differed based on multiple variables (e.g., parenting styles). Additionally, parent participants might have been worried about the judgement from the researcher regarding their responses and parenting of the children's emotional responses, therefore limiting what information they were willing to share.

Theoretical Foundations of the Study

According to the social-cognitive theory, the social environment plays a critical role in motivation, learning and self-regulation (Bandura 1977; Schunk & DiBenedetto, 2020. This theory, proposed by Albert Bandura, suggests that human behavior is motivated and regulated by self-influence (Bandura, 1977; Bandura et al., 1977; Schunk & DiBenedetto, 2020). Bandura believed that neither intention nor desire alone is effective enough for self-directed change without an individual's capability of applying influence to their own motivation and behavior (Bandura, 1991). These earlier views of social-cognitive theory were often referred to as "social learning theories" (Schunk & DiBenedetto, 2020).

The earlier social learning theory emphasized the importance of observational learning, which is a type of learning that occurs in the absence of obvious performance by the learner (Bandura, 1977). In order for this observational learning to occur, individuals must have a model for the behavior, cognitively retain what the model did, produce the modeled behavior, and have the motivation to do so (Schunk & DiBenedetto, 2020).

Children learn to imitate their parents' behavior from a young age (Bandura, 1977), and it is highly likely that a child's relationship to technology can be attributed to their observing parents' technology usage (Domoff et al., 2020). If parents are using technology excessively, this may be modeled to the child. Additionally, research has indicated that frequent use of technology during parent-child interactions leads to less sensitivity, preoccupation (Radesky et al., 2018) and less responsiveness to the child while interacting. Furthermore, parents have admitted to using technology to withdraw from stressful family interactions, which may further model to the child the use of technology for self-regulation (Domoff et al., 2020).

According to social-cognitive theory, children with high self-efficacy are more apt to develop effective coping strategies for managing stressors (Bandura, 1999). Research is lacking concerning correlations between self-efficacy and problematic technology use; however, there is emerging research indicating there are long-term associations between self-regulation and problematic technology use (Domoff et al., 2020).

Social-cognitive theory sees a person as an active, rational agent, responsible for and able to change behaviors (Bandura, 1999). The bible supports this idea by encouraging individuals to "Love the Lord your God with all your heart and with all your soul and with all your strength" (Deuteronomy 6:5, *Christian Standard Bible*, 2017). This type of attending behavior is a powerful skill. Additionally, Deuteronomy 6:6-9, reminds believers to keep the Lord's commandments on their heart and to impress them on their children. In order demonstrate and model appropriate behavior to impress the young minds of children, parents should talk, teach, and reflect God's word.

Definition of Terms

The following is a list of definitions of terms that are used in this study.

1. *Emotional Dysregulation* **–** Emotional dysregulation is defined as the difficulty in recognizing and managing emotions and the internal and external processes involved (Giordano et al., 2021).
2. *Emotional Characteristics* – Emotional characteristics for the purpose of this proposed study will refer to the characteristics of the behaviors/reactions/emotions of children when interacting with digital technology or having digital technology removed (e.g., yelling, tantrums, aggression, frustration, anger) (Coyne et al., 2021).

3. *Observational Learning* – Observational learning is defined as learning that occurs in the absence of obvious performance by the learner (Schunk & DiBenedetto, 2020).

4. *Parental Mediation* – Parental mediation refers to the parents' management of a child's relationship with media (Smahelova et al., 2017).

5. *Problematic Technology Use* – Problematic technology use refers to excessive technology that interferes with the child's functioning (Domoff et al., 2020).

6. *Social-Cognitive Theory* **–** Social-cognitive theory is defined as a psychological perspective on human functioning that emphasizes the importance of social environment on motivation, learning, and self-regulation (Schunk & DiBenedetto, 2020).

7. *Social-Learning Theory* **–** Social-learning theory is defined as Bandura's Theory and refers to the psychological perspective on human functioning that emphasizes the role the environment plays on an individual's motivation, learning, and self-regulation (Schunk & DiBenedetto, 2020).

8. *Self-Efficacy* **–** Self-efficacy is defined as a person's belief that they are capable of exercising control over their own level of functioning. Self-efficacy influences choices individuals make (Bandura, 1991).

9. *Technology Usage* – Technology usage for the purpose of this proposed study refers to the use of digital screen media (e.g., smartphone, tablet, television, computers) (Coyne et al., 2021).

Significance of the Study

The outcome of this study could immensely advance the theoretically-driven research gained from previous studies (Cho & Lee, 2017; Conye et al., 2021, Giordano et al., 2021; Lin et al., 2020). Through exploration of a phenomenon and the identification

of distinguishing emotional characteristics of emotional dysregulation as it relates to technology usage from other forms of emotional regulation, educational and preventative programs could be established. Additionally, understanding the phenomenon of emotional dysregulation as it relates to technology usage in children ages 3-5-years-old will aid in the early identification of children who may be more prone to the development of problematic technology usage (Conye et al., 2021, Domoff et al., 2020).

The early identification of risk for adverse outcomes related to technology will bring much needed awareness to the community regarding the phenomenon of emotional dysregulation as it relates to technology in children (Cho & Lee, 2017). This research study will not only greatly benefit the community, as a whole, but also professionals working with young children and their families, clinicians working with children ages 3-5 years old, and parents who have young children and are trying to navigate raising healthy technology users (Conye et al, 2021; Domoff et al., 2020; Giordano et al., 2021).

For the betterment of the community, this study aimed to promote awareness and since currently there is no policy regulating technology usage in young children, educational opportunities and parental efforts are of the utmost importance (Cho & Lee, 2017). Subsequently, the awareness will help parents gain a better understanding of the importance of a more balanced approach to using digital technology with children in order to raise emotionally healthy children.

Exploration of the lived experiences of parents of children ages 3-5-years old as it relates to their technology usage, offers insight regarding the emotional dysregulation and if it is affecting the child, the parents, and the family as a unit (Conye et al., 2021, Domoff et al., 2020). Understanding those lived experiences will consequently guide

professionals working with young children and their families. Identification of children who are more prone to technology addiction allows professionals to provide interventions that will potentially prevent long-term implications of problematic usage to emotional regulation development (Cho & Lee, 2017; Conye et al., 2021, Giordano et al., 2021; Lin et al., 2020).

Summary

Interacting with digital technology devices is inevitable. While parents need to be aware of the potential dangers of overuse and over exposure to digital technology, it is also imperative to learn how to effectively use digital technology and incorporate it into family life. The problem is the relationship between problematic technology use and emotional dysregulation in young children is just emerging, therefore leaving a gap in research literature (Conye et al., 2021; Domoff et al., 2020; Lin et al., 2020). Additionally, measurements that effectively identify young children who are more prone to problematic technology usage and adverse outcomes appear to be non-existent.

While children are now being born digital natives, it is a parent's responsibility to teach their children how to understand and use media appropriately (Coyne et al, 2021). Setting clear limits and boundaries early on will be beneficial to both the child and the parents (Coyne et al., 2021, Domoff et al., 2020). Research indicated both positive and negative consequences to digital media use, both positive and negative implications for individuals, as well as challenges that children and adolescents have growing up in an ever-changing connected world (Shapiro, 2018).

Research also indicated some children are exhibiting strong emotional reactions to the removal of digital technology devices, indicating they may potentially be developing

patterns of problematic usage (Conye et al, 2021; Domoff et al., 2020). Gaining a better understanding of these emotional reactions and viewing them through a social-cognitive lens will aid professionals in guiding parents as they are trying to raise emotionally healthy children.

The knowledge gained from qualitative studies such as this study will allow researchers to gain a better understanding of phenomenon through the lived experiences of parents with their child's emotional dysregulation as it relates to their technology usage.

CHAPTER 2: LITERATURE REVIEW

Overview

The problem that was addressed and explored through this research study was the phenomenon of emotional dysregulation as it relates to technology usage in children ages 3-5-years-old. Despite all the evidence supporting the positive implications of digital technology usage among children (Ahmadzadeh et al., 2020; Small et al., 2020; Wolfers, 2020), there was mounting evidence indicating that daily digital technology usage can increase feelings of dependency (Domoff et al., 2020; Giordano et al., 2021; Haug et al., 2015; Small et al., 2020). Some experts indicated that problematic usage of digital devices is associated with withdrawal and tolerance in adolescents, which has some resemblance to a substance use disorder (Ahmadzadeh et al., 2020; Cho et al., 2017; Giordano et al., 2021; Small et al., 2020; Wolfers, 2020).

This chapter includes a detailed review of the past and current literature related to this study. It illustrates not only the challenges parents have raising their children in the digital age but also the challenges young children face as they try to learn and understand how to incorporate technology into daily life in a way that is healthy and not detrimental to their social-emotional development. Exploring and understanding how both professionals and parents of children ages 3-5-years-old described their emotional dysregulated behavior as it relates to technology aided in the identification of distinguishing emotional characteristics based on their lived experiences. Subsequently, the themes that emerged from the semi-structured interviews could potentially be used for future research and rating scale development. Such a rating scale could be used in the future by pediatricians and clinicians when determining diagnosis and treatment of

behavioral problems associated with emotional dysregulation in young children as it relates to their technology usage.

Theoretical Foundations of the Study

The theory that guides this study is the social-cognitive theory which explains how the social environment plays a critical role in motivation, learning and self-regulation (Bandura et al., 1977; Schunk & DiBenedetto, 2020). Albert Bandura proposed that human behavior is motivated and regulated by self-influence (Bandura, 1991; Bandura et al., 1977; Schunk & DiBenedetto, 2020). One of the main tenets of social-cognitive theory is that individuals are triggered by various cues, responses, and rewards, one of them being social motivation (Jenkins et al., 2018). Children learn from observing, imitating, and modeling the behaviors of others (Bandura, 1977). Research suggests that the relationship children have with technology may be a result from this direct observation of parents' technology usage (Bandura et al., 1977; Domoff et al., Schunk & DiBenedetto, 2020).

The earlier social learning theory emphasized the importance of observational learning, which is a type of learning that occurs in the absence of obvious performance by the learner (Bandura et al., 1977). In order for this observational learning to occur, individuals must have a model for the behavior, cognitively retain what the model did, produce the modeled behavior, and have the motivation to do so (Schunk & DiBenedetto, 2020). This exact concept is demonstrated in literature. Research indicates that overall family norms and parental technology habits are determinants of a child's technology use (Coyne et al., 2017; Coyne et al., 2021; Domoff et al., 2020). In this digital age, parents

have a lot of responsibility to guide their child's biological, social, and psychological development but also their development of technology literacy (Atl et al., 2019).

Children learn to imitate their parents' behavior from a young age (Bandura, 1977), and it is highly likely that a child's relationship to technology can be attributed to observing their parents' technology use (Domoff et al., 2020). If parents are using technology excessively, this may be modeled to the child. In addition to being less sensitive, less responsive, and preoccupied during parent-child interactions (Radesky et al., 2018), research indicates parents will often use technology to withdraw from a stressful family interaction (Domoff et al., 2020). Insight can be gained from previous research in regard to children's television use, indicating that parents' television use is reflected in the child's use and that it disrupts parent-child interactions (Kildare & Middlemiss, 2017). Similarly, if parent-child interactions are being affected by parental technology use and parents are using technology to escape difficult interactions, the acquisition of the child's knowledge and skill is coming directly from observational learning of these role models, also referred to as mastery modeling (Jenkins et al., 2018).

Bandura (1977) introduced the idea of self-efficacy, which is the belief that a goal or a task can be successfully completed in a particular setting (Jenkins et al., 2018). This is important to note especially as it relates to learning and skill development. According to social-cognitive theory, children with high self-efficacy are more apt to develop effective coping strategies for managing stressors (Bandura, 1999). Current literature is lacking in regard to correlations between self-efficacy and problematic technology use. Yet, there is an indication from emerging research that shows long-term

associations between self-regulation and problematic technology use (Amendola et al., 2018; Domoff et al., 2020).

Emotion regulation refers to an individual's ability to sustain, intensify, or inhibit their emotions (Amendola et al., 2018). Some individuals, when faced with an unpleasant emotional state, are unable to tolerate it without initiating a behavior to experience a temporary relief (Amendola et al., 2018). Research has indicated that technology can be used as a means to cope with stressors, depression, loneliness, and worry (Amendola et al.; Estevez et al., 2017; Potenza, 2017; Rozgonjuk & Elhai, 2019). If parents are modeling this type of behavior, one can infer, according to social-cognitive theory tenets, young children will observe, retain, and then produce the modeled behavior (Schunk & DiBenedetto, 2020). The benefit of such addictive behavior is a change in mood, ability to relax, and ability to cope with stressors, which subsequently motivates the individual to repeat the behavior (Amendola et al., 2018). It is important to note that this motivation of behavior repetition supports Bandura's idea of self-efficacy (Bandura, 1977; Schunk & DiBenedetto, 2020)

Bandura (1991) posits individuals have the ability to self-reflect and self-react that allows control over thoughts, feelings, motivations, and actions (Bandura, 1991). Therefore, human functioning is regulated by not only external sources of influence but also self-generated influence (Bandura, 1991).

Description of Search Strategy

To conduct the literature review, peer-reviewed sources were obtained from the Liberty University Library through electronic databases such as APA PsycINFO, APA PsycArticles, EBSCOHost, ProQuest, and SAGE Journals Online. Additionally, Google

Scholar was used as a search engine to obtain specific information related to digital device use of young children, emotional dysregulation and adverse outcomes and symptoms from problematic device use. Keywords used to construct this research and literature review include *emotional dysregulation, emotional regulation in children, digital device use in young children, problematic digital device use, prolonged device usage, risk factors for digital device use, and social-emotional development in young children*. Examples of keywords searched for the accompanying theoretical framework include *social-learning theory, self-efficacy,* and *social-cognitive theory*. The literature reviewed was based on articles published in English, emphasizing peer-reviewed studies within the United States from 2015-2021. Furthermore, Bible Gateway Plus was utilized to search keywords such as *self-control* and *temptation* for the accompanying Biblical framework.

Review of Literature

The review of literature was comprised of existing empirical research studies related to technology use with infants, young children, adolescents, parents, and parent-child interactions and relationships. Studies on infant technology exposure included information regarding how technology is affecting mother-infant bonding, family functioning, and maternal mental health. Additionally, parental technology/smartphone use was also studied in order to identify ways in which parental technology use and habits are affecting the use and habits of young children. Brain heath and addiction proneness was also researched and included in this review of literature since children ages 3-5-years-old are in a rapid and critical period of brain development. It is during this time that their brains are more susceptible to experiences that could have a profound

effect on their social, cognitive, and emotional development (Radesky & Christakis, 2016). Finally, a review of emerging literature on problematic technology use and emotional dysregulation was also included in this literature review to include possible addictive effects of excessive technology use.

Infants, Toddlers and Technology

The earliest stage of development, infancy, is considered the period of time that extends from 0 to 24 months. Starting from birth, infants will begin to make adaptations to their environment (Atl et al., 2019; Radesky & Christakis, 2016). Infants are born with the ability to learn, and when they are awake and alert, they have the ability to constantly take in new information. Additionally, in regard to brain development, this is considered an intense period of growth (Atl et al., 2019). During the last phase of infancy, symbolic play and language begin to develop. This is the first step in the development of adaptive behavior, which allows the infant the ability to cope with the demands of the environment. It is important to note that prior to 30-months of age, "infants can imitate, and recall actions performed by a person on a screen or imitate sign language from videos but cannot learn new knowledge (e.g., novel words, solve puzzles) without a real-life adult helping them learn" (Radesky & Christakis, 2016, p. 4).

As infants and toddlers are learning, discovering, and understanding, they seek responses from family, specifically those in the maternal role (Atl et al., 2019). Infants and toddlers are social beings and are constantly seeking a model for their behavior. An infant's family is one of the most influential environmental factors in their development (Atl et al., 2019).

Almost immediately after birth, infants are being exposed to digital media at the hand of their parents (Capri et al., 2019). Researchers examined the association between excessive smartphone use and mother-infant bonding, maternal mental health, and family functioning (Atl et al., 2019; Braune-Krickau et al., 2021; Capri et al., 2019). Specifically, the results from these studies showed an increase in smartphone use correlated with decreased family functioning, changes in parental sensitivity and responsiveness, and negative impacts on a child's adaptive behaviors (Ali et al., 2019; Atl at al., 2019; Braune-Krickau et al., 2021; Capri et al., 2019). Researchers also indicated interventions should be established to promote healthy use of technology. Raising awareness about the potential negative consequences of excessive smartphone usage is imperative to healthy family functioning. By providing psychoeducation to families about negative implications, it will help parents begin to set healthy limits and boundaries regarding smartphone usage for themselves and their children from birth.

Studies have indicated the use of digital devices is widespread in infancy and early childhood (Ali et al., 2019; Atl at al., 2019; Braune-Krickau et al., 2021; Capri et al., 2019). Parents have reported 49% of children 2-years-old and younger engage or interact with a smartphone (Auxier et al., 2020). Researchers discovered that one out of three children use devices by age 1-3-years and ½ of those children use them every day. It was noted that as children's age increases, digital device use increases too. These studies along with others support the notion of the development of evidence-based guidelines for parents to help teach children the appropriate use for digital devices (Conye et al., 2021; Domoff et al., 2020; Lin et al., 2020; Sivrikova et al., 2020).

Associations between touch screen device exposure and emotional problems, behavioral problems, and language development in children ages 18-36-months have been identified (Lin et al., 2020; Radesky & Chrsitakis, 2016). Additionally, research findings concluded that children ages 18-36 months who spent more time on touch screen devices tended to have more emotional problems, anxiety/depression symptoms, somatic complaints, attention problems, and aggressive behaviors (Lin et al., 2020; Radesky & Christakis, 2016). Results suggested increased exposure to touch screen device usage in young children may affect their emotions and behaviors (Cho & Lee, 2017; Conye et al., 2021; Domoff et al., 2020; Lin et al., 2020).

Researchers, while examining mobile media device exposure and use in young children, explored when and how young children ages 0-4-years old are exposed to and adopt digital media use (Coyne et al., 2017; Kabali et al. 2020). It was determined that by age 2, most children were using mobile devices daily. Children average more hours engaged with technology than any other activity (Coyne et al., 2017). Additionally, researchers noted and agree that mobile devices are displacing television as major sources of media exposure in children (Coyne et al., 2017; Kabali et al., 2020). Researching and then conveying this information to parents, educators and other professionals in the field is imperative since it could potentially have long term implications for children. Young children use media for various reasons and depending on the context and content, the effects differ (Conye et al., 2021). For instance, video-chatting with young children allows families to build relationships and develop positive social-emotional skills. However, young children's technology use under different circumstance can lead to

adverse outcomes (Conye et al., 2021; Domoff et al., 2020; Giordano et al., 2021; Haug et al., 2015).

Examining the use of technological devices among young children and the attitudes and behaviors of their parents/caregivers and educators suggested that digital technology use affects both the quality and quantity of communication (Kuaakci-Altintas, 2020; Mantilla & Edwards, 2020). Researchers have studied the most commonly used devices with young children and the implications of spending too much time with those devices. Evidence suggests that these children play less with other children and spend less time in a natural environment (Kuaakci-Altintas, 2020). Furthermore, there was evidence suggesting that parents have used technological devices to silence children when crying, to help them go to sleep and to entertain (Conye et al., 2017; Kuaakci-Altintas, 2020. The more time spent on digital devices has been correlated to less time with family and real-life activities (Kuaakci-Altintas, 2020). Parental engagement and modeling are critical for healthy integration of technology into a young child's life (Kabali et al., 2015). Providing education to parents about device use and how their young children see them as role models can be beneficial in the prevention of a later technology addiction (Haug et al., 2015).

Understanding how infants and toddlers use technology and how it has affected them is important to this study in order to better understand how problematic and/or at risk-technology use patterns present in this age group (Atl et al., 2019). However, currently research remains limited due to time and ethical considerations. Continued research is needed in order to fill the gap in literature, help bring additional awareness to parents, and identify and reduce problematic technology use patterns that may later lead

to addictive patterns as the child becomes older and a more independent technology user (Atl et al., 2019; Coyne et al., 2017; Haug et al., 2015; Kuaakci-Altintas, 2020).

Parental Mediation of Technology Use

Exploring digital device use for learning in infancy and early childhood as well as how the process of parent mediation affects the learning or lack thereof was important to understand (Conye et al., 2017; Radesky et al., 2014; Rozgonjuk & Elhai, 2019). Since research indicated that high engagement in technology use is negatively associated with psychological health and social relationships, understanding how parental mediation can positively affect the outcomes was noteworthy to review. Two-thirds (66%) of parents in the United States indicate that parenting is much more difficult than it was 20 years ago due to the use of technology (Auxier et al., 2020).

Parental mediation of technology involves the parent's management of the child's interactions with technology (Conye et al., Smahelova et al., 2017). In order to better understand parenting in the digital age, it was important to identify and understand how children engage with technology. Research findings indicating negative outcomes in regard to children's technology use have made associations with content, contact, and conduct risks, such as seeing upsetting images, receiving messages from strangers, and cyberbullying (Smahelova et al., 2017). While research does indicate that younger children participate less in online activities with technology and are therefore exposed to different situations than older children, these new interactions with technology nonetheless represent new experiences for these young children to cope with. Consequently, these new stressors pose a challenge for the family unit, especially when it comes to mediation of technology use (Smahelova et al., 2017).

Children as young as 2-years-old can observe, learn, and model interactions while using technology, subsequently transferring learned behaviors to other settings (Conye et al., 2017; Radesky & Christakis, 2016). Parental mediation can mitigate some of the negative impacts the technology may have on the child. Research findings on parental mediation indicate that certain forms of mediation can positively affect the child. For example, a child's cognitive and social development may benefit from parental active mediation of technology use (Conye et al., 2017; Radesky & Christakis, 2016). Active mediation, which refers to parent-child conversations about technology viewing, has been shown to influence a child's comprehension of technology, learning and even language exposure (Conye et al., 2017). Parents are the primary socialization agents that influence both behaviors and attitudes of their children, which help them become more proficient at using technology (Smahelova et al., 2017).

Emerging research has begun to explore how parents make decisions about their child's technology usage and their awareness of control (Coyne et al, 2017). Studies indicated an association between parents who use low control over their child's technology usage and the allowance of excessive screen exposure. On the contrary, there are correlations with parents who exercise more control and the likelihood of active and restrictive mediation being used (Coyne et al., 2017). Themes of family communication in regard to digital technology devices and their usage showed evidence that mediation by parents regarding digital device use was often child driven, meaning with the preschool children specifically, they actively sought parental attention and facilitation of their content understanding and processing (Domoff et al., 2019). They were observed

asking for help, asking questions about content and characters, and expressing their feelings.

Technology use changes across the different developmental stages (Coyne et al., Smahelova et al., 2017). Therefore, parental mediation changes over time as well. It is common for parents to use more active mediation when a child is younger before switching to more a restrictive mediation as the child enters adolescence. Parental mediation has also become more challenging for parents due to the nature of handheld digital devices that are typically used independently (Radesky & Christakis, 2017). Additionally, technology use is hard to monitor in regard to what is being played or downloaded and when it is being played/downloaded. Children who have access to digital technology are able to watch/view/play preferred programs/games/apps at any time. Understanding the role of parental mediation is important to this proposed study since research indicates that parents are influenced by their child's behavior, consequently affecting their parental mediation (Smahelova et al., 2017).

Parental Technology Use and Young Children

In order to expand the growing knowledge base of data from direct observations of parent-child interactions, researchers (Archer et al., 202; Domoff et al., 2019; Edwards et al., 2017; Konca & Erden, 2020) sought to gain a better understanding of the role of technology in the child's home. Social cognitive theory suggests that an individual's knowledge acquisition can be directly related to their observation of others during social interactions and experiences (Archer et al., 2021; Bandura et al., 1977), therefore researchers concluded that parents are able to extend their child's learning beyond what the child can do on their own (Archer et al., 2021). As researchers seek to develop an in-

depth understanding of complex social phenomena within a specific setting (home) through direct immersion in a natural setting (the family's home), they gain a broader insight into the social interactions that take place during digital technology use (Konca & Erden, 2020).

Studies have attempted to examine the use of mobile technology of parents and its impact on the parent-child interaction (Atl et al., 2019; Braume-Krickau et al., 2021; Kildare & Middlemiss, 2017). Researchers wanted to find out if parents who use technology during their parent-child interactions are less sensitive and responsive (both verbally and nonverbally), which as a result lead to lower quality interactions. The results suggested that phones provide a break from social interactions and that 65% of parents believe their phones make them better parents. Additionally, it was noted that children notice when their parents are distracted. When parents are distracted by their devices, young children are more likely to engage in risky behaviors. The results concluded that use and integration of digital technology is complex and provides many benefits and complications with its use (Ali et al., 2019; Kildare & Middlemiss, 2017; Sivrikova et al., 2020). Understanding the impact of parental smartphone usage on the parent-child relationship at the beginning of a child's life can have enormous implications.

Researchers have determined disturbances in parental sensitivity have a negative impact on attachment-related interactions between the parent and the child as well as on the self-regulatory abilities of the children (Atl et al., 2019; Braune-Krickau et al., 2021; Kushlev & Dunn, 2019; Ochoa et al., 2021). Infants and toddlers are dependent upon the sensitivity and responsiveness of their parent or caregiver (Atl et al. 2019; Braune-Krickau et al., 2021). Research indicated when parents are absorbed in their phones, they

miss their children's bids for communication, they are less emotionally supportive and less sensitive (Braune-Krickau et al., 2021; Capri et al., 2019; Edwards et al., 2017, Wolfers et al., 2020). When parents miss subtle signals from their child and their reactions to their children are delayed, early interactional processes could potentially be interrupted (Braune-Krickau et al., 2021). As infants and toddlers develop, parental technology use in the presence of their children could have adverse effects, leaving children feeling exhausted, frustrated, and angry when competing for their parents' attention (Braune-Krickau et al., 2021).

McDaniel and Coyne (2016) defined technoference as interruptions that occur within relational interactions due to the use of digital technology devices. To better understand the impact of parental smartphone use on the early relationships between parent and child, research has been conducted to examine the impact of parental mobile device use through technoference (McDaniel & Radesky, 2017; McDaniel & Radesky, 2018) on parental sensitivity and responsiveness within the parent-child interaction in the early years (0-5) (McDaniel & Radesky, 2017; McDaniel & Radesky, 2018). Regarding the role of parental smartphone use within the context of family, research suggests there is a clear indication that sensitivity and responsiveness in parenting can be negatively impacted by parental smartphone use (Braune-Krickau et al., 2021; Kildare & Middlemiss, 2017, McDaniel & Radesky, 2017; McDaniel & Radesky, 2018, Myruski et al., 2017).

Additionally, McDaniel and Radesky (2018) investigated bidirectional associations between parent technology use and child behaviors. Researchers were measuring for technoference and results from their study indicated child behavioral

problems were associated with higher parental stress, secondary to higher technology use among parents. Associations have also been correlated between parental technoference and internalizing and externalizing behavioral problems in children (McDaniel & Radesky, 2017). Over time, parent technoference and a child's externalizing behaviors influence one another. In other words, parental technoference may increase due to parental stress related to a child's externalizing behaviors, consequently resulting in greater technoference (parent) and greater externalizing behaviors (child) (McDaniel & Redesky, 2018).

The effect of digital technology use on family functioning within the family unit also has negative implications (Capri et al., 2019, Domoff et al., 2019). Increased parental technology use may also be an indication of other parent or family unit characteristics, such as parent stress level, parent mental health problems, and/or higher family dysfunction (McDaniel & Radesky, 2018). Research indicated in families with high parent technology use and high child usage, there were higher levels of disengagement and rigidity than other families. This type of pattern reflects less healthy family functioning. The findings in research such as this support the idea that increased digital device use disrupts the parent-child relationship, subsequently negatively effecting the social-emotional development and self-regulating abilities of the child (Braune-Krickau et al., 2021; Capri et al., 2019; Cho & Lee., 2017; Lin et al., 2020; McDaniel & Radesky, 2018).

There was a growing repertoire of literature indicating when technology is allowed to interrupt or interfere with conversations and activities, it sends implicit messages about values, which create conflicting messages and ultimately affect personal

life and relationships adversely (McDaniel & Coyne, 2016). Those associations were important to review for this research study since it is crucial to continue to examine relationships between parent technoference and child behavioral problems.

Emotion Regulation and Social-Emotional Development

Processes of emotion regulation begin to emerge in the neonatal period and are expanded across childhood and into adolescence (Crowell, 2021). Executive functioning, including impulse control, emotion regulation, flexible thinking, task persistence and creativity, begins to develop around the age of 4; however, early experiences from infancy can influence its development (Radesky & Christakis, 2016).

During the neonatal period there is evidence of behavioral strategies or innate physiological mechanisms, such as sucking, turning away, and crying that are used to balance emotional responses (Crowell, 2021). Toddlers are beginning to have basic emotional recognition, and while they cannot control their emotions independently, they are capable of using strategies to manage their various emotional states. During this period of development, language also emerges, which is critical in emotion regulation development. Their increased self-awareness allows for reflection, expression, and understanding of others' emotions as well as their own. Preschoolers are beginning to observe and model the behaviors of other individuals. Families are influential in the development of emotion regulation during this time. It is during this critical time of development that the foundation is laid for later success (Skalicka et al., 2019). The influential role parents play is supported from observational research of parent-child interactions, attachment, and a parent's ability to communicate about emotions (Crowell, 2021; Skalicka et al., 2019).

One of the most important elements of social-emotional development is play (Radesky & Christakis, 2016). It is during this play that parents can gain insight into a child's thoughts and feelings. Research has shown that technology distracts from parent-child interactions, consequently negatively affecting child play (Conye et al., 2021). Studies suggest an association between excessive technology use and young children who have problems with self-regulation or temperament difficulties (Giordano et al., 2021). Subsequently, research demonstrated that toddlers who were persistently more difficult were 40% more likely to develop problematic technology habits (Coyne et al., 2021; Giordano et al., 2021; Radesky et al., 2014; Radesky & Christaskis, 2016).

Until a child reaches the preschool years, their primary model for behavior is the family environment; however, during the preschool years, children begin to interact more with peers (Crowell, 2021). Research indicates that preschoolers have a preference for children who exhibit the ability to regulate negative emotions. School-aged children learn that negative emotions may hurt others or even damage relationships. Throughout adolescence, behavioral inhibition, anger regulation and goal setting improve.

Self-regulation involves vital decisions regarding which people and situations to approach and which ones to avoid (Fiske & Taylor, 2017). Additionally, self-regulation is affected by self-efficacy and sense of personal control. Effective self-regulation develops at a steady pace from infancy into adulthood. However, it is the intentional self-regulation abilities that develop during the toddler and preschool years (Crowell, 2021). This is the period of development that lays the foundation for the child's later emotional regulatory success.

A review of the literature regarding emotional regulation development was important to this research study because it is during the preschool years that most children are rapidly developing the ability to understand theirs and others' emotions (Skalicka et al., 2019). If this time of development and understanding is compromised by technology use, this could potentially impact their emotion regulation development.

Neurological Consequences of Technology Use

Emerging literature suggested neuroscientists have begun to focus attention on how technology is changing our brains and our behaviors (Small et al., 2020). Studies indicated constant technology use is impacting brain functioning and behaviors in both positive and negative ways. For example, individuals who suffer from cognitive decline could use technology to help them remain independent longer and as a mental exercise that can strengthen neural circuits in the brain. Conversely, extensive screen time has been linked to reduced attention, impaired emotional and social intelligence, sleep disturbances, and technology addiction (Radesky & Christakis, 2016; Small et al., 2020).

Young, developing brains are particularly sensitive to chronic exposure to technology and therefore the American Academy of Pediatrics has suggested that parents limit screen time for young children while the brain is still malleable (Radesky & Christakis, 2016; Small et al., 2020). During this time of brain development, plasticity allows for experiences to have significant influence on social, cognitive, and emotional development (Choudhury & McKinney, 2013; Radesky & Christakis, 2016). Additionally, this is the period in development when a child's eating, physical activity, and sleep behaviors are being established.

The effects of media exposure on brain development have been recently studied and results indicated that more screen time and less reading were correlated with decreased brain connectivity in the areas associated with word recognition and cognitive control (Small et al., 2020). Additionally, studies indicated the increased screen exposure disrupts sleep, which consequently is associated with negative effects on cognition and behavior (Radesky & Christakis, 2016; Small et al., 2020). The effects of youth screen time on behavioral health problems and sleep disturbances were also examined by Parent et al. (2016). Their findings suggested that sleep disturbances were significantly increased across all three developmental stages studied. As predicted, researchers indicated that higher levels of youth screen time were correlated to higher levels of sleep disturbances and higher levels of internalizing, externalizing and peer problems (Parent et al., 2016; Stiglic & Viner, 2019). Since findings were consistent across three different developmental groups, implications facilitate recommendations for families on the amount of screen time that causes disruptions in sleep. Subsequently, sleep disruption can also increase behavioral health difficulties (Parent et al., 2016).

There is a fear by some that young brains are being reshaped by technology. Neuroscientist, Susan Greenfield, suggests if she were to scan the brains of young people who spend much time on computer games and in chatrooms, they would resemble the brains of gamblers and schizophrenics and their prefrontal cortex would show damage (Choudhury & McKinney, 2013). Reviewing literature on how the brain is affected by technology use aids in the understanding of significant impacts it may have on a child's developing brain and subsequently on his or her emotional regulation abilities.

Emotional Dysregulation and Problematic Technology Use

The exponential growth of access to digital technology and ownership has created many opportunities for children and their families, yet it also brings with it many challenges for parents to raise children to be healthy digital technology consumers (Cho & Lee, 2017; Conye et al., 2021; Domoff et al., 2020; Giordano et al., 2021). One of the major scientific gaps in the field currently is the ability to distinguish between healthy technology usage and problematic technology usage (Domoff et al., 2020). Research regarding how problematic technology use develops is just beginning to emerge (Conye et al., 2021, Domoff et al., 2021; Giordano et al., 2021). Clinical guidelines from the World Health Organization (2019) advised parents to be mindful of prolonged technology use or inappropriate media use; however, there seems to be information lacking on when a child's technology use has become problematic.

Conye et al. (2021) discussed problematic technology use and defined it as excessive use of technology that interferes with a child's functioning. This problematic use in young children is often characterized by dysfunction in a child's development socially, behaviorally, and/or academically (Conye et al., 2021; Domoff et al., 2020). Additionally, strong emotional reactions when technology is removed from a child could potentially indicate problematic usage (Conye et al., 2021). For young children, especially, the removal of technology can be extremely difficult for both the child and the parent. Conye et al. (2021) reported 93% of parents interviewed indicated when technology was removed from their child, tantrums, whining, and resistance to give up the device ensued (Coyne et al., 2021).

Longitudinal evidence suggested that emotional dysregulation in childhood predicts later onset of mood disorders and suicidality (Hung et al., 2020; Rozgonjuk &

Elhai, 2019). Functional neuroimaging suggested that the strength of brain connection between the frontal cortex regions responsible for emotion-regulating and the limbic subcortical structures responsible for emotion-generating may be diminished in children struggling with emotional dysregulation (Hung et al., 2020).

It is of great importance to note that research also indicated individuals with emotion regulation difficulty may be more prone to problematic behavior (Giordano et al., 2021). Children exhibiting emotional dysregulation are characterized as having explosive outbursts that include motor overactivity, irritability, anger, and aggression (Connor & Doerfler, 2021). While frustration is a normal component of human emotion, it may lead to explosive outbursts in order for a child to avoid unpleasant tasks (i.e., picking up toys, putting down digital technology to eat dinner). If a parent backs down when the child exhibits such an outburst, the child has then achieved the goal of avoidance and negatively reinforced the explosive behavior to avoid the unpleasant task (Connor & Doerfler, 2021).

Aggressive behavior is often associated with explosive outbursts and is a common reason for children to be referred for behavioral therapy and/or psychiatry (Connor & Doerfler, 2021). Some types of aggression are considered maladaptive and are often characterized as being impulsive, intense, explosive, sudden and disproportionate to the situation. These types of aggression may reflect difficulties regulated emotions (Connor & Doerfler, 2021). Similarly, strong emotional reactions to the removal of technology have been linked to problematic technology use (Coyne et al., 2021). This research study examined the characteristics of these strong emotional reactions through the lived experiences of parents and professionals.

Emerging research has suggested a correlation between emotional dysregulation, inability to self-regulate and problematic smartphone and social media use in adolescents (Giordano et al., 2021; Marino et al., 2020). Due to the detrimental effects of excessive technology use, researchers have begun to examine possible addictive effects of technology (Brand et al., 2014; Cho & Lee, 2017; Potenza, 2017; Rozgonjuk & Elhai, 2019). Researchers suggested that this phenomenon be referred to as problematic smartphone use (Rozgonjuk & Elhai, 2019). Additionally, it was proposed that there is a difference between habitual use and problematic (addictive) use. Habitual use has been characterized by a developed habit of technology use (e.g., checking notifications, scrolling on social media), and problematic use has been characterized as habitual use that is used for stress/pain relief or escaping reality (Rozgonjuk & Elhai, 2019).

Problematic technology use has been associated with both mood and anxiety disorders. Once common factor in any mood or anxiety disorder is emotion regulation (Giordano et al., 2021; Rozgonjuk & Elhai, 2019). Adolescents tend to use technology, more specifically smartphones, in order to relieve negative emotions. Therefore, evidence showed adolescents with higher emotional dysregulation are more likely to develop problematic technology use. Furthermore, research indicated that adolescents, who reported problematic technology use, when compared to non-problematic users, scored higher on a maladaptive emotion regulation strategies rating scale (Giordano et al., 2021). Building on these prior findings, this research study attempts to bridge the gap by examining emotional dysregulation in children ages 3-5-years-old in order to identify characteristics of their emotional dysregulation, as it relates to their technology use, through the lived experiences of parents and professionals.

Digital Technology Addiction Proneness

Much of the research on digital technology addiction proneness has focused on school-aged children and adolescents. Research is in the early stages with regards to addiction proneness in young children, leaving a gap in research. A review of the current literature indicated parents are exposing their children to digital technology from infancy, often as a distraction due to parental emotional and physical exhaustion (Cho & Lee, 2017; McDaniel & Radesky, 2018; Radesky et al., 2016; Wolfers, 2020). However, young children are less mentally and physically mature, leaving them more vulnerable to the negative effects of excessive technology use.

The effects of smartphone addiction proneness of young children, ages 1-6, on emotional intelligence and problematic behaviors was studied (Cho & Lee, 2017). Researchers correlated parental self-assessment of smartphone use to the way a child's smartphone addiction impacts their behaviors and emotional intelligence. Findings indicated that some children's development may be impacted by smartphone usage. Research also revealed parents who showed awareness of the dangers of smartphone usage and were able to set limits and boundaries showed a decrease in the negative effects of technology use on the children (Cho & Lee, 2017). These findings have implications for the development of parenting and children's educational environments.

Emerging data suggested that constant technology use impacts both the brain and behavior, positively and negatively (Haug et al., 2015; Small et al., 2020). Research indicated that frequent technology use can lead to addictive behaviors, interferes with both social and emotional intelligence, and interferes with brain development (Small et al., 2020). Despite the advancements of technology, the detrimental effects are becoming

more evident (Cho & Lee, 2017). Findings indicated children under 24-months-old and who are using smartphones for 1-2 hours per day show the strongest propensity to addiction. Additionally, researchers affirmed that the addiction tendencies in these young children lead to problematic behaviors, have decreased interactions with peers, and decreased physical activities. Researchers noted, the younger the child, the less self-control the child exhibits (Cho & Lee, 2017, Small et al., 2020).

Scientific research regarding addiction mostly focused on substance abuse. However, more recently, over the past decade, research began to emerge regarding non-substance behavioral addictions (Estevez et al., 2017). Researchers have indicated that when technology use is excessive and becomes problematic, it is often viewed as a type of behavioral addiction with dysfunctional psychological symptoms (Estevez et al., 2017; Potenza, 2017). Previous literature has indicated that the effects of substance related addictions can sometimes initiate psychotic or mood disorders (Estevez et al., 2017).

In regard to behavioral addictions, research has shown that individuals with problematic internet use had a greater disapproval of their families, which subsequently created a perception of less support and warmth from their parents (Extevez et al., 2017). These findings are similar to those found in substance-related addiction literature (Potenza, 2017). Similarly, adolescents who develop safer parental attachments and have a healthy parent-child relationship have less risky behaviors and are less likely to use drugs (Estevez et al., 2017).

Young children learn from their observed experiences within their family environment, specifically from their parental figures, how to manage their emotions. Consequently, emotion regulation is enforced (Cho & Lee, 2017; Estevez et al., 2017;

Giordano et al., 2021). Decreased emotional regulation abilities have been associated with the increased likelihood of risky behaviors, such as internet addiction, gaming disorders, and substance use (Estevez et al., 2017).

A review of the literature regarding internet addiction indicated reductions in an individual's cognitive control are sometimes identified as a main component of impulsivity (Brand et al., 2014). Regulation of behavior that is planned, goal-oriented, flexible, and effective is a result of an individual's executive functioning. These functions are linked to the dorsolateral prefrontal cortex regions in the brain (Brand et al., 2014). The prefrontal cortex regions are most likely involved in the development of addiction (Brand et al., 2014; Potenza, 2017). Individuals with an internet addiction have been studied using functional magnetic resonance imaging (fMRI) and when compared to individuals with alcohol addiction, the results were similar. Findings suggested that the brain reacted similarly when confronted with internet-related cues as when confronted with substance-related stimuli (Brand et al., 2014).

Additionally, research has shown that decreased emotional regulation correlates to a higher likelihood of engagement in addictive behavior or difficulty withdrawing from such behavior (Estevez et al., 2017). Consequently, the findings from existing literature on addiction and excessive technology use emphasized the importance of emotional regulation in predicting non-substance related behaviors (Cho & Lee, 2017; Estavez et al., 2017; Giordano et al., 2021). Given the previous literature findings on substance related addictions and its similarities to behavioral addictions (non-substance related), such as problematic technology use, one can infer that emotion regulation difficulties predict both substance-related and non-substance related behavioral addictions. This

research study provides potential evidence for an emotional dysregulation phenomenon in young children as it relates to their excessive technology use.

Parental Concerns Regarding Children's Technology Use

A majority of parents (71%) are concerned that their child may be spending too much time on digital devices and have reached out to doctors regarding advice (Auxier et al., 2020). Additionally, 61% of parents of children 11-years-old and younger admit to having received advice or information from a doctor regarding screen time. Research also indicated that parents are apprehensive about the long-term effects of technology on their child's development (Auxier et al., 2020; Danet, 2020; Kulalci-Altintas, 2020).

With advancements in the development of communications and information technologies, children are learning how to use devices (e.g., smartphones, tablets, television, and computers) from a very young age (Kulakci-Altintas, 2020). Digital technology is being used throughout parent-child routines and within family units (Danet, 2020). However, emerging research indicated concerns about the effects of this use on a child's socio-emotional development (Danet, 2020; Domoff et al., 2019). One study looked at parental concerns and questions regarding digital technology use during family time. Researchers identified several concerns parents had in regard to their child's technology use, such as are the devices harmful, what is the impact on development, is there an effect on learning, and is there a risk for addiction (Danet, 2020).

Previous research identified similar fears of parents regarding children's addiction proneness when using technology (Radesky et al., 2016). Another concern of parents that has been identified by previous research was the potential risk of harming socio-emotional development (Danet, 2020). Additionally, research showed parents thought

technology impacted family functioning and their relationship with their child (Danet, 2020; McDaniel & Coyne, 2016). The use of digital technology can be worrisome for parents due to the negative outcomes on the development of the child and family interactions (Kulakci-Altintas, 2020). However, behaviors of the parents are also extremely influential and equally as important to the development of the child. A review of literature supported the use of rules regarding the use of digital technology within the family. Seeing parents model the rules, children will observe their parents' appropriate digital technology usage, therefore, reducing or preventing technology addiction (Kulakci-Altintas, 2020).

Biblical Foundations of the Study

One of the goals of integration is to combine psychological findings with biblical truths "to create a system for understanding and helping people" (Palmer, 2017, p. 46); the findings should be compatible with God's truth in scripture. Researchers should bear in mind Ephesians 4:1-3 (*New International Version,* 2016), "Live a life worthy of the calling you have received. Be completely humble and gentle; be patient, bearing with one another in love. Make every effort to keep the unity of the Spirit through the bond of peace."

In the Bible, 1 Corinthians chapter 10 (*New International Version,* 2016) provides various examples of the Israelites' sins as they journeyed through the wilderness. In Paul's letters to the Corinthians, he warns of the danger of failing to use self-control as a Christian (1 Corinthians 10: 1-22). When looking at this research study through an integrated approach, one is reminded in 1 Corinthians 10:13, "No temptation has overtaken you except what is common to mankind. And God is faithful; he will not let

you be tempted beyond what you can bear. But when you are tempted, he will also provide a way out so that you can endure it." As research has indicated (Coyne et al., 2021), technology can be problematic and cause distraction. Christians can struggle with lack of self-control when using digital technology. Research has indicated that the younger the child, the less self-control they have (Cho & Lee, 2017).

Teaching self-control to young children who are struggling with emotional dysregulation as it relates to their technology use requires parents to step in and set and hold boundaries. The end goal should be to move from being managed by the parents to being guided by the Holy Spirit. When teaching children about self-control, it is important for them to understand that it is normal to be tempted. Jesus himself was tempted (Matthew 4:1-11, *New International Version,* 2016) in the wilderness, which reminds us that He fully understands the struggle of temptation. It is through these trials and temptation that our faith is strengthened (1 Peter 1:7, *New International Version,* 2016).

In the Garden of Gethsemane, Jesus encouraged his disciples who were struggling to be there for Him by saying, "Watch and pray so that you will not fall into temptation. The spirit is willing, but the flesh is weak" (Matthew 26:41, *New International Version,* 2016). This scripture reminds us that when we are faced with difficulty, we are to rely on His word and pray. Jesus was encouraging his disciples to resist temptation and experience that moment with him instead of sleeping. Parents who are struggling to resist the temptation of giving in and allowing their child more digital technology use when they become dysregulated should seek the Holy Spirit's guidance, strength and wisdom through scripture and prayer.

Summary

Research has shown almost immediately after birth, infants are being exposed to digital technology (Ali et al., 2019). Associations are being identified between excessive smartphone use and mother-infant bonding, maternal mental health, and family functioning. Additionally, researchers have identified associations between touch screen device exposure and emotional problems, behavioral problems, and language development in children (Conye et al., 2021; Domoff et al., 2020; Lin et al., 2020; Sivrikova et al., 2020). There is evidence also suggesting that parents have used technological devices to silence children when crying, to help them go to sleep and to entertain (Conye et al.; Kuaakci-Altintas, 2020). Parental engagement and modeling are critical for healthy integration of technology into a young child's life (Kuaakci-Altintas, 2020).

Research regarding how problematic technology use develops is just beginning to emerge (Conye et al., 2021, Domoff et al., 2021; Giordano et al., 2021). One of the major scientific gaps in the field currently is the ability to distinguish between healthy technology usage and problematic technology usage (Domoff et al., 2020). A few studies have indicated that parents will use media to often distract or calm their child when experiencing strong emotional reactions (Coyne et al., 2021; Domoff et al., 2021). During this critical time of development, young children should be learning about emotion regulation and if they are always given a way to escape rather than cope with their big emotions, they could be at a higher risk for adverse outcomes later in life (Coyne et al., 2021).

Research has shown a connection between problematic technology use and emotion regulation (Giordano et al., 2021; Rozgonjuk & Elhai, 2019) noting that decreased emotion regulation correlates to a higher likelihood of engagement in addictive behavior or difficulty withdrawing from such behavior (Estevez et al., 2017). Based on findings from previous literature regarding substance-related addiction and emerging literature on non-substance related behavioral addiction, emotion regulation difficulties predict both similarly (Rozgonjuk & Elhai, 2019).

Since research has indicated associations between dysfunctional emotion regulation and problematic technology use (Rozgonjuk & Elhai, 2019), excessive technology use by young children, ages 3-5-years-old, could be an indication of emotion regulation difficulties, increasing their vulnerability to various psychopathology, including behavioral addiction (Cho & Lee, 2017; Giordano et al., 2021; Rozgonjuk & Elhai, 2019). Therefore, qualitatively exploring the lived experiences of parents and professionals with children ages 3-5 who are experiencing emotional dysregulation as it relates to their technology usage, will allow for a clearer understanding of this proposed phenomenon.

CHAPTER 3: RESEARCH METHOD

Overview

The purpose of this qualitative phenomenological study was to explore and understand the lived experiences of parents and professionals with technology and emotional dysregulation in children ages 3-5-years-old. Furthermore, this research study aimed to develop domains, which emerged from themes from the semi-structured interviews, to potentially be used for future research and rating scale development. Such a rating scale could be used in the future by pediatricians and clinicians when determining diagnosis and treatment of behavioral problems associated with emotional dysregulation in young children as it relates to their technology usage.

This chapter will discuss the research questions, the research design, the participants, the study procedures, instrumentation, measurement of data, the data analysis, and the delimitations, assumptions, and limitations of the research study. Additionally, credibility, dependability, confirmability, and transferability will be discussed to determine how it was achieved.

The research design of this study was qualitative phenomenological. This type of study design attempted to make sense of a phenomena through individual's experiences and understanding (Cresswell & Poth, 2018). Edmund Husserl developed this philosophic system that was rooted in subjective openness (Moustakas, 1994). Moustakas (1994) described it as, "a return to experience in order to obtain comprehensive descriptions that provide the basis for a reflective structural analysis that portrays the essences of the experiences" (Moustakas, 1994, p. 12).

Research Questions

RQ1: How did parents of children ages 3-5-years-old who were experiencing emotional dysregulation as it relates to their technology usage describe their lived experiences?

RQ 2: How did teachers of children ages 3-5-years-old who were experiencing emotional dysregulation as it relates to their technology usage describe their lived experiences?

RQ 3: How did physicians of children ages 3-5-years-old who were experiencing emotional dysregulation as it relates to their technology usage describe their lived experiences?

RQ 4: What were the distinguishing emotional characteristics of emotional dysregulation as it relates to technology usage based on the parents', of children ages 3-5-years-old lived experiences?

RQ 5: What were the distinguishing emotional characteristics of emotional dysregulation as it relates to technology usage based on the teachers', of children ages 3-5-years-old lived experiences?

RQ 6: What were the distinguishing emotional characteristics of emotional dysregulation as it relates to technology usage based on the physicians', of children ages 3-5-years-old lived experiences?

RQ 7: What themes emerged from the semi-structured interviews to inform and develop a future rating scale for children ages 3-5-years old who are experiencing technology-related emotional dysregulation?

Research Design

The research design of this study was qualitative phenomenological and was conducted to explore and understand the phenomenon of emotional dysregulation in

children ages 3-5-years-old as it relates to their technology use. Qualitative phenomenological research has been described as “a systematic collection, organization, and interpretation of textual material derived from talk or conversation” and focuses on eliciting people’s stories (Grossoehme, 2014, p. 109).

A qualitative phenomenological approach was selected for this research study because it allowed for the illumination of rich descriptions and personal meanings of lived experiences with children’s emotional dysregulation as it relates to their technology usage. These comprehensive descriptions from parents and professionals provided the basis for a reflective structural analysis (Moustakis, 1994). Using a transcendental phenomenological approach, the researcher engaged in systematic efforts to set aside any prejudgments (Moustakas, 1994) regarding emotional dysregulation in children ages 3-5-years-old as it relates to their technology usage. Another major distinction of a transcendental phenomenological approach is the emphasis on intuition, imagination, and universal structures in order to gain a clear understanding of the dynamics that triggered the experience (Moustakas, 1994).

While ethnography would also have been an appropriate way to identify shared patterns of a culture group and was considered, it was determined that it would not be appropriate for this research study since culture was not a focus of the study (Peoples, 2020). Additionally, a case study approach allows for a detailed case analysis of one or more cases. It was determined to not be the best methodology design since the focus of this study was experiences as lived by parents and professionals. This phenomenological research focused on describing what all of the individual participants had in common as they experienced a phenomenon (Moustakas, 1994). The purpose of phenomenology

research, as described by Creswell and Poth (2018), is to reduce the individual experiences of a phenomenon in order to formulate a description of the universal essence (Creswell & Poth, 2018).

Participants

Drawn from the general population in the Lower Shore Tri-County area in Maryland (MD), this study sample was comprised of parents, teachers, and physicians of 3-5-year-olds who met certain criteria. In order to have met inclusion for this study, parent participants had to have met the following criteria: a legal parent/guardian of a child, identified as either male or female, between the ages of 3-5-years-old, and who lived within the Tri-County area in MD. Additionally, the parent participant had to have had a child that meets the aforementioned demographic information and also who has never been diagnosed or treated for an emotional or behavioral disorder by a qualified professional. Parent participants must also have had experiences with emotional dysregulation as it relates to their child's technology usage.

In order to have met inclusion for this research study, teacher participants had to have met the following criteria: must work with children ages 3-5-years-old and must have been working in their current field for at least 5 years to ensure sufficient experience with children and emotional dysregulation as it relates to their technology usage.

Furthermore, in order to have met inclusion for this research study, physician participants had to have met the following criteria: must work with children ages 3-5-years-old and must have been working in their current field for at least 5 years to ensure sufficient experience with children and emotional dysregulation as it relates to their technology usage.

The research study sample was recruited from daycare centers, preschools, and pediatrician offices located in the Lower Shore Tri-County area of MD, which is comprised of Worcester, Wicomico, and Somerset counties. These three lower counties serve families with both cultural and ethnic diversity. Criterion sampling, a method of purposeful sampling was utilized to intentionally sample a specific group of people that aided in the understanding of the research problem and the central phenomenon of this research study (Creswell & Poth, 2018). According to Creswell and Poth (2018), it is imperative that all participants have experience with the phenomenon being studied. Participants in this research study met the aforementioned criteria in order to be selected for participation and were assigned a pseudonym (i.e., Parent1, Teacher1, Physician1) in order to protect their identity. The primary researcher is the only one who knows the identity of the participants.

Study Procedures

This research illustrates important elements of this phenomenon as it was lived and experienced by parents and professionals of children ages 3-5-years-old. In order to inform the lived experience of a human phenomenon, the focus must remain on how it is experienced (Peoples, 2020).

Approval by the Liberty University's Institutional Review Board (IRB) was obtained prior to proceeding with data collection. Once approval was obtained, the recruitment process began with sending recruitment emails (See Appendix D and E) to daycare centers, preschools, and pediatrician offices in the Lower Shore Tri-County area of MD. Additionally, a recruitment flyer (See Appendix F) was attached to the email asking the centers/schools/offices to place them in a location that would be easily visible

to parents and staff. Recruitment flyers contained information about the study and the email address of the primary researcher. Participants that chose to volunteer were asked to click on the link in the email or on the flyer for the electronic demographic survey and screener through Qualtrics. Screening surveys were reviewed in order to obtain a purposeful sample of 5 parents, 3 teachers, and 2 physicians.

Participant informed consent (See Appendix G) was sent through email to each participant, signed, and sent back to the primary researcher. After consent was received, participants were individually contacted by the researcher to discuss procedures, risks, and the voluntary nature of this research. Additionally, an explanation of the semi-structured interview was discussed, and the participant was given the option for an in person or virtual interview at that time. Participants had the opportunity to ask questions to ensure their understanding of the research, their ability to withdraw at any time, and the use of pseudonyms, which protect their identity. All participants will be entered into a drawing to receive one $50 Visa Gift Card, which will be drawn at the conclusion of the study (following final defense) using Random Picker, an online winner generator. Winner will be notified through email.

Semi-structured interviews (see Appendix A), either in person or virtually through Microsoft Teams, were conducted and used for the primary means of data collection for this research study. Qualitative data was collected during these interviews from the parents and professionals that have had experience with emotional dysregulation as it relates to the technology usage of the children ages 3-5-years-old.

Semi-structured interviews were voice recorded and transcribed. Field notes were also taken during the interview. Both recordings and field notes are stored on a personal

computer that is password protected. The primary researcher is the only one who has access to the stored recordings and field notes. All documentation and recordings will be kept for the standard seven years and then will be deleted permanently from the primary researcher's personal computer. Data collection continued for parents, teachers, and physicians until saturation was met.

NVivo 12, a Computer-Assisted Qualitative Data Analysis Software (CAQDAS) was utilized in order to transcribe, streamline, and centralize the qualitative data. Coding the data in a structured framework allowed themes to emerge through interpretation. The matrix coding and visualizations allowed for the identification of patterns and themes. Once themes were identified through NVivo, it provided the researcher with distinguishing emotional characteristics of emotional dysregulation as it relates to technology usage in children ages 3-5-years-old based on the participants' lived experiences.

The distinguishing emotional characteristics that were identified from the participants' lived experiences were utilized to develop domains that emerged from themes, which could potentially be used in future research and for a future rating scale that would identify children ages 3-5-years old who are experiencing emotional dysregulation as it relates to their technology usage.

Instrumentation and Measurement

Demographics Survey and Screener

The primary method of data collection for this research study was semi-structured interviews of parents and professionals of children, ages 3-5-years-old, who have had emotional dysregulation as it relates to their technology usage. Prior to the interview,

participants were asked to complete an online electronic survey in order to collect demographic information (i.e., age, gender, ethnicity) and to document the participant met all inclusion criterion.

The demographic survey questions for parents (see Appendix B) consisted of the following: age, gender (i.e., male, female, other), ethnicity (i.e., white, black, Hispanic, other), age of child, marital status (i.e., single, married, divorced, widowed), and education level (i.e., high school graduate, Associate, Bachelors, Masters, Doctorate). Professional's demographic survey (see Appendix C) consisted of the following: profession (i.e., teacher, physician, nurse practitioner, physician's assistant), age, gender (i.e., male, female, other), ethnicity (i.e., white, black, Hispanic, other), number of years in practice/teaching, and focus of practice (i.e., pediatrics, general practice, specialist) or teaching site (i.e., daycare, preschool, public school, private school).

Semi-Structured Interviews

Interviews are the most common means of gathering data (Grossoehme, 2014) and provide a description of human experience as it is experienced by the person themself (Groenewald, 2004). Semi-structured interview questions allow for the construction of questions that are relevant to the research questions, ensuring key facets of the experiences are covered (Peoples, 2020).

Edmund Husserl is considered the father of phenomenology and he believed that nothing should be assumed or taken for granted when trying to understand a phenomenon (Peoples, 2020). Husserl wanted to uncover the pure essence of a phenomenon and therefore stressed intentionality of one's awareness of something. Husserl stressed the importance of the researcher's ability to set aside all judgments or biases in order to fully

focus on the phenomenon. This intentional consciousness of using the process of phenomenological vigilance is known as reduction or bracketing (Moustakas, 1994; Peoples, 2020). Using Husserl's techniques of intentionality and bracketing, the researcher will utilize semi-structured interview questions to better understand the proposed phenomenon.

The interview questions for this research study were generated to gain insight into the phenomenon based on the parents, teachers, and physicians of children ages 3-5-years-old lived experiences. Interviews began with a "social conversation" that the tone for the creation of a safe and trusting atmosphere (Moustakas, 1994, p. 114). The following semi-structured interview questions for parents (See Appendix A) were based on the research questions and theoretical framework of the study and were generated by the researcher:

1. Please share a little bit about your family.
2. Tell me about the types of digital devices your family uses.
3. Tell me about your experiences with your child and digital devices. Think about those experiences and when you are ready, you may begin.
4. How does your child use these devices, in your opinion?

   Do they use it for pure entertainment?

   Do they use it to cope or withdraw when they are upset?
5. What happens when you take away or ask your child to turn off their digital device?

   How do you respond?

   If they become upset, are you able to calm them down?

How is this response the same or different from their responses when other toys/items are taken away?

6. Please describe your experience with your child's emotional responses and temperament in general.
7. Thank you for your valuable information. Is there anything you would like to add before we end our interview?

Intentionality is the fundamental property of consciousness and the principal theme of phenomenology (Creswell & Poth, 2017; Peoples, 2020). In order to uncover the pure essence of the phenomenon, the primary researcher started the semi-structured interview with a rapport building question. Questions one and two were used for rapport development with the participant. Rapport building is important as it helps the participant feel more at ease and comfortable during the interview. Questions were asked in an open-ended fashion in order to allow participants to express and articulate their experiences more freely.

Questions three, four and five were questions regarding the participant's experiences. These questions were designed to elicit responses that correlate directly to Research Questions one and four by providing rich descriptions of their lived experiences as a parent of a child, ages 3-5-years-old, who experiences emotional dysregulation as it relates to technology usage.

The following semi-structured interview questions for teachers (See Appendix A) were based on the research questions and theoretical framework of the study:

1. Please share a little bit about yourself.
2. How are digital devices incorporated into your classroom?

3. Tell me about your experiences, if any, with children and digital devices.
4. Describe what happens when the kids have to put the devices away.

   How do the children react/respond?
5. Thank you for your valuable information. Is there anything else you would like to add before we end our interview?

Questions one and two were used for rapport development with the participant. Rapport building is important as it helps the participant feel more at ease and comfortable during the interview. Questions were asked in an open-ended fashion in order to allow participants to express and articulate their experiences more freely.

Questions three, and four were questions regarding the participant's experiences. These questions were designed to elicit responses that correlate directly to Research Questions two and five by providing rich descriptions of their lived experiences as a teacher of a child, ages 3-5-years-old, who experiences emotional dysregulation as it relates to technology usage.

The following semi-structured interview questions for physicians (See Appendix A) were based on the research questions and theoretical framework of the study:

1. Please tell me a little about yourself.
2. Talk to me about your experiences with parents, young children ages 3-5-years old, and digital devices.
3. Please describe your experiences with parents who have concerns regarding their 3-5-year-old child's emotional dysregulation as it relates to technology usage?

4. Discuss your experience with emotional dysregulation as it relates to technology usage in children ages 3-5-years-old.
5. Thank you for your valuable information. Is there anything else you would like to add before we end our interview?

Question one was used for rapport development with the participant. Rapport building is important as it will help the participant feel more at ease and comfortable during the interview. Questions were asked in an open-ended fashion in order to allow participants to express and articulate their experiences more freely.

Questions two, three, and four are questions regarding the participant's experiences. These questions were designed to elicit responses that correlate directly to Research Questions three and six by providing rich descriptions of their lived experiences as a physician of a child, ages 3-5-years-old, who experiences emotional dysregulation as it relates to technology usage.

Trustworthiness

Trustworthiness of a research study is achieved by authenticity, credibility, transferability, dependability, and confirmability (Peoples, 2020). Reliability and validity data for the semi-structured interviews was unavailable. However, reliability within the study was enhanced by the use of detailed field notes in addition to the recording and transcription of semi-structured interviews with each participant.

Credibility

To ensure research findings are credible, triangulation was utilized by the primary researcher. Triangulation refers to the use of numerous information sources, multiple methods of data collection, or the use of more than one researcher (Creswell & Poth,

2017; Peoples, 2020). This research study utilized numerous sources of information (i.e., parents, teachers, physicians) and multiple methods of data collection (i.e., electronic survey, field notes, semi-structured interviews).

Transferability

Insights gained from the lived experiences of parents and professionals of children ages 3-5-years-old may be similar to insights from other parents, teachers, and physicians with similar experiences with children ages 3-5-years-old. Prior to the generalization of any findings, researchers should consider a larger sample size from a broader population, other age groups, and their specific experiences.

Dependability

In order to ensure dependability, a detailed explanation of the process of this proposed study is provided and was followed throughout the entire research process. Repeating the steps of the outlined process should result in comparable findings when researching the same phenomenon with similar context.

Confirmability

Identification of bias in a transcendental phenomenological study would be counterintuitive to the process (Peoples, 2020). Using bracketing, the researcher became like a stranger in an unfamiliar land. In other words, biases must be set aside in order to fully understand the essence of the phenomenon. Husserl believed his fundamental premise of intentionality means the very act of thinking bonds one to what they were thinking about (Peoples, 2020).

In order to ensure confirmability, the primary researcher utilized reflexivity by keeping and maintaining a reflexive journal during the research process. This journal is a

reflection of what is happening in the process with regard to the primary researcher's values and interests. Journaling explanations of decisions that were made in the research process helped provide valuable insight into how themes emerged from the data.

Data Analysis

Phenomenological data analysis is the process of "transcending the mundane nature of each description to reveal the essence of the phenomenon" (Peoples, 2020, p. 57). The goal of the analysis is to present a description from identified themes in a way that it is understood and specific to anyone who has had that particular experience.

A content analysis was conducted from the semi-structured interviews using NVivo 12, a computer-assisted qualitative data analysis software (CAQDAS). NVivo streamlined the qualitative data collected from the recorded interviews, transcriptions, and field notes. The interviews were transcribed, and the data was coded in a structured framework, allowing for the identification of themes that emerged based on matrix coding and visualizations. Once themes were coded, sorted, and filtered, a pie chart was created to represent the lived experiences of the participants of children, ages 3-5-years-old, who have emotional dysregulation as it relates to their technology usage.

Additionally, using the content analysis, data was organized into themes, which was then categorized. Graphs and word clouds were created to illustrate the frequency of each of the themes identified. Following the identification of themes from NVivo, which emerged based on the overlap of words or specific comments made by the interviewees, domains were created that can be used to inform future research and the possible development of a rating scale that could be further developed in future research.

When using qualitative data analysis software, the researcher, during coding, remembers the words being read were actually spoken by a human (Peoples, 2020). The primary researcher analyzed the data with the goal of staying immersed in the information. Journaling was utilized to track reactions to the data while being analyzed. The researcher also listened closely to the participant's voices from the audio recordings in order to sense their experiences on a deeper level. Additionally, the researcher utilized breaks while completing the data analysis, creating an interruption, which allowed for further insight gained into the participants' experiences.

Delimitations, Assumptions, and Limitations

Assumptions

The primary assumption of the research study was the selected sample based on inclusion and exclusion criteria is appropriate, ultimately ensuring the participants' experience with children ages 3-5-years-old who are experiencing emotional dysregulation as it relates to technology usage. In regard to criterion sampling, which is a form of purposeful sampling, an assumption is that the target population will have had similar experiences with the phenomenon, which is rationalized based on the inclusion criteria set forth in this proposed study. Regarding the data collection during the semi-structured interviews, a significant assumption was that all participants will answer the questions to the best of their ability and will be truthful and credible as the researcher attempts to unfold the meaning of their lived experience (Creswell & Poth, 2017). Additionally, it was assumed that all data gathered from this proposed study will provide rich, detailed descriptions of the emotional dysregulation of children, ages 3-5-years-old, as it relates to their technology usage. Finally, a significant assumption was that the

distinguishing emotional components identified during data collection will be sufficient for informing and developing an outline of a rating scale (for further development in future research) to be used for children, ages 3-5-years-old, who are experiencing emotional dysregulation as it relates to technology use.

Delimitations

According to Peoples (2020) delimitations are boundaries that are intentionally set by the researcher for the study, which include choices that have been made to study a particular population. The delimitations that framed the boundaries of this research study are important to discuss. First, the participants for this study were limited to parents who have experiences with children, ages 3-5-years-old, who have emotional dysregulation as it relates to technology usage and have access to email. Additionally, this study was limited to teachers or physicians who have had experiences with children, ages 3-5-years-old, who have emotional dysregulation as it relates to technology usage, have worked within their respective fields for at least 5 years, and have access to email.

Limitations

Limitations are described as being methodological weaknesses (Peoples, 2020). They are those influences that are out of the researcher's control. It is important to outline and recognize limitations since they can impact the results of the study. For this study it is important to note the small sample size as a limitation, which could impact generalizability of the study. While generalizability is not a goal of phenomenological research, it is important to note this as a limitation. The most notable limitation of this study was the self-reporting of parents, teachers, and physicians as a response to questions during the semi-structured interviews. While this method is commonly used in

phenomenological research and has the ability to bring out rich descriptions of the phenomenon from their lived experiences, it also has the potential for biases (Peoples, 2020).

Summary

This chapter summarized the methodology of this proposed research study. It presented the methods encompassing the research questions, research design, participants, study procedures, instrumentation and measurement, data analysis, and delimitations, assumptions, and limitations of the study. An empirical phenomenological approach to research involves a return to experience in order to obtain the essence of a phenomenon (Moustakas, 1994). In phenomenological research, questions grow out of an intense interest in a particular topic or subject and then seek to reveal more fully the meaning of human experience.

This transcendental phenomenological study was conducted to explore and understand the lived experiences of parents and professionals with children ages 3-5-years-old who experience emotional dysregulation as it relates to technology usage. Furthermore, this research study also aimed to gain a deep, rich, understanding of the phenomenon of technology-related emotional dysregulation in children ages 3-5-years old and to use identified themes to inform and develop domains that could inform future research and potentially develop a rating scale that could be further developed in later research. Finally, in order to ensure validity and reliability, triangulation of data collected from multiple sources (i.e., demographic surveys, audio recorded semi-structured interviews, field notes) was utilized.

CHAPTER 4: RESULTS

Overview

The purpose of this qualitative phenomenological study was to explore and understand the lived experiences of parents and professionals with technology and emotional dysregulation in children ages 3-5-years-old. Furthermore, this research study aimed to develop domains, which emerged from themes from the semi-structured interviews, to potentially be used for future research and rating scale development. Such a rating scale could be used in the future by pediatricians and clinicians when determining diagnosis and treatment of behavioral problems associated with emotional dysregulation in young children as it relates to their technology usage. Phenomenology provided an opportunity for individuals to share their lived experiences which allowed for the illumination of rich 'lived' descriptions and personal meanings of those experiences. These comprehensive descriptions from parents and professionals provided the basis for a reflective thematic analysis (Moustakis, 1994). Quotations allowed the participants to speak for themselves, providing multiple perspectives.

This study sample was comprised of ten parents and professionals of 3-5-year-olds who had the opportunity during a semi-structured interview to share their lived experiences with children and their big emotional responses as it related to their digital technology usage. Following the collection of data, an analysis was conducted from the semi-structured interview transcripts using NVivo 12, a computer-assisted qualitative data analysis software (CAQDAS) in order to "look at the data thematically to extract the essences and essentials of participants' meaning" (Miles et al., 2018, p. 21).

The following research questions guided this study:

RQ1: How did parents of children ages 3-5-years-old who were experiencing emotional dysregulation as it relates to their technology usage describe their lived experiences?

RQ 2: How did teachers of children ages 3-5-years-old who were experiencing emotional dysregulation as it relates to their technology usage describe their lived experiences?

RQ 3: How did physicians of children ages 3-5-years-old who were experiencing emotional dysregulation as it relates to their technology usage describe their lived experiences?

RQ 4: What were the distinguishing emotional characteristics of emotional dysregulation as it relates to technology usage based on the parents', of children ages 3-5-years-old lived experiences?

RQ 5: What were the distinguishing emotional characteristics of emotional dysregulation as it relates to technology usage based on the teachers', of children ages 3-5-years-old lived experiences?

RQ 6: What were the distinguishing emotional characteristics of emotional dysregulation as it relates to technology usage based on the physicians', of children ages 3-5-years-old lived experiences?

RQ 7: What themes emerged from the semi-structured interviews to inform and develop a future rating scale for children ages 3-5-years old who are experiencing technology-related emotional dysregulation?

This chapter will present the key findings obtained from the ten semi-structured interviews. The results of the study inform an understanding of the phenomenon, technology-related emotional dysregulation, by showing that (a) emotional responses

regarding digital technology usage are different and more emotionally intense, (b) a subset group of children show extreme reactions to the removal of digital technology, (c) professionals have concerns about what they are experiencing, (d) there is a need for a set of parental guidelines in regard to boundary setting as related to digital technology usage, and (e) there is a lack of tolerance to any uncomfortable feeling or emotion among children, ages 3-5-years-old. A summary of the findings will conclude this chapter.

Descriptive Results

The final sample, comprised of five parents, two pediatricians, and three pre-school teachers, informed this research study. Participants ranged in age from 28-55-years-old and were all female. The teachers had all been teaching for more than five years and all pediatricians had been practicing for more than ten years each. Seven of the ten participants had master's degrees, while three held doctoral degrees. Table 1 details the parent participants' demographic information and Table 2 details the professionals' demographic information. All ten participants completed both the demographic Qualtrics online survey (see Appendices B and C) as well as a semi-structured interview, which was conducted through Microsoft Teams. Data saturation was reached after the eighth participant when "no significant explanations of data" (Miles et al., 2018, p. 90) were being further discovered by the primary researcher; no new themes developed after participant number eight.

Table 1

Parents' Demographic Survey Results

Participant	Age of participant	Gender	Ethnicity	Marital Status	Educational Level	Age of Child
Parent1	32	F	White	Married	Master's	5
Parent2	31	F	White	Married	Master's	4
Parent3	36	F	White	Married	Master's	4
Parent4	42	F	White	Divorced	Master's	5
Parent5	39	F	White	Married	Doctorate	3

Table 2

Professionals' Demographic Survey Results

Participant	Age of participant	Gender	Ethnicity	Profession	Area of Specialty
Professional2	55	F	White	Physician	Pediatrics
Professional3	44	F	Other	Physician	Pediatrics
Professional4	30	F	White	Teacher	Public School
Professional5	46	F	White	Teacher	Public School
Professional6	28	F	White	Teacher	Preschool Program

Study Findings

This section will present the results of the data analysis as described in Chapter Three. Categories, themes, and domains will be presented as they emerged and developed

through the data analysis process and were based on the data presented from semi-structured interview transcriptions (see Appendices I-R) and researcher's field notes (see Appendix S). Prior to the categories being identified, the researcher coded all data as it was collected. Codes are defined by Miles et al. (2018) as, "labels that assign symbolic meaning to the descriptive or inferential information compiled during a study" (p. 62). Coding was used as a method of discovery and was researcher-generated. After transcribing each of the semi-structured interviews, coding was applied to data units in NVivo 12 in order to detect recurring patterns or categories of codes (Miles et al., 2018). Emotion, descriptive, In Vivo and process coding were utilized during the first cycle coding. The researcher used In Vivo coding to identify words or short phrases from the participants' own language, such as, "addictive-like behavior," "difficulty connecting with people," "dependent on devices," and "extreme reaction." Emotion coding was also utilized by the researcher, which labeled emotions recalled or experienced by the participants (Miles et al., 2018), such as, "distressing," "a struggle," "huge amount of anxiety," and "emotionally intense." Descriptive coding by the researcher was used to summarize the basic topic of a section of data in a word or short phrase. Some examples identified were, "used for educational and entertainment purposes", "used to calm them down, "extreme tantrum behaviors," and "escalates quickly." Finally, process coding revealed "observable and conceptual actions in the data" (Miles et al., 2018, p. 65). Examples included: "grabbing it from him/her," trying to get it after taken away," "using as a reward to motivate," and "repeatedly screaming."

Using NVivo 12, the researcher created a list of codes and their frequency in the data, which is outlined in Table 3. Additionally, a word cloud (see Figure 1) was

generated after completion of the first cycle coding to identify the word frequency of the characteristics of emotional responses as described by parents and professionals from their lived experiences with children ages 3-5-years-old as it related to technology usage.

Reliability of the study was enhanced by the use of detailed field notes (see Appendix I) in addition to the recording and transcription (see Appendices J-S) of the semi-structured interviews. Credibility was ensured using triangulation through the use of numerous sources of information (i.e., parents, teachers, physicians) and through multiple data sources (i.e., survey, interviews, field notes).

Table 3

Word Frequency Table

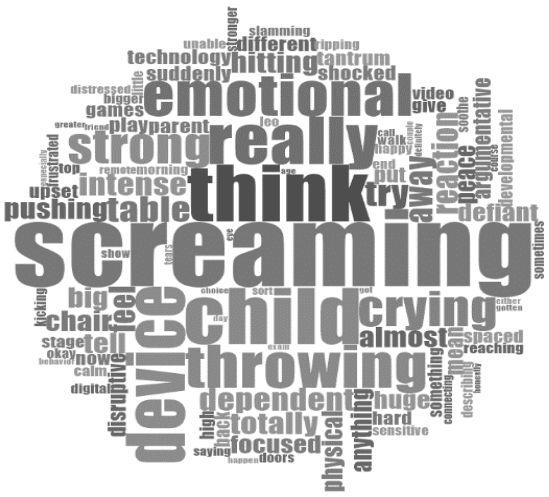
Code	*# Of References*	*Frequency of use*
Parents' Experiences and Concerns		
Emotional child	8	126
Big emotions	8	92
Big responses	8	88
Emotionally intense	8	51
Just calms him/her down	7	29
Distressing	6	46
Addictive-like behaviors	5	12
Using for hours	5	9
A struggle	4	13
Not really listening	4	8
Just loses it	4	7
Always ends in meltdown	2	9
Sensitive kid	2	4
Feel helpless	1	1
What am I doing wrong?	1	1
Reminding a lot it's time to get off	1	1
Having to grab it from him/her	1	1
Switches so fast	1	1
Very defiant	1	1
Pry from his/her fingers	1	1
Professionals' Experiences and Concerns		
Big responses	8	88

A lot more screen time	8	59
Dependent on devices	7	33
Keep them calm	6	26
Addictive-like behaviors	5	12
Have to use redirection and distraction	5	12
Keep them busy/used as babysitter	4	10
Huge amount of anxiety	2	3
Difficulty connecting with people	2	2
Decreased eye contact	2	2
Unable to tolerate any uncomfortable feelings or emotions	2	2
80% of people on devices in exam rooms	1	1
Crowds around the students using iPads	1	1
Harder to redirect some kids	1	1
More digital exposures	1	1
More interested in anything electronic	1	1
Know how to use better than adults	1	1
Pandemic validated digital use	1	1
Subset group of children who have more difficulty	1	1
Trend towards devices	1	1
Seeing more developmental concerns	1	1
Seeing more emotional dysregulation	1	1
Need more digital boundaries being set	1	1
Increase in mental health disorders	1	1
More SSRI and stimulant use in children	1	1
Huge impact	1	1
Characteristics of Big Emotional Reactions as Related to Digital Technology Use		
Big emotions	8	92
Kicking and screaming	8	64
Emotionally intense	8	51
Different than other emotional responses	8	48
Extreme reaction	8	45
Responses last longer	8	41
Escalates quickly	8	25
Repeatedly screaming	7	55
Tears	7	50
Throwing things	7	32
Yelling	6	47
Hitting	6	32
Fully engaged and unaware of surroundings	5	20
Extreme tantrum behaviors	5	15
Easily frustrated	4	14
Whining	2	6
Argumentative	2	5
Unable to soothe themselves	2	5

Captivating	2	5
Control	2	3
Obsessed	2	2
Emotional dysregulation	1	1
Very defiant	1	1
Zoned out	1	1
Switches so fast	1	1
Requires coregulation	1	1
Pterodactyl scream	1	1
Outward expression of frustration	1	1
Moody	1	1
Little bit of sass	1	1
Uses of Digital Devices		
Uses smartphone	7	42
Watches TV	7	37
To calm down	7	29
Uses iPad	6	35
Used for entertainment	5	12
Incorporate technology into the classroom	5	5
Keep him/her busy	4	7
Use of smartboard in the classroom	3	3
Used for reading and math	1	1
Each student gets an iPad	1	1

Figure 1

Characteristics Word Frequency



During second cycle coding, pattern coding was used by the researcher as a way of grouping initial codes into smaller number of categories and themes (Miles et al., 2018). “Pattern codes are inferential or explanatory codes, ones that identify a ‘bigger picture’ configuration” (p. 79). Themes are described by Miles et al., (2018) as being “an extended phrase or sentence that identifies what a unit of data is about” (p. 73). In this section, four categories (see Tables 4-7) are identified and will be discussed: a) parents’ experiences and concerns, b) professionals’ experiences and concerns, c) characteristics of big emotional responses, and d) how devices are being used. Additionally, four themes (see Tables 4-7) emerged from Parents’ Experiences and Concerns, Professionals’ Experiences and Concerns and Characteristics of Big Emotional Reactions. Four themes emerged from the Uses of Digital Devices category., The categories and themes then led to the development of domains: (1) Responses are different and emotionally intense, (2) A subset group of children show extreme reactions, (3) Professionals have concerns, (4) Need for a set of parental guidelines in regard to boundary setting as related to digital devise usage, and (5) Lack of tolerance to any uncomfortable feeling or emotion in children, ages 3-5-years old.

Table 4

Lived Experiences of Parents: Initial Codes and Themes

Type of Coding	**Initial Codes**	**Categories**	**Themes**
In Vivo	“Addictive-like behavior”	Parents’ Experiences and Concerns	
In Vivo	“Just loses it”		
In Vivo	“Requires co-regulation”		

In Vivo	"Fully engaged and unaware of surroundings"		❖ Addictive-like behaviors ❖ Responses are intense ❖ Uncertain how to set boundaries
In Vivo	"What am I doing wrong?"		
In Vivo	"It's distressing."		
Process	Using for hours if allowed		
Process	Reminding a lot to get off		
Process	Trying to get it after taken away		
Process	Using for reward to motivate		
Emotion	A struggle		
Emotion	Feel helpless		
Descriptive	Big responses		
Descriptive	Emotional child		
Descriptive	(Digital devices) just calm him down		
Descriptive	Sensitive kid		

Table 5

Lived Experiences of Professionals: Initial Codes and Themes

Type of Coding	**Initial Codes**	**Categories**	**Themes**
In Vivo	"A lot more screen time"		❖ Addictive-like behaviors
In Vivo	"Difficulty connecting with people"		
In Vivo	"Dependent on devices"		

In Vivo	"Addictive-like behaviors"	Professionals' Experiences and Concerns	❖ Very concerning ❖ Complicates their jobs
In Vivo	"Pandemic validated digital use"		
In Vivo	"More play therapy referrals"		
In Vivo	"Seeing more developmental concerns"		
Emotion	Huge amount of anxiety		
Descriptive	More interested in anything electronic		
Descriptive	Big responses		
Descriptive	80% of people on devices		
Descriptive	More engrossed in digital devices		
Descriptive	Unable to tolerate any uncomfortable feelings or emotions		

Table 6

Characteristics of Big Emotional Response as It Relates to Technology Usage

Type of Coding	**Initial Codes**	**Categories**	**Themes**
In Vivo	"Argumentative"	Characteristics of Big Emotional Responses	❖ Different than other emotional responses ❖ Escalates quickly
In Vivo	"Emotionally intense"		
In Vivo	"Escalates quickly"		
In Vivo	"Extreme reaction"		
In Vivo	"Always end in a meltdown"		
In Vivo	"Unable to soothe themselves"		

Emotion	Distressing		❖ Intense tantrum behaviors
Emotion	Easily frustrated		
Emotion	Moody		
Emotion	Tears		
Descriptive	Pterodactyl screams		
Descriptive	Different than other emotional responses		
Descriptive	Responses are lasting longer		
Process	Throwing things		
Process	Repeatedly screaming		
Process	Hitting		
Process	Kicking and screaming		
Process	Prying from his/her fingers		

Table 7

How Devices Are Being Used

Type of Coding	**Initial Codes**	**Categories**	**Themes**
In Vivo	"Used as a babysitter"	How Devices Are Being Used	❖ Babysitter ❖ To calm ❖ Educational ❖ Entertainment
In Vivo	iPads for all kids"		
In Vivo	"Smartboard use in the classroom"		
In Vivo	"Used as a reward"		
Process	Using a smartphone		
Process	Watching TV		

Descriptive	Used for both entertainment and educational purposes		
Descriptive	Keeps them calm		
Descriptive	Keeps him/her busy		

Parents' Experiences and Concerns

Research Question 1 aimed to explore how parents of children ages 3-5-years-old who were experiencing emotional dysregulation as it relates to their technology usage describe their lived experiences? The semi-structured interview questions that were utilized (see Appendix A) were designed to prompt dialogue regarding the lived experiences of parents of 3-5-year-olds who have difficulty with big emotional responses regarding their digital technology usage. Parent participants were asked about their experiences with their children and digital devices. The parents (*N*=4) overwhelmingly agreed the responses to digital devices present as "addictive-like behavior." All participants started off by describing what type of devices their child uses and the big emotional responses to digital technology devices being turned off or removed. Parents described this experience as "distressing," "a struggle," "emotionally intense," and "quickly escalating." During the semi-structured interviews, the researcher noted that most all parent participants (*N*=3) seemed uncertain as to how to handle this extreme behavior. One parent described:

Technology, I mean, the thing I can just relate it to the most is it's almost like a drug for him, you know? I mean, it's so captivating for him that he spends time thinking about it

and kind of what's going to happen. It's almost that it's this exciting experience to watch TV that when it happens, he just wants it to be perfect.

A second parent added:

> There's one experience that really stands out in my mind. I said we were not going to play with the tablet. We were going to like play with toys because I had thought he had been on the tablet a little too much and so I got out some Legos and I was sitting down with him. (I was) Kind of trying to have some structured playtime but it didn't matter. It was like mom was chopped liver or the toys were chopped liver and he threw this huge tantrum. Huge tantrum with throwing toys, ripping things down off shelves, screaming, slamming doors, throwing things.

Parent participants were also asked how these emotional responses were the same or different from other emotional responses when toys or items were taken away or removed. Almost all (*N*=4) parent participants reported that the emotional responses were different than other emotional responses due to the intensity and extreme reaction that is elicited from the removal of the device. The parents described the removal of other toys/items as being less intense in nature and a shorter duration. One parent described this as:

> I would say it's greater than. He does have trouble, especially at this age, with transitioning to another task. So, it does go along with that, say, if we were trying to get him to wash his hands for a meal, time to get ready for school, put his shoes on, things like that. But I would say where he kind of gives us a hard time if he's not moving very fast to do some of those things or he still wants to play. But the emotional, the intensity of the emotion is just different.

Another participant explained it as:

> Screaming, kicking, and thrashing, and he'll actually go and try to get like a kitchen chair and try to push it against the refrigerator to try to climb up and get it (iPad) as he's throwing a tantrum.

Parents were also asked to describe their child's overall temperament and emotional responses in general. Several parent participants (*N*=3) reported their child as being, "a sensitive kid," or an "emotional child." All interviews ended with asking parents if they wanted to add any additional information. One parent shared:

> My thought is also of kind of how to integrate learning into it as well, you know, like there are some really great games and things like that, and he sometimes will play like a letter game on my phone or something like that. And so, it's almost like, I feel I don't utilize some of those resources as much because I'm hesitant to get him hooked on something and then kind of deal with the after part of it. And I think that's where the hard part comes in, where it's like, you know, you have these great resources I think he would really enjoy, but I'm very hesitant to implement anything new.

Three themes emerged from the semi-structured interview of parent participants: (a) addictive-like behaviors, (b) responses are intense, (c) uncertain how to set boundaries.

Professionals' Experiences and Concerns

Research questions 2 and 3 aimed to explore how teachers and physicians of children ages 3-5-years-old who were experiencing emotional dysregulation as it relates to their technology usage describe their lived experiences? The semi-structured interview

questions that were utilized (see Appendix A) were designed to prompt dialogue regarding the lived experiences of professionals with 3-5-year-olds who have difficulty with big emotional responses regarding their digital technology usage. Professional participants were asked about their experiences with their children and digital devices. The professionals (*N*=5) agreed the children are "dependent on devices." When asked to further describe their experience with children, ages 3-5-years-old, who are experiencing emotional dysregulation as it related to their technology use, all professional participants described it as, "concerning." The pediatricians interviewed (*N*=2) described a "subset group of kids who have more difficulty" when devices are removed from them. One pediatrician stated:

> (It's been) Amazing over the years, it has switched to trending to cell phones or devices placed right in front of the children to keep them quiet to keep them calm in the office and there is a subgroup of kids that we know are increasingly, almost, I'm going to use the word addictive, but it's not medical. They are just so focused on their device. You can walk in, they don't look up, they don't engage with you. They are totally focused on their device. And then even when you go to do your exam, if the parent takes it away, the child suddenly looks up, is shocked and becomes very disruptive, crying, reaching for the device.

Both physicians described "additive-like behaviors" that they experience daily with their patients. They described a "trend" towards device use that has happened over the past 4-5 years and both physicians shared many concerns about what they are experiencing in their offices, such as, more play therapy referrals, more SSRI (selective serotonin reuptake inhibitor) and stimulant use in children, decreased eye contact,

increased mental health disorders, more developmental concerns, more emotional dysregulation, and children who are unable to tolerate any uncomfortable feeling or emotion. Another physician explained:

> It's hard, like they can't make eye contact even. They're not really listening. You can't really tell like, even like the developmental stage of the child because they're just spaced out on this device.

The pre-school teachers interviewed described their experiences slightly different since they are used in a controlled environment (classroom). While all of them (*N*=3) reported using technology in their classroom, they stated most children are able to comply and put the devices away when asked. One teacher explained that all of their iPads only have educational material on them, so they are not as enticing as their devices at home:

> But we also don't let them choose. Like they have to be playing educational games, so it is a little bit different, so they don't get free time in that aspect. I guess it has to be a game where they have to be actually doing something on there.

However, the teachers also described a "subset group of kids" who struggle more than others and those same students tend to be the ones who struggle during transitions in the school day. All teacher participants (*N*=3) stated they use smartboards and iPads in their classrooms, which get incorporated into their daily curriculum.

Three themes that emerged from the participants' experiences and concerns category were: (a) addictive-like behavior, (b) very concerning, and (c) complicates their jobs.

Characteristics of Big Emotional Responses as it Related to Digital Technology

Research questions 4 through 6 aimed to explore the distinguishing emotional characteristics of emotional dysregulation as it relates to technology usage based on the lived experiences of parents, teachers, and physicians of children ages 3-5-years-old. The semi-structured interview questions that were utilized (see Appendix A) were designed to prompt dialogue regarding the lived experiences of parents and professionals with 3-5-year-olds who have difficulty with big emotional responses regarding their digital technology usage. Participants interviewed described their experiences similarly. Almost all participants (*N*=8) depicted the characteristics of the big emotional responses of the children when devices were removed or taken away as being, "emotionally intense," "extreme," "different than other emotional responses," and "lasting longer." Parents shared individual experiences in which devices are having to be pried out of their child's hands and children who are frantically trying to grab the device back once it has been taken away. Some parents (*N*=2) stated device use "always ends with a meltdown." Other characteristics identified from the interviews were: "unable to soothe themselves," "dysregulation happens fast," tantrum behaviors that are "extreme," and being "fully engaged in the device and unaware of their surroundings."

Three themes emerged from the characteristics of big emotional reactions category: (a) different than other emotional responses, (b) escalates quickly, and (c) intense tantrum behaviors.

Uses of Digital Devices

The semi-structured interview questions that were utilized (see Appendix A) were designed to prompt dialogue regarding the lived experiences of parents and professionals

with 3-5-year-olds who have difficulty with big emotional responses regarding their digital technology usage. Participants were asked how digital technology was being used. Educational and entertainment purposes were mentioned by all participants (*N*=10). Most participants (*N*=6) agreed that devices were also being used to calm their child or keep them busy (*N*=4). One parent and the two physicians described the devices being used to "babysit." Therefore, the four emerging themes from the uses of digital devices category were: (a) babysitter, (b) to calm/soothe, (c) educational, (d) entertainment.

Domains

Research question 7 aimed to explore what domains emerged from the semi-structured interviews to inform and develop a future rating scale for children ages 3-5-years old who are experiencing technology-related emotional dysregulation? When analyzing the transcribed interviews, five domains were identified by the researcher. These domains reflected the most prevalent characteristics described from the lived experiences of parents and professionals of children, ages 3-5-years-old, who are experiencing emotional dysregulation as it relates to technology use: 1) Responses are different and emotionally intense, 2) Extreme responses to the removal of digital devices in a subset group of children, 3)Worry and concern of professionals, 4) Devices being used to calm down/soothe, and 5) Need for parental guidance to establish healthy boundaries. The domains identified could potentially be used for future research and rating scale development. Such a rating scale could be a catalyst when determining interventions and treatment of behavioral problems associated with the phenomenon, technology-related emotional dysregulation.

Summary

Five parents of children, 3-5-year-olds, three pre-school teachers, and two pediatricians participated in this research study. The interviews were transcribed and were then coded to determine themes in each of the four main categories that were determined by the researcher. Out of the thirteen themes, five main domains were identified:

1. Responses are different and emotionally intense
2. Extreme responses to the removal of digital devices in a subset group of children
3. Worry and concerns of professionals
4. Devices being used to calm down/soothe
5. Need for parental guidance to establish healthy boundaries

The thirteen themes and five domains identified are interconnected and shaped the understanding of the lived experiences of parents and professionals of children, ages 3-5-years-old, who struggle with the phenomenon, technology-related emotional dysregulation. The participants rich descriptions of their experiences added to the essence-capturing (Miles et al., 2018), which led to the pattern detection and ultimately the five aforementioned domains. Each of these domains will be presented in the next chapter.

CHAPTER 5: DISCUSSION

Overview

The purpose of this qualitative phenomenological study was to explore and understand the lived experiences of parents and professionals with technology and emotional dysregulation in children ages 3-5-years-old. Furthermore, this research study aimed to develop domains, which emerged from themes from the semi-structured interviews, to potentially be used as a catalyst for future research and rating scale development.

The qualitative approach to this study presented rich descriptions of the lived experiences of parents and professionals of 3-5-year-olds who struggle with emotional dysregulation as it relates to their technology usage. Each parent and professional interviewed had experiences with children, ages 3-5-years-old, who have big emotional responses to the use and/or removal of digital technology.

Data was collected from semi-structured interviews, which were audio and video recorded through Microsoft Teams. Five parents, three pre-school teachers, and two pediatricians of children, ages 3-5-years-old, from the Lower Eastern Shore of Maryland participated in this research study. Semi-structured interview questions used with participants can be found in Appendix A. Data was coded, analyzed, and organized into categories, themes, and domains using a qualitative phenomenological research design that attempted to make sense of a phenomenon through individuals' experiences and understanding (Cresswell & Poth, 2018).

This chapter will include an overview of the research study and its findings, a discussion of the findings as they relate to the previously discussed literature and how it

contributes to an understanding of the theoretical and biblical foundations set forth in this study. Additionally, the implications and limitations of the study findings as well as recommendations for future research will be discussed.

Summary of Findings

The semi-structured interview questions that were utilized (see Appendix A) were designed to prompt dialogue regarding the lived experiences of parents and professionals with 3-5-year-olds who have difficulty with big emotional responses regarding their digital technology usage. In analyzing the data from interviews, five domains were discovered from four initial categories and thirteen themes. The four initial categories identified were based on the research questions that guided this study as well as the lived experiences of parents and professionals of children, ages 3-5-years old: (1) parents' experiences and concerns, (2) professionals' experiences and concerns, (3) characteristics of big emotional responses, and (4) uses of digital devices.

There are three major themes that emerged from the analysis of this study that align with research question 1: "How did parents of children ages 3-5-years-old who were experiencing emotional dysregulation as it relates to their technology usage describe their lived experiences?" The three main themes were: (a) addictive-like behaviors, (b) responses are intense, and (c) uncertain how to set boundaries.

There are three major themes that emerged from the analysis of this study that align with research questions 2 and 3: "How did teachers of children ages 3-5-years-old who were experiencing emotional dysregulation as it relates to their technology usage describe their lived experiences?" and "How did physicians of children ages 3-5-years-old who were experiencing emotional dysregulation as it relates to their technology usage

describe their lived experiences?" The three main themes were: (a) addictive-like behaviors, (b) very concerning, (c) complicates their jobs.

There are three major themes that emerged from the analysis of this study that aligned with the research questions 4-6: "What are the distinguishing emotional characteristics of emotional dysregulation as it relates to technology usage based on the lived experiences of parents, teachers, and physicians of children ages 3-5-years-old." The three main themes are: (a) different than other emotional responses, (b) escalates quickly, and (c) intense tantrum behaviors.

Additionally, there are four major themes that emerged based on the lived experiences of both parents and professionals in regard to how digital devices are being used. The four main themes are: (a) babysitter, (b) to calm/soothe, (c) educational, and (d) entertainment.

There are five major domains that emerged from the analysis of this study that aligned with the research question 7: "What domains emerged from the semi-structured interviews to inform and develop a future rating scale for children ages 3-5-years old who are experiencing technology-related emotional dysregulation?" The five domains are: (a) responses are different and emotionally intense, (b) a subset group of children show extreme reactions to the removal of digital technology, (c) professionals have concerns, (d) need for a set of parental guidelines in regard to boundary setting as related to digital technology usage, and (e) lack of tolerance to any uncomfortable feeling or emotion among children, ages 3-5-years-old.

Based on the data in this study, technology-related emotional dysregulation is a phenomenon that can be defined as an extreme reaction to the removal of digital

technology and an inability to tolerate any uncomfortable feeling or emotion in a subset group of children. Technology-related emotional dysregulation is emotionally intense and escalates extremely quick.

Discussion of Findings

This section discusses the findings of the study and how they compare to the research literature reviewed in Chapter Two with attention to how the findings are similar and/or dissimilar to previous research. Furthermore, a discussion of how this study contributes to an understanding of Social Cognitive Theory and how it fits into the biblical foundations laid out in Chapter Two is also discussed.

Social Cognitive Theory Connection

Social-cognitive theory explains how the social environment plays a critical role in motivation, learning and self-regulation (Bandura et al., 1977; Schunk & DiBenedetto, 2020). Children learn from observing, imitating, and modeling the behaviors of others (Bandura, 1977). Previous research indicated that the relationship children have with technology may be a result from this direct observation of parents' technology usage (Bandura et al., 1977; Domoff et al., Schunk & DiBenedetto, 2020). Findings from the professionals' lived experiences indicated that both parents and children are 'dependent on devices' which is evident in their 'lack of ability to connect to people' when looking at their devices. Pediatrician participants stated about 80% of their patients are using devices when they walk into an exam room, which includes both parents and children. This supports literature by demonstrating how children are observing, imitating, and modeling this behavior from parents.

If parents are dependent on devices and using technology excessively themselves, this is being modeled to the child, resulting in an imitation of the same behaviors. Research indicated parents will often use technology to withdraw from a stressful family interaction (Domoff et al., 2020), therefore, if parents are using technology to escape these difficult interactions, the acquisition of the child's reliance on technology to escape is coming directly from observational learning of these role models (Jenkins et al., 2018).

Biblical Foundation Correlation

The explosion of technology over the past decade has created this dramatic shift in how individuals and families interact (Kushley & Dunn, 2019). As research has previously indicated (Coyne et al., 2021), technology can be problematic and cause distraction. Individuals can struggle with lack of self-control when using digital technology. This was evident through the lived experiences of the professionals. The professional participants indicated there is a huge decrease in eye contact and when they walk in a room the individuals do not look up and do not engage.

In order for technology to be less problematic and cause less distraction, it is going to require parents to step in and set and hold boundaries not only for their children but for themselves. One of the professional participants explained how she helps parents with setting those boundaries by sharing her own boundary setting in her home in regard to digital device use for herself and her kids.

When teaching children about self-control, it is important for them to understand that it is normal to be tempted. Just as discussed in Chapter Two, Jesus himself was tempted (Matthew 4:1-11, *New International Version,* 2016) in the wilderness, which reminds us that He fully understands the struggle of temptation. It is through these trials

and temptations that our faith is strengthened (1 Peter 1:7, *New International Version,* 2016). Scripture reminds us to "Watch and pray so that you will not fall into temptation. The spirit is willing, but the flesh is weak" (Matthew 26:41, *New International Version,* 2016).

Parents who are struggling to resist the temptation of giving in and allowing their child more digital technology use when they become dysregulated should seek the Holy Spirit's guidance, strength and wisdom through scripture and prayer. Additionally, as parents set boundaries for themselves, it will model those boundary setting behaviors for their children. Scripture reveals in 1 Corinthians 10:13 (*New International Version, 2016),* "No temptation has overtaken you except what is common to mankind. And God is faithful; he will not let you be tempted beyond what you can bear. But when you are tempted, he will also provide a way out so that you can endure it." While the children may not understand how to resist this temptation on their own, parents could use this as an opportunity to influence through action and teach them to rely on God's strength.

Lived Experiences and Essential Themes

The influential role parents play in a child's growth and development is supported from observational research of parent-child interactions, attachment, and a parent's ability to communicate about emotions (Crowell, 2021; Skalicka et al., 2019). Understanding how children use technology and how it has affected them is important for better recognition of how problematic and/or at risk-technology use patterns present (Atl et al., 2019).

Parents' Lived Experiences

The removal of technology can be extremely difficult for both the young child as well as the parent. Parents face challenges in knowing how to set appropriate boundaries for their children in order for them to be healthy digital users and not develop problematic or at risk-technology behaviors, which was corroborated by findings in this study. When the children are showing big emotional reactions to devices being used or taken away, parents are finding it easier to hand the device back to the child in order to calm them down. It is during the preschool years that most children are rapidly developing the ability to understand theirs and others' emotions (Skalicka et al., 2019); however, if this time of development and understanding is compromised by technology use, it could potentially impact their emotion regulation development.

Conye et al. (2021) reported 93% of parents interviewed indicated when technology was removed from their child, tantrums, whining, and resistance to give up the device ensued (Coyne et al., 2021). Findings of this study revealed responses to the removal of technology are both 'intense' and 'addictive-like'. Strong emotional reactions to the removal of technology have been linked to problematic technology use (Coyne et al., 2021) and research substantiated the addiction tendencies in these young children exhibiting strong emotional reactions lead to problematic behaviors. Researchers also noted, the younger the child, the less self-control the child exhibits (Cho & Lee, 2017, Small et al., 2020).

Professionals' Experiences and Concerns

After speaking with the professionals, it became very clear that their jobs are being affected negatively by the use/overuse of digital devices. They, too, describe what they have experienced as 'addictive-like' behaviors with children, ages 3-5-years-old.

Research suggested a correlation between emotional dysregulation, inability to self-regulate and problematic smartphone and social media use in adolescents (Giordano et al., 2021; Marino et al., 2020). While literature is still emerging regarding such a correlation with young children and emotional dysregulation, inability to self-regulate and problematic device usage, findings in this study based on the lived experiences of professionals suggest a possible addictive component to the emotional dysregulation that happens when devices are being removed from these young children.

Due to the detrimental effects of excessive technology use, researchers are beginning to examine these possible addictive effects of technology (Brand et al., 2014; Cho & Lee, 2017; Potenza, 2017; Rozgonjuk & Elhai, 2019). To date, there has been a gap in research regarding the possible addictive effects of technology with the preschool aged children. Research findings from this study indicated: (a) an increase in emotional dysregulation, (b) a decrease in the ability to self-soothe, and (c) an increase in device dependence in children, ages 3-5-years-old based on the lived experiences of professionals (teachers and physicians).

Previous research findings suggested that children ages 18-36 months who spent more time on touch screen devices tended to have more emotional problems, anxiety/depression symptoms, somatic complaints, attention problems, and aggressive behaviors (Lin et al., 2020; Radesky & Christakis, 2016). Additionally, it was suggested increased exposure to touch screen device usage in young children may affect their emotions and behaviors (Cho & Lee, 2017; Conye et al., 2021; Domoff et al., 2020; Lin et al., 2020). The lived experiences of the professionals supported this notion; they have had: (a) more play therapy referrals for behavioral concerns, (b) more SSRI (selective

serotonin reuptake inhibitors) and stimulant use for attention and behavioral problems, and an (c) increase in mental health diagnoses within the 3-5-year-old age group.

Characteristics of Big Emotional Reactions

The lived experiences of both parents and professionals revealed the characteristics of the big emotional responses to digital device use or removal are: (a) different than other emotional responses, (b) intense tantrum-like behaviors, and (c) quick to escalate. Literature indicated that problematic use in young children is often characterized by dysfunction in a child's development socially, behaviorally, and/or academically (Conye et al., 2021; Domoff et al., 2020). Additionally, research indicated strong emotional reactions when technology is removed from a child could potentially indicate problematic usage (Conye et al., 2021), further supporting the phenomena, technology-related emotional dysregulation.

Previous research showed a connection between problematic technology use and emotion regulation (Giordano et al., 2021; Rozgonjuk & Elhai, 2019), noting that decreased emotional regulation correlates to a higher likelihood of engagement in addictive behavior or difficulty withdrawing from such behavior (Estevez et al., 2017). Participants described the emotional dysregulation that happens when a device is removed as being: (a) distressing (for both parent and child), (b) extreme, and (c) a struggle. Additionally, based on findings from previous literature regarding substance-related addiction and emerging literature on non-substance related behavioral addiction, emotion regulation difficulties predict both similarly (Rozgonjuk & Elhai, 2019).

Uses of Digital Devices

Research findings indicating negative outcomes in regard to children's technology use have made associations with content, contact, and conduct risks (Smahelova et al., 2017). While the use of digital devices was not originally addressed in the research questions, how these devices are being used with young children is important to note.

Based on the lived experiences of parent and professional participants, devices are being used: (a) to babysit, (b) to calm/soothe, (c) for educational purposes, and (d) for entertainment purposes. Professional participants, especially, noted that devices are being used to babysit and calm or soothe a child that is experiencing emotional dysregulation. They also noted that there is a lack of tolerance to any uncomfortable feeling or emotion because as soon as the child becomes dysregulated, the device is given back. Bringing additional awareness to parents regarding how devices are being used could identify and reduce problematic technology use patterns that may later lead to addictive patterns as the child becomes older and a more independent technology user (Atl et al., 2019; Coyne et al., 2017; Haug et al., 2015; Kuaakci-Altintas, 2020).

Domains Identified for Future Rating Scale Development

One of the purposes of this research study was to develop domains, which would emerge from themes from the semi-structured interviews, to potentially be used as a catalyst for future research and rating scale development. This study produced five domains that emerged during analysis that could be a potential focus when developing a future rating scale that could aid clinicians and physicians when determining diagnosis and treatment protocols for kids experiencing technology-related emotional dysregulation.

The five domains that emerged from the themes are: (a) responses are different and emotionally intense, (b) a subset group of children show extreme reactions to the removal of digital technology, (c) professionals have concerns, (d) need for a set of parental guidelines in regard to boundary setting as related to digital technology usage, and (e) lack of tolerance to any uncomfortable feeling or emotion among children, ages 3-5-years-old. The domains or primary areas of focus based on the lived experiences of parents and professionals of children, ages 3-5-years-old, support the phenomena of technology-related emotional dysregulation.

To further support these findings, literature indicated: (a) children exhibiting emotional dysregulation are characterized as having explosive outbursts that include motor over-activity, irritability, anger, and aggression (Connor & Doerfler, 2021), (b) functional neuroimaging suggested that the strength of brain connection between the frontal cortex regions responsible for emotion-regulating and the limbic subcortical structures responsible for emotion-generating may be diminished in children struggling with emotional dysregulation (Hung et al., 2020), and (c) extensive screen time has been linked to reduced attention, impaired emotional and social intelligence, sleep disturbances, and technology addiction (Radesky & Christakis, 2016; Small et al., 2020).

Additionally, with this growing influx of use and ownership of digital devices comes growing concern about the potential negative implications the newer media have on a child's development and how parents can monitor and manage its use (Domoff et al., 2019). Despite clinical guidelines outlined by the World Health Organization (2019) advising parents to be mindful of prolonged technology use or inappropriate media use;

parents are unsure of how to implement strategies or boundaries to help their children become more healthy digital users which was evidenced through findings in this study.

Implications

The outcome of this study could greatly advance the theoretically-driven research gained from previous studies (Cho & Lee, 2017; Conye et al., 2021, Giordano et al., 2021; Lin et al., 2020). Through exploration of the phenomena, technology-related emotional dysregulation, educational organizations, clinical professionals, and the community, as a whole, could benefit. Additionally, gaining an understanding of how technology-related emotional dysregulation in children ages 3-5-years-old differs from other emotional responses can aid in the early identification of children who may be more prone to the development of problematic technology usage (Conye et al., 2021, Domoff et al., 2020).

The early identification of risk for adverse outcomes related to technology will bring much needed awareness to the community regarding technology-related emotional dysregulation. This research study will not only greatly benefit the community as a whole, but also professionals working with young children and their families, clinicians working with children ages 3-5 years old, and parents who have young children and are trying to navigate raising healthy technology users (Conye et al, 2021; Domoff et al., 2020; Giordano et al., 2021). Understanding the differences between technology-related emotional dysregulation and other emotional responses will aid professionals in earlier identification of problematic technology use, which will result in earlier implementation of treatment.

For the betterment of the community, this study aimed to promote awareness of technology-related emotional dysregulation and since currently there are no policies regulating technology usage in young children, the findings from this research could aid in the development of educational materials for college students, parents, professionals, and community leaders. As a result, the awareness will help parents gain a better understanding of the importance of a more balanced approach to using digital technology with children as well as helping professionals and community leaders understand the importance of the establishment of guidelines regulating technology usage.

Additionally, exploration of the lived experiences of parents of children ages 3-5-years-old as it relates to their technology usage, offers insight regarding technology-related emotional dysregulation and how it's affecting the child, the parents, and the family as a unit. Understanding those lived experiences will consequently guide professionals working with these young children and their families. Early identification of children who are more prone to technology addiction will allows professionals to provide interventions earlier that will potentially prevent long-term implications of problematic usage to emotional regulation development.

Lastly, gaining an awareness of technology-related emotional dysregulation, how it is affecting young children and their families, and the addictive component of technology, could potentially aid church leadership in understanding the need for the development of educational resources for parents regarding parenting from a Christian perspective in a digital world as well as teaching the resistance of temptation, especially as it relates to digital technology usage.

Limitations

Several limitations of this study are important to note. The researcher for this study interviewed 5 parents, 3 preschool teachers and 2 physicians from one area on the Eastern Shore of Maryland, thus limiting the generalizability of information gathered. Additionally, all participants were female, Caucasian, and all had a form of higher education. Another major limitation was the inability to ensure reliability and validity of the semi-structured interviews since the interview questions were created by the researcher. Furthermore, the limited time/availability of the professionals (physicians, teachers) due to their busy work schedules created a challenge for the researcher as well as their inability to follow through to the end of the study, leaving a smaller sample than originally anticipated. Several attempts had to be made in order to finalize the scheduling of the interviews. The limited time availability could have also impeded upon the responses that were given since the professional participants all had a small window of availability for the actual interview.

It is also possible that since information was gathered based on the lived experiences of parents, the perceptions of the emotional dysregulation may have differed based on multiple variables (e.g., parenting styles). Additionally, parent participants may have been worried about the judgment from the researcher regarding their responses and parenting of the children, therefore limiting what information they were willing to share.

Recommendations for Future Research

Based on the implications of the results of this study and the increasing number of concerns of parents and professionals regarding young children and technology-related emotional dysregulation, further research is recommended to provide additional awareness of this phenomena, to develop a possible rating scale that can be used in

identification of problematic usage, as well as developing treatment strategies that can be used for children exhibiting technology-related emotional dysregulation.

Data that emerged from this study definitively warrants additional research on the addictive potential of digital technology usage in preschool children. Studying technology-related emotional dysregulation in school-aged children could also be beneficial. Future research should also encompass broadening the demographic area, increasing the sample size and broadening the professional participants beyond teachers and pediatricians.

Summary

The purpose of this qualitative phenomenological study was to explore and understand the lived experiences of parents and professionals with technology and emotional dysregulation in children ages 3-5-years-old. Furthermore, this research study aimed to develop domains, which emerged from themes from the semi-structured interviews, to potentially be used as a catalyst for future research and rating scale development.

The qualitative approach to this study presented rich descriptions of the lived experiences of parents and professionals of 3-5-year-olds who struggle with emotional dysregulation as it relates to their technology usage. Data was collected from semi-structured interviews with parents and professionals of children, 3-5-year-olds, from the Lower Eastern Shore of Maryland. As a result of their lived experiences, there were five final domains that emerged: (a) responses are different and emotionally intense, (b) a subset group of children show extreme reactions to the removal of digital technology, (c) professionals have concerns, (d) need for a set of parental guidelines in regard to

boundary setting as related to digital technology usage, and (e) lack of tolerance to any uncomfortable feeling or emotion among children, ages 3-5-years-old. These domains were the primary areas of focus based on the lived experiences of parents and professionals of children, ages 3-5-years-old and support the phenomena of technology-related emotional dysregulation. Technology-related emotional dysregulation can be defined as an extreme reaction to the removal of digital technology and an inability to tolerate any uncomfortable feeling or emotion in a subset group of children. Technology-related emotional dysregulation is emotionally intense and escalates extremely quick.

There are several significant implications resulting from this study, including that it could: (a) greatly advance the theoretically-driven research gained from previous studies, (b) bring much needed awareness to the community regarding technology-related emotional dysregulation, (c) aid professionals in earlier identification of problematic technology use, which will result in earlier implementation of treatment, and (d) help parents gain a better understanding of the importance of a more balanced approach to using digital technology. This research study provided a clearer understanding of technology-related emotional dysregulation as a phenomenon and the need for additional research in this area.

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APPENDIX A: SEMI-STRUCTURED INTERVIEWS

Parent Semi-Structured Interview Questions

1. Please share a little bit about your family.
2. Tell me about the types of digital devices your family uses.
3. Tell me about your experiences with your child and digital devices. Think about those experiences and when you are ready, you may begin.
4. How does your child use these devices, in your opinion?

    Do they use it for pure entertainment?

    Do they use it to cope or withdraw when they are upset?
5. What happens when you take away or ask your child to turn off their digital device?

    How do you respond?

    If they become upset, are you able to calm them down??

    How is this response the same or different from their responses when other toys/items are taken away?
6. Please describe your experience with your child's emotional responses and temperament in general.
7. Thank you for your valuable information. Is there anything you would like to add before we end our interview?

Teacher Semi-Structured Interview Questions

1. Please share a little bit about yourself.
2. How are digital devices incorporated into your classroom?
3. Tell me about your experiences, if any, with children and digital devices.

4. Describe what happens when the kids have to put the devices away.

   How do the children react/respond?

5. Thank you for your valuable information. Is there anything else you would like to add before we end our interview?

Professionals Semi-Interview Questions

1. Talk to me about your experiences with parents, young children ages 3-5-years old, and digital devices.
2. What concerns do parents have in regard to digital devices?
3. What are your experiences with young children and emotional dysregulation?
4. What advice, if any, do you have for parents in regard to managing big emotional responses when digital devices are taken away from a child?
5. Thank you for your valuable information. Is there anything else you would like to add before ending our interview?

APPENDIX B: PARENT DEMOGRAPHIC SURVEY

Parent Demographic Survey

Welcome to the Demographic Questionnaire! We are interested in gaining a better understanding of big emotional reactions in children ages 3-5-years-old as it relates to their technology use. For this demographic questionnaire portion of the study, you will be presented with information relevant to gender, ethnicity, etc. Then, if you are eligible for the study, you will be asked to answer some questions during our semi-structured interview following the completion of this questionnaire. Your responses will be kept completely confidential. The demographic survey should take you around 2-3 minutes to complete. Your participation in this research is voluntary. You have the right to withdraw at any point during the study. The Principal Investigator of this study can be contacted at the following email: [redacted].

By clicking the button below, you acknowledge:
I have read and agree to the consent information provided along with the study recruitment materials. I understand that if I am selected as an interview participant, I will be asked to sign a copy of the consent form and must return it to the researcher prior to the interview.

☐ I consent to this study.

☐ I do not consent to this study. I do not wish to participate.

Do you have at least one child who is between the ages of 3-5-years?
☐ Yes ☐ No
Do you have experience with emotional reactivity as it relates to your child's technology use?
☐ Yes ☐ No
Has your child been diagnosed or treated for an emotional or behavioral concern?
☐ Yes ☐ No
I am aware that I may choose to terminate my participation at any time for any reason and my participation in this study is voluntary.
☐ Yes ☐ No

1. Age of participant

2. Age of your child?

3. What is your gender?

☐ Male ☐ Female ☐ Non-binary/third gender ☐ Prefer not to say

4. What is your ethnicity?

☐ White ☐ Black/African American ☐ American Indian or Alaska Native ☐ Asian
☐ Native Hawaiian or Pacific Islander ☐ Other

5. What is your marital status?

☐ Married ☐ Never married ☐ Separated ☐ Widowed ☐ Divorced

6. Highest level of education attained?

☐ High School graduate ☐ Did not graduate ☐ Bachelor's ☐ Master's ☐ Doctorate

By providing your email address here, you are giving the researcher permission to contact you directly regarding setting up an interview either in person or virtually through Microsoft Teams.

Click or tap here to enter text.

APPENDIX C: PROFESSIONAL DEMOGRAPHIC SURVEY

Professional Demographic Survey

Welcome to the research study! We are interested in gaining a better understanding of emotional dysregulation in children ages 3-5-years-old as it relates to their technology use. For this demographics survey portion of the study, you will be presented with information relevant to gender, ethnicity, etc. Then, if you are eligible for the study, you will be asked to answer some questions during our semi-structured interview following the completion of this demographic survey. Your responses will be kept completely confidential. The demographic survey should take you around 2-3 minutes to complete. Your participation in this research is voluntary. You have the right to withdraw at any point during the study. The Principal Investigator of this study can be contacted at the following email: [redacted].

By clicking the button below, you acknowledge:
I have read and agree to the consent information provided along with the study recruitment materials. I understand that if I am selected as an interview participant, I will be asked to sign a copy of the consent form and must return it to the researcher prior to the interview.

☐ I consent to this study.

☐ I do not consent to this study. I do not wish to participate.

Do you currently work with children ages 3-5-years-old?

☐ Yes ☐ No

Have you worked in your current field for at least 5 years in order to ensure adequate experience with emotional dysregulation in children as it relates to their technology usage?

☐ Yes ☐ No

I am aware that I may choose to terminate my participation at any time for any reason and my participation in this study is voluntary.

☐ Yes ☐ No

1. Age of participant

2. Current profession?

☐ Teacher/Educator ☐ Physician ☐ Nurse Practitioner ☐ Physician's Assistant ☐ Other

3. What is your gender?

☐ Male ☐ Female ☐ Non-binary/third gender ☐ Prefer not to say

4. What is your ethnicity?

☐ White ☐ Black/African American ☐ American Indian or Alaska Native
☐ Asian ☐ Native Hawaiian or Pacific Islander ☐ Other

5. Number of years in the current field?

☐ Less than 5 years ☐ 5-10 ☐ 10+ years

6. Focus of practice (for medical professionals—e.g., MD, PA, NP)?

☐ Pediatrics ☐ General medicine ☐ Specialist

7. Type of teaching site (for teachers)?

☐ Daycare Center ☐ Preschool program ☐ Public School ☐ Private School

By providing your email address here, you are giving the researcher permission to contact you directly regarding setting up an interview either in person or virtually through Microsoft Teams.
Click or tap here to enter text.

APPENDIX D: RECRUITMENT EMAIL FOR TEACHERS

Dear Teacher/Educator:

As a doctoral student in the School of Behavioral Sciences at Liberty University, I am conducting research as part of the requirements for a PhD in Developmental Psychology. The purpose of my research is to explore the experiences of parents and professionals with children, ages 3-5-years-old, who have emotional dysregulation as it relates to their technology usage, and I am writing to invite eligible participants to join my study.

Criteria to participate are:

1. Participants must be a teacher/educator of children between the ages of 3-5-years.
2. Must have-at least 5 years of experience working with children ages 3-5-years-old. This will ensure adequate experience with the emotional dysregulation as it relates to technology usage of children.

If you meet the criteria and are willing to participate, you will be asked to complete an electronic demographic screening survey and a recorded interview with the primary researcher. It should take approximately 2-3 minutes to complete the survey and approximately 20-30 minutes for the interview. Names and other identifying information will be requested as part of this study, but the information will remain completely confidential.

To participate, please follow the link to the screening/demographic questionnaire: https://qfreeaccountssjc1.az1.qualtrics.com/jfe/form/SV_efYP6c5DCBYePLU

At the completion of your questionnaire, if selected for participation, you will be contacted by the primary researcher, Angela Rathkamp, with additional instructions and to schedule your interview.

Attached to this email you will find a consent document which contains additional information about my research. You will need to agree to the consent document in order to proceed to the survey. If you are selected for an interview, you will be asked to sign and return a copy of the consent document prior to the interview taking place.

Participants will be entered in a raffle to win one $50 Visa Gift Card at the end of the study. You will be notified by email if chosen.

Your participation in this research study will be valuable in providing qualitative data to explore the experiences of parents and professionals with children, ages 3-5-years-old, who have emotional dysregulation as it relates to their technology usage. With your kind and gracious feedback, I endeavor to collect information that can eventually be used to create a rating scale to measure problematic technology use proneness in young children.

Sincerely,

APPENDIX E: RECRUITMENT EMAIL FOR PHYSICIANS

Dear Medical Professional:

As a doctoral student in the School of Behavioral Sciences at Liberty University, I am conducting research as part of the requirements for a PhD in Developmental Psychology. The purpose of my research is to explore the experiences of parents and professionals with children, ages 3-5-years-old, who have emotional dysregulation as it relates to their technology usage, and I am writing to invite eligible participants to join my study.

Criteria to participate are:

3. Participants must be a medical professional of children between the ages of 3-5-years.
4. Must have at least 5 years of experience working with children ages 3-5-years-old. This will ensure adequate experience with the emotional dysregulation as it relates to technology usage of children.

If you meet the criteria and are willing to participate, you will be asked to complete an electronic demographic screening survey and a recorded interview with the primary researcher. It should take approximately 2-3 minutes to complete the survey and approximately 20-30 minutes for the interview. Names and other identifying information will be requested as part of this study, but the information will remain completely confidential.

To participate, follow the link to the screening/demographic questionnaire: https://qfreeaccountssjc1.az1.qualtrics.com/jfe/form/SV_efYP6c5DCBYePLU

Upon completion of the questionnaire, if selected for participation, you will be contacted by the primary researcher, Angela Rathkamp, with additional instructions and to schedule your interview.

Attached to this email you will find a consent document that contains additional information about my research. You will need to agree to the consent document in order to proceed to the survey. If you are selected for an interview, you will be asked to sign and return a copy of the consent document prior to the interview taking place.

Participants will be entered in a raffle to win one $50 Visa Gift Card at the end of the study. You will be notified by email if chosen.

Your participation in this research study will be valuable in providing qualitative data to explore the experiences of parents and professionals with children, ages 3-5-years-old, who have emotional dysregulation as it relates to their technology usage. With your kind and gracious feedback, I endeavor to collect information that can eventually be used to create a rating scale to measure problematic technology use proneness in young children.

Sincerely,

APPENDIX F: RECRUITMENT FLYER

Parent Participants Needed

DO YOU HAVE A 3-5-YEAR-OLD WHO HAS DIFFICULTY GETTING OFF ELECTRONIC DEVICES? DOES YOUR CHILD GET OVERLY UPSET WHEN IT'S TIME TO TURN THEM OFF?

- Are you a parent of a child between the ages of 3 and 5-years old?
- Does your child display strong emotional reactions/outbursts when it comes to putting away digital devices?

If you answered **yes** to these questions, you may be eligible to participate in a research study regarding emotional dysregulation as it relates to technology usage of children ages 3-5-years-old.

The purpose of this research study is to explore and better understand parents' experiences with their child's big emotional reactions when technology is turned off or taken away. Participation involves a brief screening survey and a 20 to 30-minute recorded interview. Consent information will be provided.

SCAN ME

Angela Rathkamp, a doctoral candidate in the School of Behavioral Sciences at Liberty University is conducting this study.

Please contact [redacted] or scan the QR code for more information regarding participation.

APPENDIX G: PARENT PARTICIPANT CONSENT

PARENT PARTICIPANT CONSENT FORM

Title of the Project: The Lived Experiences of Parents and Professionals with Technology and
Emotional Dysregulation in Children Ages 3-5-Years-Old: A Phenomenological Study
Principal Investigator: Angela Rathkamp, School of Behavioral Sciences, Department of Psychology, Liberty University

Invitation to be Part of a Research Study

You are invited to participate in a research study. Participants must be at least 18 years old. If you have at least one child between the ages of 3-5-years-old who has a strong reaction when using or having technology taken away, and if your child has not been diagnosed or treated for an emotional or behavioral problem, you are eligible to participate. Taking part in this research project is voluntary. Please take time to read this entire form and ask questions before deciding whether to allow yourself to take part in this research project.

What is the study about and why are we doing it?

The purpose of the study is to explore parents', teachers', and medical professionals' experiences with children who have difficulty turning off digital devices or have big emotional reactions when having to put down a device. Understanding more about these strong emotional reactions will help professionals identify children who may be developing problematic technology use.

What will participants be asked to do in this study?

If you agree to participate in this study, I will ask you to do the following things:

1. Complete an online electronic screening survey. This survey can be completed in approximately 2-3 minutes and will consist of questions about your gender, age, child's age, ethnicity, level of education, and email address.
2. Submitting your email at the end of the screening survey will allow the primary researcher to contact you about scheduling your in-person or virtual (Microsoft Teams) interview if you are found to be eligible for the study.
3. Interview. This interview will take approximately 20-30 minutes and will be voice recorded.

How could participants or others benefit from this study?

Participants should not expect to receive a direct benefit from taking part in this study. However, this study could potentially benefit parents by bringing an awareness of the importance of a more balanced approach to using technology in order to raise emotionally healthy children.

Professionals could potentially benefit as it will bring awareness regarding potential problematic technology usage in young children ages 3-5-years-old. The community could potentially benefit through the awareness and better understanding of these big emotional reactions of children ages 3-5-years-old as it relates to their technology use.

What risks might participants experience from being in this study?

The risks involved in this study are minimal, which means they are equal to the risks you would encounter in everyday life.

How will personal information be protected?

The records of this study will be kept private. Published reports will not include any information that will make it possible to identify a participant. Research records will be stored securely, and only the primary researcher will have access to the records.

- Participant responses will be kept confidential by replacing names with pseudonyms.
- Interviews will be conducted in a location where conversations are private.
- Data will be stored on a password-locked computer and may be used in future presentations. After three years, all electronic records will be deleted.

Will I be compensated for my participation?

Participants may receive compensation for participating in this study. As a participant in this study, your name will be entered into a drawing to win one $50 Visa Gift Card at the conclusion of the study. The winner will be contacted through email.

Is study participation voluntary?

Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with Liberty University. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

What should be done if a participant wishes to withdraw from the study?

If you choose to withdraw yourself from the study, please exit the survey and close the internet browser. Your responses will not be recorded or included in the study. If you have already submitted the survey, please notify the researcher that you would like to have your survey responses withdrawn. If you choose to withdraw during or after the interview, the researcher will immediately end the recording and permanently delete the file, and your responses given will not be included in the study.

Whom do you contact if you have questions or concerns about the study?

The researcher conducting this study is [redacted].
You may ask any questions you have now. If you have questions later, **you are**

encouraged to contact her at [redacted]. You may also contact the researcher's faculty chair, [redacted].

Whom do you contact if you have questions about rights as a research participant?

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the Institutional Review Board, 1971 University Blvd., Green Hall Ste. 2845, Lynchburg, VA 24515, or email at irb@liberty.edu.

Disclaimer: The Institutional Review Board (IRB) is tasked with ensuring that human subjects research will be conducted in an ethical manner as defined and required by federal regulations. The topics covered and viewpoints expressed or alluded to by student and faculty researchers are those of the researchers and do not necessarily reflect the official policies or positions of Liberty University.

Your Consent/Opt-Out

By signing this document, you are agreeing to participate in this study. Make sure you understand what the study is about before you sign. You will be given a copy of this document for your records. The researcher will keep a copy with the study records. If you have any questions about the study after you sign this document, you can contact the study team using the information provided above.

I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.

_____

Printed Participant's Name

_____

Participant's Signature Date

APPENDIX H: PROFESSIONAL PARTICIPANT CONSENT

PROFESSIONAL PARTICIPANT CONSENT FORM

Title of the Project: The Lived Experiences of Parents and Professionals with Technology and Emotional Dysregulation in Children Ages 3-5-Years-Old: A Phenomenological Study
Principal Investigator: Angela Rathkamp, School of Behavioral Sciences, Department of Psychology, Liberty University

Invitation to be Part of a Research Study

You are invited to participate in a research study. Participants must currently be working with children ages 3-5-years-old as a medical professional or teacher and have been in your current field for at least 5 years to ensure sufficient experience with these young children and their emotional dysregulation as it relates to their technology use. Taking part in this research project is voluntary. Please take time to read this entire form and ask questions before deciding whether to allow yourself to take part in this research project.

What is the study about and why are we doing it?

The purpose of the study is to explore parents', teachers', and medical professionals' experiences with children who have difficulty turning off digital devices or have big emotional reactions when having to put down a device. Understanding more about these strong emotional reactions will help professionals identify children who may be developing problematic technology use.

What will participants be asked to do in this study?

If you agree to participate in this study, I will ask you to do the following things:

1. Complete an online electronic screening survey. This survey can be completed in approximately 2-3 minutes and will consist of questions about your gender, age, child's age, ethnicity, level of education, and email address.
2. Submitting your email at the end of the screening survey will allow the primary researcher to contact you about scheduling your in-person or virtual (Microsoft Teams) interview if you are found to be eligible for the study.
3. Interview. This interview will take approximately 20-30 minutes and will be voice recorded.

How could participants or others benefit from this study?

Participants should not expect to receive a direct benefit from taking part in this study. However, this study could potentially benefit parents by bringing an awareness of the importance of a more balanced approach to using technology in order to raise emotionally healthy children.
Professionals could potentially benefit as it will bring awareness regarding potential problematic technology usage in young children ages 3-5-years-old. The community

could potentially benefit through the awareness and better understanding of these big emotional reactions of children ages 3-5-years-old as it relates to their technology use.

What risks might participants experience from being in this study?

The risks involved in this study are minimal, which means they are equal to the risks you would encounter in everyday life.

How will personal information be protected?

The records of this study will be kept private. Published reports will not include any information that will make it possible to identify a participant. Research records will be stored securely, and only the primary researcher will have access to the records.

- Participant responses will be kept confidential by replacing names with pseudonyms.
- Interviews will be conducted in a location where conversations are private
- Data will be stored on a password-locked computer and may be used in future presentations. After three years, all electronic records will be deleted.

Will I be compensated for my participation?

Participants may receive compensation for participating in this study. As a participant in this study, your name will be entered into a drawing to win one $50 Visa Gift Card at the conclusion of the study. The winner will be contacted through email.

Is study participation voluntary?

Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with Liberty University. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

What should be done if a participant wishes to withdraw from the study?

If you choose to withdraw yourself from the study, please exit the survey and close the internet browser. Your responses will not be recorded or included in the study. If you have already submitted the survey, please notify the researcher that you would like to have your survey responses withdrawn. If you choose to withdraw during or after the interview, the researcher will immediately end the recording and permanently delete the file, and your responses given will not be included in the study.

Whom do you contact if you have questions or concerns about the study?

The researcher conducting this study is [redacted]. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact her at [redacted]. You may also contact the researcher's faculty chair, [redacted].

Whom do you contact if you have questions about rights as a research participant?

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the Institutional Review Board, 1971 University Blvd., Green Hall Ste. 2845, Lynchburg, VA 24515, or email at irb@liberty.edu.

Disclaimer: The Institutional Review Board (IRB) is tasked with ensuring that human subjects research will be conducted in an ethical manner as defined and required by federal regulations. The topics covered and viewpoints expressed or alluded to by student and faculty researchers are those of the researchers and do not necessarily reflect the official policies or positions of Liberty University.

Your Consent/Opt-Out

By signing this document, you are agreeing to participate in this study. Make sure you understand what the study is about before you sign. You will be given a copy of this document for your records. The researcher will keep a copy with the study records. If you have any questions about the study after you sign this document, you can contact the study team using the information provided above.

I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.

_____

Printed Participant's Name

_____

Participant's Signature Date

APPENDIX I: PARENT1 INTERVIEW TRANSCRIPT

Parent1 Interview Transcript

Researcher introduced herself and asked Parent1 if she had any questions about the consent form. She answered no. Researcher reminded her she could withdraw at any time and the interview would end, and data would be deleted. Researcher also reminded Parent1 that the interview would be recorded and transcribed.

Parent1: Now look, it just told me. The transcription started.
Researcher: Look. It's crazy.
Parent1: Return whatever you bought.
Researcher: Well, unfortunately I need it to run my data.
Parent1: Wow.
Researcher: I know, but that's crazy. That is…. Oh my gosh, I'm like flabbergasted. Now I'm wondering if I should still audio record.
Parent1: Center (speaking to another adult that walked into the room)
Parent1: Delete. Right, right? (speaking to another adult in the room)
Researcher: I know you're probably thinking, [redacted] get it together. You're my first one. OK, I'm gonna have it together the next time.
Parent1: You're fine.
Researcher: Can you see? Alright, I'm not gonna worry about it since it's transcribing it and hopefully, I'll be okay.
Researcher: Alright, let me pull my questions up and we'll get started.
Parent1: Okay.
Researcher: Okay, here we go.
Researcher: So, let's get started. Could you just share a little bit about yourself and your family? Kind of like what it is that you do like what you teach, where you teach, who makes up your family, and those kinds of things.
Parent1: Okay.
Parent1: Uhm [redacted].
Researcher: Awesome, awesome awesome. All right now. I know because you are both a pre-school teacher and a parent of a 5-year-old, but you signed up for this study as a parent?
Parent1: Uh-huh
Researcher: Uhm. I mean, I know you've told me your name and you told me about your teaching position but tell me just a little bit about your family, like who comprises your family.
Parent1: Sure. Yep. Okay, we've got [redacted]. He's 5, [redacted]
Researcher: Okay, and so tell me a little bit about the types of digital devices that your family uses.

Parent1: Uh, we have an iPad. Well, now he has an iPad. Uh, Santa Claus brought him Nintendo Switch.

Researcher: Okay.

Parent1: And then the TV's.

Researcher: Okay, so now I want you to tell me a little bit about your experiences with [redacted] and the digital devices. So, I want you to think about those experiences like maybe even some specific experiences with digital devices. And then whenever you're ready you can begin.

Parent1: Uhm, he's a little more real… well I say I always tell him he's obsessed. He gets really into them and it's more like he wants to play the games and he's kind of getting out of the YouTube.

Researcher: Okay.

Parent1: He wants to play like building and Mario Kart and now he just lost his iPad and Nintendo for a couple days for bringing home a sad face at school and it wasn't an issue he didn't ask for it.

Researcher: Okay.

Parent1: So, but I mean to him that was, uh, when I told him he was losing them, he was really upset.

Researcher: Gotcha.

Parent1: I mean, he realized it was a consequence. It's like the one thing I know I can take away from him and he'll get upset about?

Researcher: Right. So, and I know you've kind of mentioned a little bit of it, but I'll go ahead and ask the next question anyway. So, think about how [redacted] uses the devices that he has. Like is it for pure entertainment or does he use some of it sometimes for educational purposes?

Parent1: Uh-huh

Parent1: Yeah both. He's got Osmo which is purely educational. I've got them in my classroom too. He's got lots of apps on there like PBS kids and some alphabet games and stuff like that. So yeah, with his iPad, he's using for both. His Nintendo, he uses as pure entertainment.

Researcher: Okay, and does he ever… would you say that he ever uses it when like to cope if he's upset about something? Does he tend to want to go to use the digital devices to kind of help him calm down or be less frustrated?

Parent1: Nahhh, he's a momma’s boy. He's crawling in my lap.

Researcher: Okay, now what happens when you have to ask him to turn them off or you have to take away his digital devices?

Parent1: The other day there were tears when we lost it for two days but in the time of his punishment, he never asked for it. He never asked me where they were or could he have them.

Researcher: Okay. And so, does he ever become overly upset, and if so, like how do you respond to that?

Parent1: Yeah, he's definitely an emotional child. He will come down and we usually just talk it out, take some deep breaths and move on. You're not going to get your way just from crying.

Researcher: Uh-huh. So, like if you're having to take the digital device away and he's getting upset about that and you see tears and these other things is this

response the same response that you get from other items toys that get removed or is it different?

Parent1: Yeah, I think it's depends on what it is like. If it's one of the new toys that he just got for Christmas, we'd probably have the same response.

Researcher: Okay.

Parent1: 'Cause I try to take something that's really interesting or motivating to him and right now it's been that Nintendo.

Researcher: Right.

Parent1: But today was Toy Day at school and he was having a fit over which toy to take and I said, well now, there's no toys. So, he was upset that I wouldn't let him take the huge airplane on school bus so, I can't win for losing this morning.

Researcher: Alright, so, just a couple more questions and we will be all finished. Could you describe your experience with [redacted]'s emotional responses and temperament in general?

Parent1: Sure. Umm?

Researcher: I know you mentioned he was an emotional child, but can you kind of explain that to me?

Parent1: Yes, he's definitely one that gets his feelings hurt easily. He is a people pleaser, which that may be the one thing he got for me. Anxiety and people pleasing. Wow. Uhm. So that's partially maybe…. yeah, tears come easily to him.

Researcher: Okay. Uhm? Is there anything else that you would like to add before we end? Anything else that you can think of as far as [redacted] and his relationship with digital technology or your family's relationship with it, or anything else?

Parent1: I think he really loves digital technology, which I feel like that's kind of the world we're living in right now.

Researcher: Yeah.

Parent1: But, also really loves to build he like blocks. He's been on a Lincoln log kick. It's like I keep saying he loves to be outside, so I feel like there's such a balance like I don't feel like his face is always in technology.

Researcher: Okay, well that's good.

Parent1: It's weird, we're definitely a timer family. Like when he gets home from school, you can play it but it's on the timer.

Researcher: Okay, good.

Parent1: Yeah.

Researcher: Alright, well thank you so much for your time. I appreciate it so much.

Parent1: You're welcome.

Researcher stopped the recording and thanked the participant again for their willingness to participate.

APPENDIX J: PARENT2 INTERVIEW TRANSCRIPT

Parent2 Interview Transcript

Researcher logged on Microsoft Teams and welcomed Parent2. Researcher before turning on the recording, asked if there were any questions regarding the consent document she had signed. Researcher reminded Parent1 she could withdraw from the study at any time and researcher would stop the interview. Researcher turned on recording.

Researcher: It's starting recording and transcribing. Oh, my goodness.
Parent2: Technology.
Researcher: Speaking of technology.
Researcher: That is so cool.
Researcher: OK anyway, so thank you so much for being willing to do this for me.
Parent2: It's my pleasure.
Researcher: I just have a few questions so let's go ahead and get started. So, the first one. It would help if I had the right paper.
Researcher: Let's start if you could by just sharing a little bit about your family. Tell me who's in your family? Kids ages and those kinds of things.
Parent2: OK, there's my husband. [redacted]. There's me from [redacted]. There is my son [redacted]. He is 4 years old. My daughter [redacted] is 3 years old, and we have another one on the way.
Researcher: Yay! So, exciting. So, tell me about the types of digital devices that your family uses.
Parent2: Yeah, or what don't we use. So is this just like what we use in general?
Researcher: Yes, just in general for your family. What devices have you used?
Parent2: TV's of course, computers, iPads, tablets, phones.
Researcher: Okay.
Parent2: Uh, video game stuff, but I don't know. That's a foreign language to me, so I don't know what all he has with that.
Researcher: OK, so you have that technology as well?
Parent2: Yeah, OK so I'm not sure which (referring to video game consoles).
Researcher: I not sure which….tell me again, how old [redacted] is?
Parent2: Four
Researcher: Four. Okay, so since both of your kids fall within the age range that I'm looking at, I want you to think of just one of them.
Parent2: [redacted]
Researcher: Okay
Researcher: So, let's think about [redacted] then. So, I want you to tell me about your experiences with [redacted] and digital devices. So, I want you to think about specific experiences that maybe you can share with me. And then when you're ready you may begin.
Parent2: So, in general, he's a very sensitive child and has that emotional sensitive temperament. So, I will say just this…. during this past week or two, really the past two months, I've noticed it getting pretty bad, so I have

tried….and a lot of that is me because I have not had the energy as much to be as present or as active with them. So, it's kind of…. here's the tablet to keep you busy. Umm, so I tried limiting it more lately, but if it…. especially like if it's right before bedtime and it's taken from him. That time is not fun. It's argumentative, hitting, yelling, screaming, crying. All of that good stuff. And I will say it's not usually right when I take the tablet. It's when they realized this is bedtime. It's time to sleep and then…

Researcher: Gotcha. And so, when you um when you were talking I know you said it's bad at that time and I know you said hitting and those kinds of things. Um. Kind of walk me through that experience for you. What's that experience like for you?

Parent2: Very distressed. Distressing. I'm doing a lot of my own therapy and work with that to try to learn how to handle those situations. So I'm getting better at it now, but it is definitely distressing.
I don't know how to put it into words so much, it's just he, he's an angel one minute and all of a sudden…. What happened to my sweet child that was, you know, just giving me hugs 2 seconds ago and now we are hitting me?

Researcher: And so I was going to say how would you describe the behavior, how it changes him?

Parent2: It's very quick. How we go from, "Mommy, I love you. I want to hug." Just out of the blue. Boom. Crying and arguing is usually where it starts.

Researcher: Okay.

Parent2: To, "No, I don't wanna do dah dah dah. Just just kinda repetitively screaming. "No no, no."

Parent2: Also arguing in the sense of….I have a sound machine for bedtime so it lights up with different colors and has cool sounds. "I want it on. Turn it on. I want it off. Turn it off. I want it on."

Researcher: So it's really sounds like he's trying to control other things.

Parent2: Yes, yes, yes, yes, yes.

Researcher: So how would you say [redacted] uses the devices that he uses? How would you say he uses those? In your opinion, does he use it for pure entertainment? Does he use it to cope or withdraw when he's upset or frustrated? How would you describe how he uses these devices?

Parent2: We have… so they have those Amazon tablets that are very parentally supervised. Like it's just learning stuff so he uses it to learn a lot. He really likes racing.

Researcher: Mmhmmm

Parent2: He's very calm, so….it's hard to say for sure, but my impression would be to regulate because he's….the whole time he can be on for hours. I mean we watched him play this racing train game and all he's doing is stopping the whole time, but he will do it for hours and be totally satisfied.

Parent2: But he'll forget. Not forget, but he won't go to the bathroom. He won't eat, if he's on.

Researcher: Gotcha, so he's like just fully engage?

Parent2: And yeah, now of course there is the TV too and that's more entertainment.

Researcher: Yes, now I know we've touched on it a little bit earlier when you were telling me about some of your experiences, but were gonna circle back around. So what happens when you actually take away the digital device? So say he's done something and you have to remove it from him? Or it's just time to turn it off so? What happens?

Parent2: It's gotten better. If I'm home, 'cause it's my well my husband has a different way of doing things, different routines, so that that will look different. But if I'm home and I and have learned to kind of prepare. Okay, you can have the tablet for "X" amount of time or whatever that helps. But before that or if I'm not there to prep that….what was the question here?

Researcher: What does it look….what happens when it gets taken away?

Parent2: So at first a little argumentative but no temper tantrum. Kind of saying like, "Oh, I don't wanna." You know a little bit of sass but he'll then do what he's supposed to do for like a few minutes. And then that control thing comes in.

Researcher: Okay.

Parent2: And then it kind of progresses.

Researcher: So it escalates from there?

Parent2: Mhmmmm.

Researcher: And then, how do you respond to that? How do you respond to what he's doing when it starts to escalate?

Parent2: Now that I've been doing work with it or before, when I didn't have all these tools? Before I….

Researcher: You can share both.

Parent2: Before I ummm… Initially it's kind of just this. I don't know how to…… just like I hate myself, like what am I doing wrong? Like I'm doing something wrong for this to be happening?

Researcher: I think a lot of parents feel that way. Like what have I done yeah?

Parent2: Or what am I not doing so then I start to feel helpless.

Researcher: Mhmmm.

Parent2: I work full time and mom full time. I feel drained and I feel overwhelmed, so I I'm not thinking clearly. So I usually get reactive.

Researcher: Right.

Parent2: I would and I would, you know, would try very hard like to set boundaries too. Validate the emotions you know. Like I know you're upset, but I'm going to bed so we… this is bedtime or but you can't have it or blah blah blah. But then I would eventually like end up screaming back up and he would start hitting so and I realized the urge. I never would hit him back, but that urge was there, like, yeah, what do I do to stop so I would have to like hold him down so he would he wouldn't get out of bed and hit his sister.

Researcher: So he kind of starting to take it out on other people and that kinda actually leads into the next question. So if he… so obviously you're saying he does

become upset, you know when it kind of escalates to the point where he becomes upset. So, are you then able to calm him down?

Parent2: So now it's been a lot lot better. And there are of course other extenuating factors that play into that needing of control and stuff, but I really like…..

Parent2: Currently I'm using the Rye parenting approach, so I just don't go to that rational level 'cause I know he's not on a rational level. It's just emotional, so I just….

Parent2: So a specific example when he started going off one night a few weeks ago so I just put him in a like a safe hold so it wouldn't hit and kick and I just laid down with him and I just kept repeating. “I know you're upset. I know you have some big feelings right now”, and that took like 2 minutes and then he just relaxed.

Researcher: Yeah so you are able to calm him down once he gets to that point?

Parent2: And then he turned around and he hugged me and cry like just sobbing tears for a few minutes until he calmed down.

Researcher: Okay, now how is that response, that kind of response that is a huge big emotional response, the same or different from their responses when other toys or items have to be taken away?

So how is it the same? Or how is it different from when other things have to be taken away? So in other words, like if if he is playing with something and you have to take a different toy away. Does it escalate to that point? Is it the same? Or does it not escalate to the point like it does when the technology is taken away? How is it the same or different?

Parent2: We don't ever really have to take them away. Then we might have to like go somewhere so we have to stop playing and go somewhere.

Researcher: So like if he has to stop playing with something else, so even if something is not taken away and he's not getting in trouble, but it's just something he has to stop doing, is the response the same as when he's on digital technology or is it different?

Parent2: No, no, he doesn't usually get upset.

Researcher: Okay, so it's it's more related to the technology. Alright, so, uh, I know you've talked a little bit about this anyway, but we're going to kind of piggyback around before we finish up. Just describe your experience in general with your child, [redacted]'s, emotional responses and his temperament. So just in general, describe that experience.

Parent2: Yes, big emotions. I always when I teach social theory at work with other parents, I give them the example of my kids because he came out of the womb crying and screaming and needing that extra soothing rest. His sister is totally just independent, and you know the two second rebound, but he's always been that way. He just has those big emotions, reacts quickly to things, gets very frustrated easily and requires a lot of coregulation and soothing and that kind of thing.

Researcher: So thank you so much for the valuable information that you provided for the research. Is there anything else that you would like to add that you can think of before we end the interview?

Parent2: Not that I can think of.

Researcher: Well, thank you so much.
Parent2: My pleasure.

Researcher ended video recording.

APPENDIX K: PARENT3 INTERVIEW TRANSCRIPT

Parent3 Interview Transcript

Researcher: Okay, so we are being recorded and the interview is also being transcribed just to let you know. So first, I want to thank you so much for doing this for me. I really, really appreciate it. So I'm doing this interview as a part of my final dissertation for my Ph.D. in developmental psychology. And so I am doing research on children ages three to five years old, and I'm looking at children who struggle with big emotions as it relates to their technology use. So I want to get started by just asking you to just share a little bit about your family.

Parent3: Okay, well, I have three little ones, so my husband and I have [redacted] who is four years old, [redacted] is two years old and we have a new baby in the house, [redacted], and he is three months old.

Researcher: So exciting.

Parent3: Yeah, it is so exciting. Yeah.

Researcher: So tell me about the types of digital devices that your family uses.

Parent3: OK, so I will focus mostly on [redacted], but [redacted] is two now and she does what her brother does a lot of time.

Researcher: So yeah, I was going to say for purposes of the research, let's focus on.... Tell me your oldest son's name again, I'm sorry.

Parent3: Yeah. It's [redacted].

Researcher: Let's focus on [redacted] for purposes of the research, but yeah, you can share about [redacted] too.

Parent3: Okay.

Researcher: So as far as the types of digital devices that your family uses?

Parent3: So we.....the most thing we do is television. So we do.....we kind of schedule TV where he watches that first thing in the morning. So when he wakes up, you know, usually comes downstairs and kind of gets settled and then we we turn on the TV for him and he usually watches. It's been a little bit more recently.

Researcher: I understand.

Parent3: But previously, but it's usually about 45 minutes in the morning and then and then our schedule here at home, we then have time for him to watch TV again in the evening time when we make dinner. So that's another usually about 45 minutes, maybe an hour, if I, you know, have other things to do. So it ends up being he usually watches TV about an hour and a half is probably an average a day sometimes. I mean, if we're traveling, he might have an iPad, but he doesn't get an iPad every day. It's usually on TV. Occasionally he'll play a game on my phone or look at pictures or something like that or like, look at a grandparent's phone. I know that at school, they have a technology piece that happens like on Thursdays that I think they do something on an iPad. They... they might do some more technology. He goes to school at an elementary school pre-K program in the afternoon and I think that they incorporate

technology in some ways. I think they watch a little bit of some shows if they're doing a snack time, and I think that they do something on an iPad, but.

Researcher: Okay so I'm just curious, where does he go to school?

Parent3: He goes to [redacted].

Researcher: Okay.

Parent3: So he'll come home and say, Oh, like, I saw this on Peppa Pig at school today. I say, well, when did you watch Peppa Pig at school? That was an interesting thing for me to kind of wrap my head around, but it sounds like they do it kind of during snack time. I think it's probably kind of COVID related and things of that kind of guess. You know, the kids sort of face separate and they're sitting in their seats and kind of need something to kind of do during break time. So I think they do some sort of technology piece with that. And it's usually with us we don't watch the whole show. It's like we'll watch a clip of something, you know? So I think that happens during snack time, but otherwise, from like a day to day basis that happens more often than not, he watches TV in the morning and TV in the evening.

Researcher: Okay.

Parent3: Yeah.

Researcher: All right. So now I want you to think about [redacted], and I want you to think about your experiences with him.

Parent3: Yeah.

Researcher: And digital devices. So yeah, about some very specific experiences and then when you're ready, you can begin and just share those experiences with me.

Parent3: Yeah, technology, I mean, the thing I can just relate it to the most is it's almost like a drug for him, you know? I mean, it's it's so captivating for him that he.. he spends time thinking about it and kind of what's going to happen. It's almost which I can feel for him in that it's this so exciting experience to watch TV that when it happens, he wants it to be perfect. So the thing that we struggle with a lot in our house is not only kind of like the amount of time that he watches it, but also like what he's going to watch, especially now that he has his younger sister who is now more vocal about what she wants to watch. There's definitely... we've had to implement, especially because we have a, you know, time in the morning, and a time in the afternoon that they watch TV. We have like it's a [redacted] afternoon or it's a [redacted] morning, it's a [redacted] afternoon. It's a... we have to take turns and see who wants to watch what. And then it's like, you know, if there's something that [redacted] picks that he doesn't want to watch, I mean, it's like a meltdown, you know, it's then a meltdown. He, well they both like a couple of shows. They love Paw Patrol. She loves Paw Patrol, and he'll be like, okay, we can watch Paw Patrol, but he is a train fanatic, loves trains, everything about trains. And so one of his favorite things is to just watch these like train shows,

documentaries, anything about trains. And he would just do it all day long. That's all he you know, that's his absolute favorite thing to watch.

Researcher: Yeah.

Parent3: And his sister doesn't really like that as much, and it also doesn't really hold her attention very well. So for us, if we can get something done which honestly, like sometimes we use the time when they're watching TV to get things done, it doesn't really accomplish the goal because she's like, I don't want to watch that, let me come over and do things with you. So that, I would say, are the two things that that I particularly stand out to me is just like him being... so it's so important that he likes what he watches. It's very it's like the choice of the day has got to be something that is okay with him so he just loses it.

Researcher: And so tell me what that looks like when he loses it. Describe that experience for me.

Parent3: He'll cry if it's really something that he doesn't want to do. He'll say, no, like, that's not fair. You know, this is a [redacted] morning. I get to pick. And then, you know, he'll bury his head in the couch and the tears and that sort of thing, and then it can be we try to sometimes we'll say, you know, it just is what it is, you know, and we'll say, this is [redacted]s day. This is what she's choosing. Some days we'll try to compromise to find something that you both want to watch. So we don't we're not totally consistent in how we deal with it every time. It sort of depends on that. But his meltdowns are... and it's like they don't last longer than... but he might just be kind of moody after that for a little bit. For, you know, 30 seconds, he's kind of upset about it, but for instance, like, he always ends up liking whatever it is, though at the same time, you know, his sister really likes a show called Daniel Tiger, and he's always like , No, like, I think he thinks that that's, you know, for younger kids. He's like, I don't want to watch Daniel Tiger. He'll make a big fuss about it. He'll cry, or he'll.... if he doesn't cry, he's just sort of moody about it. Like, I don't want to watch a show and then he's laughing. And once we turn it on and he just thinks it's great. So we kind of kind of have to get over the hump hump with that. So we've honestly we keep it to TV. I think I've purposely restricted other types of technology. I don't give him my phone very often. I don't give him an iPad because it would be a struggle. And I don't know if you want me to kind of go into like history wise.

Researcher: Sure.

Parent3: I mean, as he's gotten older, he's better able to manage just TV. But we've used technology at different points in his life and it's been really a struggle.

Researcher: And what what do you mean by that? Can you describe that?

Parent3: Where every time it ended, it would be a meltdown. So like the thing when when he was potty training, we tried everything to get him. He was good with doing his number one, but his number twos he struggled with and he was..... There's just nothing that really motivated him to

actually go and sit on the potty and actually do it. Except we found if we... his reward was watching a couple of minutes of like a train video or a track video on a phone afterwards. But it was this risk reward because it would work for him to go and then we would give the phone to him afterwards. And then he would inevitably have a meltdown after it ended. So it worked in the moment it worked to get him potty trained. We faded it out as quick as we could, but it still was always like, oh, here we go. Like, let's do it, you have it, and then we'll deal with all the after effects and all, you know? And it's the absolute takeaway. We would say, I know you really like watching the show and know it so hard and it it's so hard and it's time to move on. You know, we would just sort of validate and and do that. But but I would say that that's why we've just really just do the television shows and we purposely do that where we restrict that technology at other points because we know that his he just can't handle the time amounts and he'll just give us a hard time. Yeah.

Researcher: And then the next couple of questions you really have kind of already answered. But I just want to clarify just for purposes of the research. So how [redacted] uses the devices? For just pure entertainment? Would you say that he tends to use it if he's really upset or something or trying to, something else has made him upset, does he tend to want to use it almost like to cope or to withdraw if he is upset about something? Or is it just merely for pure entertainment?

Parent3: We use it for entertainment. Yeah, I've sort of purposely not given it to him. The only time we really use it as a reward is for like the potty training, and then I've I've pretty much purposely not done it for other so I use other rewards. Yeah, for that kind of thing.

Researcher: And then I know that you already kind of touched on this too, like what happens, especially when he was using the other devices. But even the TV, like when you have to turn it off?

Parent3: Yeah.

Researcher: You know, it's time to put it away. Turn it off.

Parent3: Yeah.

Researcher: What happens? What does [redacted] do? And then how do you respond to that? Are you able to calm him down?

Parent3: Yeah. We so we've tried different things to prepare him that it's ending. We'll say, okay, five more minutes, or we'll say, okay, this is the, you know, particularly like we watch the most Paw Patrol I would say in our house. Paw Patrol kind is kinda like in each story is maybe 12 minutes long or something similar to that. So it's an easy way to say, okay, one more episode, like one more 12 minutes. So we'll usually say that we're like, okay, one more of these and then at the end, we're turning it off. So I would say every time, I mean, every time I give a warning, if I didn't give a warning, I know that it would, both [redacted] and his sister would would both just, I would say, they might cry like actual tears, but it's

kind of more of just like yelling. And like, no, like you didn't tell us or, you know, that kind of thing.

Researcher: But it's an outward expression of?

Parent3: It's an outward expression of frustration. [redacted], a few times that he and he would do it to see our reaction. Like he might throw the remote something like that and just to see what we do or a couple of times, just to see what happen, he would just scream at the top of his lungs like I'd turn it off and he would just scream and then he'd be quiet and he'd just look at me, you know, and see what I was going to do.

Researcher: Yeah

Parent3: Which I usually wouldn't do anything. But, you know, he's tried different things like that. Sometimes it works where I will give them a task. Then they then they each fight over who gets to do it. But I say, like, okay, who wants to turn off? Who wants to use the remote to turn it off? And then they're like, meeeee and then they, you know, and bicker about that. So then it's a different, you know, that's a whole different problem. But at least then if I give it, if I like this morning, I'll give an example that work this morning where, you know, they'd watch their show. I told them, this is the last episode. When it's over, we're turning it off. And then when it was over, you know, the credits are running. I'm like, okay, now it's time to turn it off, who wants to turn it off? And then they are like meeee, you know? And I think I think [redacted] actually did it. And [redacted] melted down because she wanted to do it. But that's a whole other thing. So he did it. He was happy with that. He turned it off and he just went away to the couch and start playing with something else. So there wasn't a meltdown. That was fine. We don't....

Researcher: Go ahead. No, go ahead. Go ahead.

Parent3: I would just say the only thing the other thing is just trying to be playful. I think I think I with the screaming thing. When his reaction was screaming, I did a couple of times just like kind of yell back at him, and he just laughed at that. Like, it was kind of like he was like, wait, what are you doing? Just like distracting him from, like what, like I'm the one that's yelling, You're not supposed to yell. Kind of and then he would just laugh, and then we were able to move on. It was almost like, he's just he kind of just got to the place where it's like, I'm supposed to melt down at the end of a show, and that's what it is. But so we've tried different techniques like that, and as he's gotten older, he's gotten better with it.

Researcher: Now, how would you say that response, that response you just described, that experience of, you know, him melting down or screaming or, you know, when it take it is taken away or turned off. How is that response the same or different from responses when other toys or items are taken away?

Parent3: I would say it's greater greater than. He does have trouble, especially at this age, with transitioning to another task. So it does go along with that, say, if we were trying to wash your hands for a meal, time to get ready

for school, put your shoes on things like that. But I would say where he kind of gives us a hard time if he's not moving very fast to do some of those things or he still wants to play. But the emotional, the intensity of the emotion is just..

Researcher: So I was going to say so it sounds like maybe it's not as intense with other items or toys as it is with technology?

Parent3: Yeah, I think the difference is also, with him he can kind of control the play, so he really likes to play trains or trucks and so when we say it's time, there's not often so this could be another strategy. It's not often that we kind of like, pick him up and or actively remove it. It's almost like he kind of has control of the situation where we might just kind of nag him to do it, and then he does it on his own eventually. But with TV, it's like shut down and its best dramatic like over. And so I think that intensity builds up, but I think he's just his attention and the captivation of the TV shows is just something I'm sure as your, you know, research just shows it's something totally different. That's just so exciting for him that he's...you, I mean, you can talk to him when he's watching TV and he won't even he can't even hardly hear you and his attention is so held by it. And then when it's off, it's this like kind of drop I almost feel like how....and so we...

Researcher: You kind of described it in the beginning, almost like a drug for him that it is so he's so engaged, so captivated by it. And then when it's gone, it's like, oh my gosh.

Parent3: Right, right. And he knows he doesn't get it again, you know, until if that's what he'll say, it's like we can take it tomorrow morning. He's like, well, that's so long away.

Researcher: And for him, you know, that is, you know but....

Parent3: Yeah, no, I get it. Yeah, yeah.

Researcher: So and we've we've kind of already talked about this. But again, just, you know, just for purposes of the research, I just want to make sure I ask the question, but just describe your overall experience with his emotional responses and temperament in general.

Parent3: In general, he is, he is a more emotional kid I would say. He is sensitive. He's a sensitive soul. So he really feels his emotions and he's pretty quick to to kind of get upset or get frustrated. He is both, you know, he's a really happy kid. He's super excited about a lot of things, and he also has those, you know, so then he's very intense when he is frustrated or, you know, his little sister has started kind of teasing him. And, you know, it's sort of this other dynamic where she knows that she can really get a response from him. And so she does. She kind of picks on him and he does. He can just explode, you know, just his emotions are very big. So across the board, I would say that it is in line with how you know how intense he kind of is with with the video games. I mean, without video games, sorry. With the technology.

Researcher: Yeah. Okay, so that's the end of my questions. Thank you so much for the information. Before we end, is there anything else that you can think

of that you would like to add that has to do, you know, with [redacted] and technology or just his emotions in general?

Parent3: I think, you know, we've... you know, my thought is also of kind of how to integrate learning into it as well, you know, like there are some really great games and things like that, and he sometimes will play like a letter game on my phone or something like that. And so it's it's almost I feel I don't utilize some of those resources as much because I'm hesitant to get him hooked on something and then kind of deal with the after part of it. And I think that's where the hard part comes in, where it's like, you know, you have these great resources I think he would really enjoy, but I'm very hesitant to implement anything new. And even if I say if I give up my phone, I say, okay, just this once. You know, I say all these sort of things just to make sure that he doesn't, you know, get used to that because then I just, you know, having to deal with the meltdown afterwards. But.... so I think probably as he has more control over the situation or what he watches or knowing or understanding the amount of time, like understanding what an episode is, I think it's gotten better as he's gotten older. I would say three years when he was three years old, I would say it was probably the worst kind of beginning of three years if he doesn't really understand, well, what does that mean? Another episode or not? I would say it's gotten better as he can do it and as we can sort of know how to respond. So jokingly get back at him. He had meltdowns, become something funny, and he can know that he is, you know, just umm.... Just saying it just to have a reaction.

Researcher: Right?

Parent3: I think that's from from the technology perspective is sort of where we are with him, you know?

Researcher: And it's funny because what what you're saying is exactly what I've heard, you know, from from others as well. So which is kind of cool?

Parent3: Yeah.

Researcher: Because, you know, it's it's kind of been the same with most...

Parent3: Yeah, and it's interesting, you know, I don't know how they do it in schools, how they're going to keep doing it because I mean, technology is just getting more and more and more. And now we use it just for entertainment but then we do hear, you know, the kids are on their stuff all day long with schools. And so I mean, your research is so interesting because it's like, how do you give the brain a break and all those things when they're doing it so much? So I don't know I would be interested to see....I know it's like a it's called like tech lab. He has a tech lab at school on Thursday, so he has like different electives.

Researcher: Yeah.

Parent3: Music, art, library, PE and Tech Lab. I think Tech Lab is doing things on your iPad, but I don't really know what he does. I don't really know what's involved in that, but it's another opportunity for technology. And...

Researcher: Yeah.

Parent3: I'm not quite sure how it works, though. Yeah.
Researcher: All right. Well, thank you so much for being a part of the research. I'm going to go ahead and stop the recording.
Parent3: Okay.

Recording ended and researcher thanked participant again for their willingness to participate.

APPENDIX L: PARENT4 INTERVIEW TRANSCRIPT

Parent4 Interview Transcript

Parent4: Please let me know if I start, you start losing me or something because I'm down here. I'm in [redacted] right now.

Researcher: Okay.

Parent4: Usually I have a good cell signal, but you know how it goes sometimes as you're going, Yeah, it's okay. [redacted]

Researcher: No worries. All right. We are being recorded and the conversation is also being transcribed so that I will have it for my research purposes.

Parent4: Okay.

Researcher: All right. So I just want to start by saying thank you so much for being willing to participate in my research study. And as you know, this is for my dissertation for Liberty University, for my final research project, and I am studying children ages three to five years old and their big emotional reactions as it relates to technology use.

Parent4: You are very, very welcome. I am happy to help.

Researcher: Thank you so much. All right. So I'm just going to start by asking you just to share a little bit about your family with me.

Parent4: Okay, so I am a single mom. I've got two boys [redacted] age four. He will be five here in just a couple of weeks, [redacted] is with me pretty much the majority of the time, at least 80-85 percent of the time. And we live in [redacted], and we have a dog, a big, adorable elderly lab who lately has issues passing gas but that's another story. He's in the car here with me now, so I'm just praying he doesn't do it in the car. And then we've got two kitty cats, [redacted].

Researcher: Very cool.

Parent4: That's it. That's it in a nutshell.

Researcher: Okay, and so for the purposes of this research, we're going to focus on [redacted], your four-year-old.

Parent4: Right.

Researcher: Okay, so tell me a little bit about the types of digital devices that your family uses.

Parent4: OK, so [redacted] is a technology junkie. [redacted] would much rather prefer most of the time staying inside playing video games than going outside. [redacted], on the other hand, loves to be outside as much as possible. But he also loves this technology not as much as [redacted]. So [redacted] has an Xbox that he plays. [redacted] recently started getting more interest in the Xbox, and when they're getting

along, [redacted] will come up and sit and watch [redacted] playing his games and is trying to learn a little bit on how to play and [redacted]'s trying to teach them a little bit how to use the controllers. But for the most part, what [redacted] uses is a little Amazon Kindle Kid version tablet. OK, [redacted] also has one of those that's just a little bit of a larger screen. And then [redacted], for his for Christmas this year, also got a laptop Chromebook.

Researcher: OK, now how would you say that? [redacted] uses, you know, the devices, does he use it for pure entertainment? Does he use it for learning? Is it a combination of the two? Does he tend to, you know, when he's upset to cope?

Parent4: He uses it for pure entertainment. I used to have ABC Mouse and I was trying for the longest time to get him to engage an ABC mouse. Paying the monthly fee for it, trying to get him to do the activities. And he just would not. And it was just month after month after month, I was paying for it. And just like I would try to get them to engage and do not seem interested in doing some of the online digital games and everything else, which is very different than [redacted] at the same age. Love ABC Mouse. Yeah, so so I finally just cancelled ABC Mouse, and now it's purely entertainment. [redacted] likes to watch YouTube. He has a couple of favorite types of shows he watches. He likes to watch unboxing of new toys and playing with the new toys, and lately it's all superhero toys. He also used to have a big thing for Peppa Pig, so he would watch Peppa Pig episodes or Blinky episodes. He's kind of gotten away from those, so now it's mostly like the unboxing of the new toys. And then he likes Ryan's world a little bit. And then there's also a little boy. I don't know the name of the show, but it's he's a little blond Ukrainian boy who runs around and does all sorts of silly antics and stuff like that. So he I don't know that he does it to cope as much as he does. Like, if he's stressed, I think I think he definitely uses it to unwind, though, OK, because it's usually and for boredom, because it's coming in the car any time. He always wants his tablet as this is older brother for entertainment in the car, and then he likes to watch it. Unfortunately, and I can't stand it, he likes to watch it at the dinner table. Sometimes it's the only way I can get him to eat food because he zones out into the tablet and then will actually like, eat. But if you have to sit there and focus on his eating, he won't eat. He'll watch it to kind of unwind. Then usually the rest. The evening after dinner, though, he'll go in the playroom and actually put himself, and then he's done with the tablet for the night.

Researcher: OK, so now I want you to think about some very specific experiences that you've had with [redacted] and digital devices so you can give yourself, you know, just a few minutes if you want just to kind of think about specific experiences that you've had

with [redacted] and digital devices. And then whenever you're ready, you can begin.

Parent4: So one thing that's been happening lately that has been bothering me is so now when I pick him up at the YMCA at the end of the school day, first thing he'll say to me, sometimes not even Hi mom. Did you bring my tablet, [redacted]? We literally live three minutes from the YMCA and we'll be home. By the time we get in the car, we drive, and we get out of the car, it'll be five minutes. You'll be okay without the tablet until we get home. Know what your tablet or my tablet, you know, and then it will start really whining. And I again, I think that's like I'm worn out at the end of the day. It's like a it's like I needed to unwind kind of thing. But it's gotten so bad that now, you know, I have my cell phone in the car. Let me have your phone. I need your phone, mommy. And he'll start really, really, really whining. And he wants my phone to look at my phone to try to watch videos and stuff on that really, really short drive because I won't bring a tablet in on that drive. So that's one thing that's been going on.

Researcher: Okay.

Parent4: He's dependent on it. He's getting dependent on it to unwind. Okay, and then another example? It's been probably a couple of months ago now, but he's done this on different occasions, but there's one that really stands out in my mind that. I said we were going to play with tablets, we were going to pay its way because I thought he had been on the tablet a little too much, and so I got out some Legos and I was sitting down with them trying to have some structured playtime. But it didn't matter. It was like mom was chopped liver. The plates are chopped liver, and he threw this huge tantrum, huge throwing toys, ripping things down off shelves, screaming, slamming doors, throwing things. Now I was that. So yeah, and and but that's what lately, when he gets in trouble, I'm like, OK, you've lost your tablet because I know that's something he doesn't lose, right? And then he's done that on occasion. There was one time, though, like I said, it was just this huge tantrum over it.

Researcher: Mm-hmm. And so, when you do have to take it or take it away because he's misbehaving or you have to ask him to turn it off because it's time to put it away? Tell me, tell me about that experience and what happens and then how do you respond to that?

Parent4: Yeah. Well, typically I can't get him to just shut it off. Typically, I have to grab it right. Sometimes you can try it from his fingers, OK, he's kicking and screaming, and I have to take either take it and put it up high on top of the refrigerator. Okay, go lock it in a room that has a child lock doorknob. But there's been a couple of times where I put it on top of the refrigerator and he's screaming

and kicking and thrashing, and he'll actually go and try to get like a kitchen tape kitchen chair and try to push it instead of surgery or to try to climb up and get it as he's throwing a tantrum.

Researcher: So are you able to calm him down or does he kind of have to do it on his own? Like, what is that experience like?

Parent4: So, so sometimes I'm able to calm him down. It kind of depends on how we spend the rest of the day. It's it's been a day where he's been really off. It's just so hard. He really just has to kind of burn himself out. I've been lately because he does it. He has some of these tantrums so much and they're just over like getting his way. I feel like in a lot of cases, it's not just with the tablet, but with other things. Lately, I've just been like, OK, you have a choice. You know, instead of before, I would constantly like, OK, I was constantly trying to calm him down and was like fawning over. I'm like, Okay, we got to calm down, you know? And it was stressing me out because I'm trying to calm him down. Yeah. Now I'm just like, You know what? You have a choice. You can either calm down and then we can talk about you getting it back, or you can continue to do this and you will continue to have lost it. And then I will usually get up and walk away, not walk into the other room. And I just have to be really like stoic about it, you know? And he'll keep kicking and thrashing and things like that. But eventually he'll just burn himself out. But I have to be careful because sometimes before he burns himself out, he'll go after another guy. I think definitely keep an eye on him. I have to have like I have in the back of my head. I can't just like, totally leave the room. Yeah, I'll totally walk away. I have to still be there monitoring that. He's not going to break anything right. He's not going to hurt anybody. If he's just screaming and crying, it's one thing. But then of course, him screaming. He has this. I call it his pterodactyl scream. He has this lovely, lovely, crazy, high pitched squeal thing that he does when he's upset. But of course, that triggers his brother. Yeah, so loud. It is so loud now, and it's hard for me sometimes, too.

Researcher: Right? Right now, how is this this response? Like when when you've taken a digital device away and you've had to put it on the refrigerator, you had to lock it away. How is his response to that either the same or different from his responses when, say, a different type of toy or item is taken away?

Parent4: It's bigger, OK? He thinks that. I think honestly, like I was saying, I think he's dependent on this device to kind of call, you know, help to online from his days, almost like it's a little friend, kind of, you know, watching these kids create these videos and it's like almost like they're little friends. And so it's like it hurts him more when I take that away versus if I take away a sword, because that will have to get taken away. He's got this. I wish now. I never

wrote about him these plastic swords, but he likes to go, you know, hit [redacted] with no things with them. Sometimes those I take away. Yeah, he has a big response to those two, but it doesn't seem to be as big or last as long as when I've taken away his tablet.

Researcher: OK, now before we finish up, let's talk about your experience with [redacted]'s emotional responses and just his temperament in general.

Parent4: Yeah, he's he can be the sweetest, little funniest, loving little boy, and then he like I used to kind of joke, but kind of like cringe at the same time. I'm not saying this is what he has, but it's just sort of the only way I could describe it. I used to call him like bipolar baby, because I can't to just switch. It was like, like, like you snap your fingers. And all of a sudden he went from being real, happy and cheerful to and sweet and cuddly and playful to. I'm upset about everything under the sun. And it's this this nonstop whining and whining and whining or yelling or hitting and sometimes get like that off and on, you know, like cycle through it for like hours or sometimes just the whole day. And then other times, then what? Maybe the morning like that. But then the afternoon is fine. It's usually the opposite. It's usually he's the best in the mornings, though, when he's like the freshest and he's slept all night and the day goes on. He gets his way, but he will not. He refuses to nap. He hasn't nap since he was like two. He won't. He will not. You will not. Stop playing, slow down enough to nap, no matter what. I used to, I used to try and try, but he stopped when he was about two and a half.

Researcher: Wow. All right. Well, that…..

Parent4: So I would describe it in a nutshell. I would say moody.

Researcher: Yeah, but it sounds like what you're describing like he has very strong emotional responses. Yes. And with technology, they're even stronger and more intense.

Parent4: Yeah. Yeah. OK, one other thing that happened. Yeah, exactly. I was going to tell you something. It wasn't his tablet, but it was a picture on my phone. So not. Was it last night? Oh my gosh, I'm losing track of dates. Yeah. Last night, last night, last night we were sitting at the table having dinner. And I, you know how on Apple, iPhones like memories will pop up, right? Like next year from like two years ago. So this picture popped up, and it was a super cute baby picture of him when he was probably, I don't know, seven or eight chubby, super cute. And I said, Oh, can we look at the baby picture of you? And he goes, That's me, and I said, Yeah, that's you. And then [redacted] goes, I want to see. So then [redacted] came around to the end of the table because I had been sitting next to [redacted] and I said, Look, and I was showing them the picture, and all of a sudden camera goes, No, you can't see the

picture and you get [redacted] in the face. Well, in his swatting of [redacted]. He lost his balance and went to fall backwards off the kitchen chair, where he had been sitting eating dinner. Well, in that process he reached, you know, when he was like falling midair, he reached to grab at something. And when he reached at the table, my hot tea was on the table. Now my hand, he was not right on the edge. It was further in. But still, that's how much he was like grappling in the air. Thank God that hot tea was now just warm tea, but it had it been two or three minutes earlier, it would have been very bad, and the hot tea in my entire lap was just full of hot tea and it went on him and he goes like honey, patty, patty. And I was like, Oh my gosh, is he burnt because I knew how hot it was because it went right in my lap. I'm like, Yeah, that's all I did, but it scared him. And he goes, So this is your fault. Oh, goodness. And then I said, Absolutely not, [redacted]. This was [redacted]. You hit your brother. And when you hit your brother, you fell. But then but then [redacted] thought it was his fault because [redacted] started yelling. It was his fault. So [redacted], seeing that there's a big mess made now seeing that mommy's got hot liquid all over her, so does [redacted]. It just made me sad because [redacted] has been very sweet about it, but he shouldn't have had to think it was his fault. Right? So the kitchen grabs towels. Mommy, I'll clean it up. I'll clean up. It's my fault. It's my fault. Oh sweetheart, this is not your fault. No, mommy, look at this. This is not your fault. But then then [redacted] was upset. You know, I took his pants off and where had the the the warm [redacted] and and then he was like, I need new pants. And I said, Well, you can go upstairs and you can get yourself a new pair of pants. No, you do it. And I said, [redacted]. I said, Listen, this this situation, the reason we have worn Pheonix is because you tried to hit at your brother and you fell backwards. You need to go up and get a pair of pants. And then [redacted] again goes, Mommy, I'll just go get a pair of pants. I don't want to hear him yell, Oh, as I was trying to clean it up. So [redacted] goes up and gets a pair of pants, comes down to pair of pants. No, not that pair. I don't want to wear that pair. And I'm like [redacted], these are pair of pants you wear all the time. Very picky about clothes lately. No, I don't want that there. I said, if you don't want that pair, you can go back up because your brother was nine and your brother went up to get you a pair of pants. A different great pair. We'll eventually, after about 30 minutes of this off and on, I just tried to ignore it. He finally went up on his own and got their pants right. But yeah, that's an example. It was kicked off by technology. Yeah, but it was also you see the dynamic, right? Yeah, yeah. So trying to see…

Researcher: It started with the technology, but blew into this much, much bigger thing afterwards. Yeah, yeah.

Parent4: But immediately when right after this happened, after I cleaned up the mess, I sent [redacted] a text and I said, This is what just happened. I said, this hitting stuff, this heading of [redacted] has to stop. [redacted] And [redacted] wrote back, he goes, Oh my god, yes, I agree. So [redacted] was very supportive of it. He was very upset. [redacted] had done this. Yeah, yeah. Because, yeah, and he goes, I don't. And then [redacted]'s like, I don't know. Do you think he's doing this on his own or do you think he's picking up this hitting from his peers? And I told [redacted], I said, honestly, he's been doing this hitting for so long. It's just getting worse now because he's getting bigger and stronger. Right? Doing it for so long, I don't think it's something he's picking up from his peers currently. There were some kind of rough boys in the last daycare he was in, and I think he kind of had to learn to be tough because he was the smallest. You know, he's compensating, but he's not in that environment anymore, and he hasn't been in that environment for now. But like, you know, well, since September ran to the YMCA. So he's just he just thinks it's OK to hit. But in fact, [redacted] and yeah, so and then next time we see you, we'll tell you what happened yesterday with [redacted], OK? Yeah, he had a meltdown at school. I had to go pick him up.

Researcher: Oh, goodness. [redacted]

Parent4: [redacted] Yeah, yeah, definitely.

Researcher: OK, hold. I will thank you for answering those questions. Is there anything else that you would like to add about [redacted] and that's related to his technology use? Before we end the interview and I turn off the recording

Parent4: something else other than I just wish that I could. If he is going to use technology, I wish I could find something that could at least make it educational like I was trying to. ABC Mouse and I've got him a couple other little like the Little Tech Kitty laptop, not an actual tablet, but just different things like that. This technology, but at least, yeah, getting some educational value out of it. He just doesn't seem to want to latch on to any of that. He just wants to do it for pure entertainment pleasure. You know, watching these little kids play or watching these adult voices act out action, figure skating. Yeah, Batman and Spider-Man fighting scenes with the figures.

Researcher Oh my goodness. All right. Well, I'm going to stop the recording and the transcription.

APPENDIX M: PARENT5 INTERVIEW TRANSCRIPT

Parent5 Interview Transcript

Researcher: And I'm going to do my little spiel, and then I'll start the questions, OK?

Parent5: OK.

Researcher: Thank you so much for being a part of my research. I'm excited that you accepted and so as you know, I am finishing my Ph.D. in developmental psychology through Liberty University. So this is the last portion of my dissertation. I'm finishing my data collection so that I can move on to defending my research, so I'm going to go ahead and get started with the question. So the first one is really just to allow me to get to know you a little bit better. So could you please share just a little bit about your family?

Parent5: Yep. So it's me and my husband. [redacted], who is three, this is on the phone and that's about it.

Researcher: All righty. So, oh, shoot, I pulled up the wrong one. There we go. Oh. So tell me about the types of digital devices that your family uses.

Parent5: So both kids have their own iPad. They like to use our cell phone. And then they both have
access to the TV.

Researcher: Very good. And so tell me about your experiences, so we're going to focus on [redacted] today since she's within the range of my study. So let's focus on [redacted] and so tell me about your experiences with [redacted] and digital devices. So I want you to think about some specific experiences that you can share with me. And whenever you're ready, you can start

Parent5: OK, so [redacted] mainly uses her iPad. She still needs help to log on and turn it on. We don't have that time. She can be on it in time that she can't talk about to make a big deal out of, like earning time to do it. The majority of what she uses her iPad for is like YouTube or YouTube kids. We do have some things blocked. She likes to watch like Peppa and like age appropriate type things. She likes baby dolls a lot, and there's a couple that have like these little kids who play with baby dolls, but they're just like, not super friendly and little kids said, I usually tried to block those. And then there's one part that looks like a cartoon, but those characters are also just not very nice to each other, so that one gets blocked. She's very good about that, and sometimes she'll, like, bring it over and ask, Is that like whatever she's watching as a kid to watch? And she'll turn it if I ask her to. Yeah. So then after I get off the phone, okay, I would say she I mean, she can get kind of tuned in, but we don't have any like meltdowns or

	anything like that when it's time to turn it off. And usually she if she's on her iPad, it's because we're like black in the morning, getting ready for work or transitioning from like school to dinner while I make dinner. So it usually just works out nicely that when it's time to transition to something else, it just gets put away. Okay.
Researcher	And I think you kind of already answered the next question because it's about how like she uses it, whether it's for educational or entertainment purposes and and really, you pretty much said it's, you know, for her for entertainment she's watching shows. Does she ever use it for any type of educational purposes, or just for pure entertainment?
Parent5	I'd say it's probably like seventy five percent is entertainment when we're doing things together. I mean, we always put on educational type things that might be five minutes and then I'll play with you. I say the other twenty-five percent is education based, so we have lots of different and not apps, but like go to things on YouTube that we put on that is like letters, numbers it. Oh, probably, probably twenty five, twenty five. Would she like that stuff?
Researcher	Is this ever use it to like when she is upset? Does she ever ask for it to be able to kind of calm down if she's upset?
Parent5	No. And I would probably avoid doing that anyway.
Researcher	OK, what about I think we've kind of already answered the next one, too? So when you take the device away or turn it off, how does she typically respond? She just typically hands it to you and because you said she doesn't really become upset?
Parent5	Yeah. No, we really don't have any issues with that.
Researcher	OK. What about when other things are taken away? Do you ever see any kind of response where she gets upset, something that's not a digital device?
Parent5	Yes, sometimes. Yeah.
Researcher	OK, so how about just describing your [redacted]'s like emotional responses in temperament in general, any kind of experiences with that?
Parent5	And she is [redacted] is very smart and she wants and ask for it very nicely in her system and getting what she wants in a few minutes isn't very strong willed and social dig her heels in. But if I have to be a little more stern or I start counting, I might start. And the end is usually compliant, but it's never on the first try. Okay. Okay.
Researcher	And does that carry over with the digital devices as well? So like if she really wants to watch something, I really wants to play on it. Does that strong will and persistence carry through with that too?
Parent5	Maybe every once in a while, but really not often.
Researcher	Okay. All right. Is there anything else that you can think of with this [redacted] and digital devices that you want to share before we finish up?

Parent5	I think she's asking about your iPad to highlight what you like to watch.
Researcher	What do you like watching your iPad?
Parent5	Paw Patrol? Do you like?
Researcher	Sky? Who's your favorite Paw Patrol?
Parent5	Do you? Do you like Sky? We don't watch that one often, but what else do you like to watch? Maybe dogs, maybe.
Researcher	Do you like Peppa Pig? What do you like watching? Peppa and George?
Parent5	Yes. Yeah. People worry about watching Superfly right now. Wow. I think the only other thing I'll say is like, we just always have the TV on. So there's just always something. So instead, it's not used as like a reward or something you earn. Just kind of like she's been watching super wide, but she's also kind of playing and doing her own thing. So if I turn it off, she usually doesn't even notice or…we also like her bag? We think…. I can play in about two minutes. Have I asked her? She's very busy, but right now she's got a science experiment on the table.
Researcher	Oh my goodness, that sounds like fun. I like science experiments. [redacted] is kind of doing a science experiment,
Parent5	And she's doing a big science experiment. When you read that. Okay, I'm going to wrap up with [redacted], and then I'll come play. Okay, I'm going to say something. What was I going to say?
Researcher	You were talking about….
Parent5	I always just…I've always been very a firm believer that like, if they're watching something and into it, I don't just turn it off in the middle unless we really have to go, you know, there's only five minutes left and let them stay up and finish that. Yeah, that that drives me like that would be really frustrating to me if I didn't.
Researcher	Right, right. So that probably eliminate some of those, you know, frustrations just how your choosing to….
Parent5	And or else it or all like pause it and say, we're going to go to breakfast and then I will let her, like, put it back on later. So I try to be kind of respectful of that. Yeah. Yeah, I think that eliminates a lot of power struggles. Yup.
Researcher	Mm hmm. All right. Well, thank you so much. I'm going to let me turn this off real quick.

APPENDIX N: PROFESSIONAL1 INTERVIEW TRANSCRIPT

Professional1 Interview Transcript

Researcher So, again, I really appreciate you taking the time and being willing to participate in this interview. All right. So let me go ahead and pull up my questions so we can start. So why don't you start by telling me just a little bit about you and a little bit about your experiences with parents, young children ages three to five and digital devices? So anything that may be have that have come up in your appointments or anything like that, but start by telling me a little bit about who you are and then we can go into the other.

Professional1 I am a [redacted] We see, well visits for children and sick children from birth to age 21. As it relates to electronics, through the years, we've noticed the trend where people used to sit in a waiting room and they'd look at books or magazines. Amazing over the years, it has switched to trending to cell phones or devices placed right in front of the children to keep them quiet. Keep them calm in the office and there is a subgroup of kids that we know are increasingly.... almost....I'm going to use the word addictive, but it's not medical. They are just so focused on their device. You can walk in, they don't look up, they don't engage with you. They are totally focused on their device. And then even when you go to do your exam, if the parent takes it away, the child suddenly looks up, is shocked and becomes very disruptive, crying, reaching for the device.

Researcher Yes. Yes, exactly what you are describing is exactly what I'm looking at. And you know, just like you said, I like the word that you used, subgroup of kids, because it's not every child. Okay, great. That is awesome. Thank you for sharing that. So the next question that I have for you. What are some concerns that you hear from parents in regard to their child and their digital device use or about digital devices in general?

Professional1 I don't hear the parents complaining as much as me noting it in the exam room. Sometimes I feel like the parents are very dependent on that device to keep their child calm and so they give the child the device to keep them calm and it's working. When they take it away, they, you know, well it's difficult to do the exam with the child screaming and crying. And often, even when I'm trying to examine the child while I'm doing my thing, they're trying to put the phone or the tablet right in front of their face to recapture and calm the child down. Hmm. I have not addressed it to the point where I feel like parents complain to me about it. They're more using it.

Researcher	Gotcha. And so let me just ask this. So you said you've kind of noticed the trend from like books and things like that in the past and now more being digital devices? What are the similarities or differences when a parent would take a book or a toy away vs. when the parents take this digital device away? What what have you noticed in your experiences?
Professional1	It's just some of these kids have an extreme reaction when they are.....they're totally focused, totally focused on....not talking. They are not looking, they're just totally focused. And then when you take it away, it's an immediate like, whoa, what happened? And, and then disruptive crying, almost tantrum like behavior, just immediate. Yeah.
Researcher	And so how is that different from in the past when like a book would be taken away or a toy would be taken away?
Professional1	We don't see the same extreme reaction?
Researcher	Okay. Okay. Very good. So what are your experiences specifically with young children and emotional dysregulation?
Professional1	Well, we're seeing more and more emotional dysregulation. That's kind of a loaded question. We're seeing more and more of it. More parents very concerned about it. Whether it's truly emotional dysregulation or lack of parenting skills, being able to recognize that a certain amount of tantrum behavior is appropriate and needs to be dealt with. Sure. So that that's a loaded question.
Researcher	It is, it is a loaded question but just looking for in general your experiences with the emotional dysregulation piece. And so you're saying you are kind of seeing more of that emotional dysregulation?
Professional1	More tantrum like behaviors. More unable to soothe themselves and get back on track where it's it's lasting extended length of time and unable to self-soothe or move on.
Researcher	OK, thank you for that. Now, what advice, if any, would you have for parents in regards to managing these big emotional responses when these digital devices are being taken away from the child? So like, if you were to offer advice to the parent, like what, if anything, would you suggest or advise?
Professional1	Well, my advice to any parent is to control the amount of electronics, especially handheld devices right in front of the face. That kind of takes away focus from everything else, so to limit that. I don't know. There's.... this is not.... this is not medical or from a study or anything but I think there's a difference in some things, like right in front of your face versus even a TV or a recording that's out there in the room. There's still a lot of stimulation. There's just something about it being right there at face level. That's different to me but I don't...I don't know if that's been studied or even accepted. I don't know.
Researcher	OK, fair enough. And so again, thank you so much. I told you this would be brief and I told you it would be short. So I really thank you for the information that you gave me. Is there anything else that you could think of that you would want to add before we finish up having

	to do with children, emotional dysregulation and digital devices? Anything that you think would be important to note?
Professional1	Well, my belief is that a subset of kids have yet almost an addictive quality to handheld digital devices. They, they definitely have emotional dysregulation when these devices are taken from them, and hopefully some recommendations can be made to try to avoid overuse of electronics with these kids.
Researcher	Yes, thank you so much. I'm going to stop the recording.

APPENDIX O: PROFESSIONAL2 INTERVIEW TRANSCRIPT

Professional2 Interview Transcript

Professional2 I know you are. Oh, it says someone started recording this.

Researcher Yes. It's going to transcribe it for me as well. So just to tell you a little bit about my research. So I'm finishing up my doctorate at Liberty University. I'm in the PhD developmental psychology program. And so my research that I'm doing, I'm looking at three to five year olds and there big emotions as it relates to their technology use. And so I am looking at what are parents saying? What are teachers saying? What are physicians saying and looking at the similarities that's come that are coming out of that? My goal, once I finish with this particular study, I would like to continue on and maybe look at developing an instrument for doctors and therapists that's where my research is hopefully going to lead to. So thank you so much for being willing to do this for me. I really, really appreciate it. And of course, of course, my I feel awful that I cannot find these questions here. I, I literally just had them right here, and I'm just... I know that I'm overlooking them because I'm trying to go so quickly. Well, first, I do know the first question, so we'll just go ahead and start with that while I'm continuing to get everything together. Why don't you tell me a little bit about yourself? Tell me what you do. Obviously, I know that you're a pediatrician but just tell me a little bit about yourself.

Professional2 Well [redacted] seeing newborns until even like twenty-five years old. And it's been pretty tough, like during the pandemic, as you can tell, like with mental health and you've seen it. And I do think that there's been a lot more screen time in general for adults and children, even babies. I would say, you know this.

Researcher Absolutely, absolutely. And that was what you said was interesting. Like through this whole research process, I feel like it was kind of eye-opening for me because I started to realize how much children that are born today are being like exposed from day one. Like parents nursing and they're sitting there with their cell phone, or you know their child sitting there watching their video on a sofa with the mom.

Professional2 Yeah such a different, you know, I think, you know, at the beginning I was like, Oh, well, maybe it's not going to be such a big deal and it wouldn't have such a huge impact, but just the iPads alone in the school system. And then the laptops and Zoom and all these different like, you know, digital kind of exposures, like there's more there's more play. Definitely in the baby's like the babies are more low tone. They have

more reflux. Like we've had so many more helmet referrals, you know, than we've ever had in the past.

Researcher Wow.

Professional2 And I do think referrals and I do think it's because of, you know, like laying down the kid and now, you know, using screen time as the babysitter almost. Or, you know.

Researcher Wow. I mean, and so you kind of led right into my next question anyway, which was, you know, tell me about some of the experiences that you've had with some of your parents of these young children ages three to five and digital devices like, are you having parents that are concerned about digital devices or are they not concerned? Like, what do you see? What are some of the experiences you have in your office with that age group and their parents?

Professional2 You know, at the very beginning of the pandemic before the pandemic started? People were very conscious of, you know, they would really listen to you when you would say. We really don't recommend any screen time until after age two. And even then, it should be limited to less than 30 minutes a day. And after the pandemic started, and it was kind of like allowed and almost validated that they could be on these iPads all day long at school, and they were given them from the school, even as young as pre-K 3. Yeah, that those kids, like all of a sudden like that, those concerns just disappeared all of a sudden. And I had, you know, five and six year olds who had phones who they never had phones before, and now everybody has a phone. And when you go into an exam room now, almost almost I can guarantee probably 80 percent of the time the child is on a device or the parent is on a device.

Researcher And what's that experience like?

Professional2 It's so hard because you do really there's a really hard time connecting with people now. It's hard to even like they can't make eye contact even. They're not really listening. You can't really tell, like even like the developmental stage of the child because they're just spaced out on this device. The parents are very anxious themselves, like there's a lot of huge amount of anxiety and, you know, mental health problems in the parents. So they're often use it as like a babysitter, like there's no threshold for discipline or even, you know, gentle reprimanding or like tolerating any kind of uncomfortable feeling or emotion. That is not like buffered by a screen.

Researcher Wow, that's interesting. Now what about... there's just a couple more questions. What about your experiences with these young children, ages three to five year olds and emotional dysregulation in general? What what are you seeing?

Professional2 What I feel like we see so much more is like intermittent explosive disorder. We see so much more disruptive mood dysregulation. I've had so many consults for ADHD and ODD, and Conduct Disorder in four year olds who are in pre-K 4 who really miss so much of their, like, you know, development. And of course, they don't know how to sit down and

do circle time. And of course, they're scared. You know, they're very scared, kids. And and it's not just from the parents, it is they are getting told by the teachers to, like, bring the kids in to their pediatrician to ask for medication. They're being told to like, you know, do Vanderbilt forms and Conner's scales, and there is like a huge amount of SSRI use and stimulant use in children now. You know, and and even though we like, we are trying so hard like therapy and, you know, putting kids in play therapy, and they're supposed to have these like restorative spaces in school and they're supposed to be doing mindfulness. I think they feel a fear like it's not enough for them, you know.

Researcher Wow. Wow. That's all I can say is, wow. Yeah, it it just it's so much bigger than I think any of us even realized. You know, even like some of this could have been a result from the pandemic. You know that's something else that I could research, you know, down the road. But anyway, so what about what would your advice be to the parents? We're almost done, I promise. What advice for parents would you have now knowing what you know regarding managing like big emotional responses when digital devices are taken away? Like what, what is something you would advise?

Professional2 I think it's like almost like the parents can't regulate themselves. So, you know, often I will tell them, you know, I'll use like my personal experience too. Like, I know that having a phone by my bedside, I have to be on call in the phone now is like the pager and the in a phone call, and it has everything in at once. So I have to have it at my bedside, you know, and if I'm awake, I'm going to look at something like and I could watch like a million cat videos until midnight. What I know I have to go to sleep and deactivate my brain, so I have to put like a regulation on my phone, like screen time, you know, limit it. And I have to have a do not disturb and I have a do not disturb on my email. And, you know, because if you don't have those one that it almost seems endless, like it's an infinite amount of emails, and it used to be very hard to reach out to somebody, you know, via that phone call or email. Now it just seems like it's very like it's like all clickbait people are clicking. So I do tell the parents like, you know, don't use it as a babysitter like joint attention is always better. Like, if you're watching a show together and talking about it, that's one thing, right? If you're using it just so that you can be scrolling your screen while you're watching another screen totally is not useful. And we've seen like an actual there's been a couple of papers out of China about kids with myopia. It's increased like by like 400 percent in that age group because of screen time. So I kind of tell them, like, it really does have to be like consciously limited. And that means even like, you know, screens like TVs and phones like, I tell them to put them in the kitchen on the counter and everybody's got to charge them at night and I show them how to use the accessibility feature. I think also there's like a huge disconnect between like what the parents are watching and they don't even know what the kids are watching.

Researcher	Absolutely.
Professional2	You know they use their technology almost, you know?
Researcher	Yeah. Well, thank you so much. Is there anything else that you feel is really important to add before we close out the interview? There anything different?
Professional2	I think it's really important to do that. I wonder if one day they're going to find out phones are as bad as cigarettes, you know.
Researcher	Yeah, I know. All right. Hold on just a second. I'm going to turn the recording off and then we'll finish up.

APPENDIX P: PROFESSIONAL3 INTERVIEW TRANSCRIPT

Professional3 Interview Transcript

Researcher Perfect. OK. And it will be kind of just transcribing what we say

Professional3 Okay.

Researcher So just to kind of go over a little thing, you know, a few things first, before we get started again, thank you for taking the time to do this. And so this is for my dissertation research study. And so I am studying the effects of technology, learning about child's emotional dysregulation. And so I'm… for this particular study it is a qualitative study. So I'm actually looking at how the experiences of teachers and parents and physicians like yourself, what those experiences, what it's like. So the questions are going to be based on your experience.

Professional3 Okay.

Researcher And just so you know like…I mean at any time during the interview, you can back out. You have that right. And the only other thing that I need is your consent form. So if you could just sign that. You can just sign it, scan it and send it to me. Okay. Yeah. All right. Let's go ahead and get started. And you do. Alright just tell me a little bit about yourself. Like where do you work?

Professional3 I have been teaching pre-kindergarten at [redacted]. This is my eighth year in been pre-kindergarten, all eight years. I studied early childhood education and I'm in the middle of getting my masters, for reading specialist and taking a break with the babies. But um, but yeah.

Researcher Okay, awesome. So cool. I'm sorry. I have to keep going back and forth to the questions. And so how? Tell me a little bit about how digital devices are incorporated into your classrooms.

Professional3 Well, we have to start with I have a small board that I interact with the people and the kids come up and interact with it . So like for circle time, more meaning they can come up and then that if they can decide how many days of food and eat them up and interact in touch with that. And so we use that daily and probably like three or four times a day. Wow. So that's the biggest part of technology. And each student starting to process has an iPad. So when we were alone, the student had the iPod at home. Obviously, and they're using meetings and stuff like that. And we used ABC Mouse, a few other educational games and they were at home. But now they're here at school and we try and do this part time like, like maybe three times a week where they get on and just have free time with it. Or I can even set up games to have you

	been learning for the week on their iPod personalized and they can get on and do that as well.
Researcher	That is so awesome. I mean, yeah, I just I think it's great how you know it is being incorporated into the classroom. The technology has been incorporated. So now I want you to tell me about some specific experiences that you have, if any, with children that you can think of and digital devices. So like, what was that experience with the kids, particularly with using digital devices or to stop using digital devices? But just what are your experiences with that?
Professional3	Specifically, specifically, the first experience that comes to mind is when we were remote, we found this time last year when we actually had to be virtual. So the students or the viewers could choose whether they wanted their child to be by, and I say he really do. And on the Google Meet, or they could watch, I would record myself doing things, other things and then the kids that I would watch it later whenever their parents would sit with them. So that was very interesting. I had about six that signed up for live. I mean, they're four and five, so I really wasn't your house, how they did really well. I mean, I tried my best to have games and they could interact on their own with their iPod with it, but that was really difficult. But I have they really surprise me. We did that for about a month and then they actually could come back to school after that. But it's surprising what they can do and they really hold their hands. I mean, we stayed on there probably forty-five minutes and then we take an hour break and then we come back. But they did pretty well.
Researcher	So what about like in the classroom now? What are some of the experiences as the kids are using the technology? What do you see as they're using them? Like you said, you have some free time where they can just get on some kinds of things. What do you see? What are your experiences?
Professional3	I just give them free time, I mean, it depends on the kids. Some kids like to record pictures. I mean, they like to work within that way, and sometimes we just slide them because they're just inform with their eyes. And then there's other kids they like to play on the game. You know, there are a few others, but I really don't have, you know, sometimes I really don't have to teach them how to use it. They come knowing how to drag and drop. I mean, that's a skill that I think just. It's bad, but then you know how to do it. And they do, I mean, I only have one that never interacted on a parent's phone or iPad, and they won't know how to drag and drop. I try not to teach them. But yes, for the most part, they come in knowing how to use it. We teach them how to use headphones and put them in. So, yeah, they're usually pretty engaged and you take it.

Researcher	Tell me a little bit about what happens when the digital devices have to be put away.
Professional3	Well, I haven't had a problem with that, honestly. They're usually there. We usually we give them take time. It's usually about 30 minutes, and that's enough for them in some cases. Even ask me, like, are we going here? Oh, I'm just surprising because at home I feel like it's different. But we also don't let them like on YouTube, like they have to be playing educational games, so it is a little bit different. So they don't get free time in that aspect. It doesn't have to be a game that we actually doing something. But yeah, I don't have any problems with them, like telling them to find the ads as other, you said, at least this year.
Researcher	That's good. That is good. So they're pretty responsive. They, you know, pretty much. So they're pretty responsive and they pretty much listen and do what they do. Have you seen any of that? You're breaking up a little bit here.
Researcher	Just one last question. So you know, again, thank you for answering my question. But is there anything else that you can think specifically about it and the technology, social dysregulation, anything that you know, is kind of tied together that you could share before we finish up
Professional3	with the emotional aspect of it? I mean, this year, though, pretty lucky, and I haven't had too many behavior issues, but in the past before we got this individual I've had, we had five plus I like and I use that as like if I have a say who's just not all male, nothing else is working. He isn't working class working. I had one student in particular, like if I would give him five minutes on the iPod, it would just calm him down to the point where I could talk to him or I would use it as a reward. Like if you behave today, you get 20 minutes on the iPod at the end of the day. And so I had it, I had used it in that aspect.
Researcher	And then what? So with in the instance of that kid, when you gave it to him, it calmed down what would happen.
Professional3	So a lot of times you would be very upset, but we would work on that and say, You know what, you're going to have 20 more minutes on it, so it really helps with that.
Researcher	Yeah. And so what did that him being upset look like?
Professional3	It could be anything from throwing it , pushing a chair over strong things at the peace table. I mean, he was very defiant and very physical.
Researcher	Yeah. And did he do that in other situations, too, or mainly when it was connected with the technology?
Professional3	It was mainly with the iPod, with the technology is very fixated on that. Yeah. Yeah.
Researcher	So he became very distressed when it was pulled away.
Professional3	Yeah. Okay.

Researcher	All right. Anything else that you can think of any specific situations that you can think of?
Researcher	Okay. Thank you so much. I really, really appreciate it
Professional3	You're welcome.

APPENDIX Q: PROFESSIONAL4 INTERVIEW TRANSCRIPT

Professional4 Interview Transcript

Researcher	OK, there we go. It has started, so let me pull my questions up. All right. Thank you so much for being willing to do this for me. I am a doctoral student at Liberty University and I'm completing my Ph.D. in developmental psychology. So I am studying children ages three to five years old and their big emotional responses to technology being taken away. So I have interviewed parents, teachers and actually a couple of pediatricians as well. So I have about four questions to ask you. If you can just share a little bit about yourself, who you are and what you do, those kinds of things.
Professional4	I teach in [redacted] I've been teaching pre-K 4s for about six years now, and I've also taught other grades as well, including kindergarten. I have 20 students in my class. We're full day.
Researcher	Okay, so how, if at all, are digital devices incorporated into your classroom and it can be this year, could be previously, any experience that you have with the incorporation of digital technology?
Professional4	For this year, the only time that the students really have it individually is during center time if they choose to do a listening center or a computer center.
Researcher	Okay.
Professional4	And it's actually not one of the favorite centers. You know, they prefer the dramatic play, dress up, that kind of thing. And then the other times, or through our whole group, when I'm using my smart board or showing a video or something, interactive.
Researcher	Okay, so tell me about some of your experiences, maybe some specific experiences with children and any type of digital devices that you see them using. So it could be how they interact with each other. Like, if one of them is using, you know, one in one of the centers, like, how do they respond while they're using it? Just any kind of experience that you've had with them, with any kind of digital device.
Professional4	Well, they all they all know how to use it. Definitely. They help with that. They more so they don't want to do the educational games, they want to find other things to do.
Researcher	And so it's not a struggle. Does that tend to be a struggle?
Professional4	It can be.
Researcher	OK. And then what does that look like?
Professional4	Well, for one of our programs, we've started this year for pre-K is ST Math.
Researcher	Okay.
Professional4	And I'm finding that my pre-K friends don't really enjoy it much. So I'll get them started on it. And sure enough, they come back around

	and they have found another game, which if they played for a little bit of ST Math and they're still doing something educational, that's fine. Same thing with like listening in a listening center. They pick a story from Book Flex. Some of them will sit there and listen the whole time. Sometimes they're back to another day game that they found. Another thing I found is that if they see someone else on something like that, they are like, ooohhhh, what's that.
Researcher	They're curious and want that kind of peaks or curiosity to see someone else OK? Very cool. So what happens with those kids that are, you know, actually really enjoying being on the devices when they have to, when it's time for them to put them away? Like what is their response? And I'm sure you have a wide range of responses, but if you can just kind of share what that's like.
Professional4	They are actually the last one's to clean up at cleanup time because they have don't really have anything to do so they are like, okay, I can play a little bit longer.
Researcher	So they try to push it a little bit to the edge.
Professional4	So they're usually at the very end. I'm like, Oh, he's still playing, Okay, let me take this and the headphones because they also have their headphones on. So they are sort of block blocking everybody.
Researcher	Okay, so do you find that there is some kids that struggle more than others to get off of the devices?
Professional4	Some, depending on the day?
Researcher	And is there like something that you notice with the kids that are like having a harder time getting off of the devices?
Professional4	Tha they are the same children that have a harder time finishing any center and transitioning.
Researcher	OK, so just the kids in general that have trouble transitioning tend to have trouble getting off the devices? Okay. What or how do they react or respond when you've had to maybe either try to redirect or try to repeat the direction of time for them to get off? Do they typically do it at that point? Or do some of them still give you a little bit of a push back?
Professional4	Only it's only the children that have some emotional issues or trauma that tend to push back.
Researcher	And the others will say, okay?
Researcher	OK, all right. Thank you so much. Again, I told you it would be quick. Is there anything else that you can think of relating to children ages three to five years old and technology before we finish up? Anything you want to add or you can think of?
Professional4	Well, last year of class was really different because we had a lot of virtual instruction that was very challenging for pre-K. I'm sure, you know, for the ones that had parents right beside them, they did well for the ones that were on their own solo and was hard to keep pulling them in and get their attention and muting and unmuting...

Researcher	Keeping them engaged? Yeah. And have you seen any kind of. Well, when I say consequences because of that with any of those kids or I know they probably went on beyond you, but...
Professional4	I know some of our we've noticed pre-K 4 pre-K 3 some of our children coming in, they don't have a lot of the social skills that we've seen in the past because of the isolation.
Researcher	Absolutely. Yeah, I'm kind of curious as to what we're going to see. You know, the next couple of years down the road with that group of kids that really were so incredibly isolated during the pandemic. Yeah, well, thank you again. I'm going to turn this off.
Professional4	Um...one more thing.
Researcher	No, no, no. Go ahead.
Professional4	In addition to like social skills, but also being independent. Most of them are not.
Researcher	They're not?0
Professional4	So I guess they were at home, so they had somebody to do everything for them.
Researcher	Interesting. Thank you very much for that, that I think that's going to be really important for me to add. Some have said, you know, well, we're seeing decrease in eye contact. That social component is kind of missing. And, you know, another one said, you know, we can't really tell the developmental level of some of these three-year-olds because when they come in the office, they're so engaged in the technology that we can't tell if they are developmentally where they should be at three or is it just that they're so engrossed in this technology that, you know, we can't determine it. So it's going to be interesting. So thank you so much. I really appreciate it.
Professional4	You are so welcome.

APPENDIX R: PROFESSIONAL5 INTERVIEW TRANSCRIPT

Professional5 Interview Transcript

Researcher	Here we go. So thank you once again, I am Angela Rathkamp, and it's so nice to meet you. I am a doctoral student at Liberty University and I'm completing my Ph.D. in Developmental Psychology. I am studying children ages three to five years old and their connection with technology and the big emotions that they have when technology is removed. So I'm just a little bit curious about you. So if you want to start by telling me a little bit about yourself, tell me what you do, and how you found out about my study.
Professional5	Sure. I'm a preschool teacher and I teach preschool 2. I usually get older 2s so they have like a winter/fall birthday and usually, usually by the end of the year, I end with a class of three-year-olds. Then COVID came along and kind of shook up our school a little bit for sure. And so last year, I actually had what they called a hybrid class that had a lot of 2s, young 3s and even a four in there, so it was kind of a mishmash of kids. And that classroom well that was actually the classroom that definitely had the most technology in it because I had a smart board.
Researcher	Oh, okay, awesome. So maybe I mean, you can think about, you know, all your classes, as we go through the interview, but if that one incorporated the most technology, maybe you can kind of focus some of your attention on that as well. But do you mind first telling me where you teach?
Professional5	Oh, no, I teach at [redacted]. It is quite a unique site because we're not technically a private school, but we are a pre-school program [redacted], which is where I heard about you. One of my current student's mom here is good friends with you.
Researcher	Awesome. Yes. Well, I'm glad that she reached out to you. So I really appreciate again, I appreciate you doing this for me. So tell me a little bit about how digital devices are incorporated into the classroom. So if you know that you're not currently doing it as much now if you could think back to how they were being incorporated before?
Professional5	Absolutely. So our whole school really is slowly creeping into technology, I would say. I mean, there are laptops available for us to borrow during the extended school as well as iPads. And the way that I have used them with kids the most is with those iPads. And like I said, I had a smartboard before.
Researcher	OK, so the iPads actually get incorporated into daily lessons? Tell me a little bit about how you have used the iPads in the classroom?

Professional5 So I haven't used them as much lately. And I do think actually the available technology kind of shook that up for me when I was using the iPads regularly. It would fit into our theme somehow. And just like the kids have music once a week, I tried to have in addition to usually a science activity or hands-on craft activity, there would be what I call tech time. So they'd have to take turns. All with a little difficulty with the iPad, and I mainly use storyboards, which was bought out by Netflix. It's no longer available for me, where they could take videos or like digital stories that I had chosen that went with our theme for the week.

Researcher Okay, so let's kind of go back to when when you said they had to take turns with the technology. So tell me about your experiences with the kids and that digital technology when they were having to take turns. Tell me what those experiences were like.

Professional5 Yeah. So I mean, they got to the point where they knew that an iPad would be available at least once a week for a small amount of time. And I do see this similar behavior with all our specials, like one on one activities, getting the chance to do a craft or do a science experiment. They want to do it. It's different from the typical centers and toys and things. So with an iPad, there was the added complication of everyone being able to hear with that one child was doing because I didn't have headphone gadgets. In hindsight, that would have probably helped, but everyone could hear and they wanted their turn, and they would usually crowd around the child with the iPad, which you could easily become like, "give me my space". Like, It's "no, it's my turn". Yeah, it was a lot of reminding other kids, you will get a turn, or I found it easy to to say "you just did your activity, now it's your turn on the iPad". So getting like that after I do this, then this right now.

Researcher So what would happen when it was time for that student to turn the digital device off? And I mean, you probably had, I would imagine, like different types of responses. But what was the general response when the devices had to be turned off either, you know, for the rest of that day or for that particular, for a particular student? What were some of those experiences like?

Professional5 Um. It was it wasn't too bad, I think, because we had a lot of other stations set up and getting into the routine, of course they knew if the teacher calls me over, I do my special project. I get to choose. I think we usually did like two videos to watch. And then by that time, their friend has finished their projects, so it's their turn to do that. So as long as we could keep that going and I also have a teacher's aid in there with me, so that is extremely helpful in those situations. To be able to quickly distract or redirect is really what was happening. Just redirect that student.

Researcher So there was having to be a lot of redirection for getting them off and going to the next thing. Or was that not an issue?

Professional5	I don't remember it being a really big issue. But that is very with different children too.
Researcher	Absolutely. And so what did it look like for the children that struggled to get off of the technology? What would that look like?
Professional5	So maybe. Quickly clicking on to a new video or or even becoming less precise with with their use. So because, you know, I'm trying to hold on to this so, and then it was just touch screen chaos.
Researcher	Okay. All right. And so were there ever any struggles with those types of kids that struggled to get off of the technology? Did they have to be redirected more like how how was that different from the kids that were able to just kind of put it down and move on? What was the difference between the kids that kind of struggled with putting it down versus the kids that didn't? How would you describe the differences, I guess?
Professional5	Of that experience for them?
Researcher	For you and maybe the assistant in your classroom. What was the experience? How was the experience different for you and the assistant with the kids who kind of struggled with putting the technology down versus the kids who would just kind of put it down and move on? How was your experience different?
Professional5	Right? I mean, it would be more involvement on our part as opposed to a simple direction of, "okay it's it's your friends turn, now go, build a tower or go tell so and so something". I used to use this..."You know that the other teacher like, go show her what you did". So that I can clean up and get ready for another student. So I could be like, "go tell them what you saw". But that would be like an easy, easily redirected child. So, otherwise it would be, "okay I'm going to take the iPad, my thing now for you. Their choices are extremely limited. Pretty much have to get up.
Researcher	Okay, let's see. I'm trying to think so is there anything else that you can think of as far as technology? You know, whether it's changes that you've seen with the incorporation of technology or anything else that you would like to add before we kind of finish up?
Professional5	Well I will say I think that I think that my school is behind technology wise for the most part and a part of that responsibility falls in my own lap for not figuring out new ways to incorporate it. But the toys that are more electronic, so I guess they're technically technology, but not necessarily what I think of. It's not an iPod or computer, but it's something with buttons that might have sounds or lights. Those are a pretty hot commodity. I would say they're popular. Something with buttons or noise, but, well, I mean, that's appealing all the way through, I guess.
Researcher	So you you tend to see the kids kind of be drawn to those types of things?
Professional5	Yeah, yeah. And they let me know when batteries are dead.
Researcher	I bet.

Professional5	Yeah. Oh yeah. Which is sometimes not a terrible thing if I can't hear it anymore. Oh, well.
Researcher	Oh no. All right. Hold on one second. I'm going to stop the recording and then we'll finish up.

APPENDIX S: RESEARCHER'S FIELD NOTES

Researcher's Field Notes

Parent1 Field Notes

Interview took place virtually through Microsoft Teams. Parent1 was at her school where she works, and researcher was in her office at work.

Parent1 was both a teacher and a parent. Researcher began to ask the teacher questions and realized she signed up as a parent. She answered questions first as a teacher and then as a parent of a 4-year-old. Parent1 seemed very distracted. She was at school on her planning period but felt as if there were other people there requiring her attention. As a teacher Parent1 noted that there are certain kids that tend to struggle to come off of the technology, but she felt it is different at school because there are pretty strict boundaries put in place.

As a parent, I felt that Parent1 didn't want to admit fully that her son struggles to put down technology. She mentioned that her son was an emotional child and siad in the survey that he had big emotional reactions. Parent1 did say that they set pretty clear boundaries with technology at home.

Parent2 Field Notes

Interview took place in the researcher's office in person. Video was recorded using Microsoft Teams.

Parent2 was very comfortable sharing her struggles with her son and his big emotional reactions as it relates to technology. She made it very clear that how she handles it now, is different than how she handled it in the past. Parent2 made note that when she son dysregulates over technology, it is very distressing and afterwards, he is exhausted as well as she. Parent2 describes a reaction that is much larger than a typical upset reaction. While he doesn't often have other items taken away from him, when he does, Parent2 described it as different.

Parent3 Field Notes

Interview took place virtually through Microsoft Teams.

Parent3 was very comfortable during the interview. She genuinely seemed happy to help with the research. Parent3 described her experience similar to Parent2 in that the outbursts and big emotional responses that happen are different than other emotional responses when upset. Parent3 described her experience by saying that her son wants his digital experiences to "be perfect". She, too, limits time on digital devices but when he is allowed to use them, it almost always ends in a huge meltdown. He will try to bargain with her when it's time to put them away and often will run off an cry. When Parent3's son uses devices or watches TV, it is hard for her to get his attention because he is so engrossed in the tv show.

Parent4 Field Notes
Interview was conducted virtually through Microsoft Teams. Mom was driving and put researcher on speaker phone and worker was in the office.

Parent4 describes what seems to be emotionally intense scenario that happens whenever her son cannot have a digital device or when it is time to put it away. Parent4 also describes addictive like behaviors such as reaching at and trying to grab at the device as mom is taking it away. He will also pull up a chair to the refrigerator and try to get the device if mom has put it on top of the refrigerator. Mom also mentions that she gives him the device in order to be able to sit at the dinner table to eat. Parent3 notes that her son is more emotional and tends to be sensitive at other times as well.

To hear mom, one would think she is exhausted. She describes the scenarios as distressing episodes that end with everyone crying and melting down.

Parent5 Field Notes
The interview with Parent5 was conducted through Microsoft Teams. Parent5 is a child and adolescent psychologist and a parent of a 3-year-old. After completion of the demographic survey, Parent5 met all of the inclusion criteria for the study. During the interview, Parent5 seemed distracted by her 3-year-old as she was also trying to get ready for her day. While Parent5 did has not experienced any huge emotionally intense situations, she described her experience as "persistent". When her daughter wants something, she will keep persisting until someone gives in. Parent5 also described her experience by saying that the TV in the house is always on when they are home and she feels that is why the TV does not illicit any negative responses. It is normal to be on and when her daughter wants to watch, she will watch but does not typically watch for a long period of time.

Parent5 was very articulate and even though she checked on the demographic survey that her child had big emotional reactions, she did not describe that during the interview. Researcher was wondering if maybe due to her position in the community and her career, she may have been hesitant to share all of what happens, thinking she would be judged.

Professional1 Field Notes
The interview with Professional1 was conducted through Microsoft Teams. Professional1 was in her office and researcher was in her office to ensure privacy of the conversation.

Researcher was pleasantly surprised at the passion and enthusiasm of Professional1. She felt very strongly about needing research in this area since it is affecting her job negatively. Professional1 describes a scene of children and parents with phone or tablets in their faces in the waiting room which had shifted from reading books with children while waiting to be called back. Professional1 also described this extreme reaction that happens when the parent suddenly takes the phone away to walk back to the exam room. She explained a look of shock by the child which was quickly followed by extreme tantrum-like behavior which continues into the exam room, making it almost impossible

to exam the child who is completely out of control. She watches parents then try to hold the phone in front of the child's face to soothe them. She is concerned.

It is important to note that Professional1 described it as addictive-like behavior, but she also stated that it was backed by any sort of research but that it just appears to be like an addiction.

Professional2 Field Notes
Professional2 was interviewed virtually through Microsoft Teams. She chose a day/time that she was off so she would not have the time restraint.

this study since she has concerns about what she is seeing. Professional2 described an almost identical scenario to Professional2. Her experiences in the exam room are exactly the same. She stated that it impedes her job because it is difficult to even determine if a child is on track developmentally since they will not take their eyes off of the devices. She noted this happens with 80% of her patients. If the devices are removed during the exam, she often times cannot complete the exam because of the flailing, screaming, and extreme tantrum behaviors that ensue when the device is removed. Professional2 also described these behaviors as addictive-like.

Professional2 also noted that she was worried about parents knowing how to set boundaries and she will often use her own personal boundaries as an example for them. She explains how she sets boundaries on her phone with notification etc. to hold herself accountable.

Professional2 was personable and was glad to help out. She noted if she was needed for any future research, she would be glad to participate.

Professional3 Field Notes
Professional3 was interviewed virtually through Microsoft Teams. She was in her classroom while the children were napping, and researcher was in her office. Professional3 wore headphones in order for the conversation to be private.

Professional4 shared about the use of a smartboard and iPads in the classroom. She initially stated she didn't have problems with children getting off of the devices but later shared that a subset group of children do struggle to get off the devices. She did note that it seems to be different at school because expectations are different. With the children that do struggle with emotional problems, they tend to be the same children who struggle to get off of the devices, per Professional3.

Professional3 teaches pre-school in a [redacted] and is currently finishing her Master's degree. She has been teaching for 8 years.

Professional4 Field Notes

Professional4 was interviewed in person and video/audio recorded through Microsoft Teams. Professional4 was struggling with her voice during the interview, so researcher kept it as short as possible.

Professional4 is a preschool teacher in a public school in Wicomico County. She reported using a smartboard and iPads in the classroom. While she initially did not describe any of the children having big emotions in regard to technology, she did describe a resistance to putting them down.

What stood out the most during this interview is what Professional4 is seeing as a potential consequence of the pandemic. She explained that with two whole years of being isolated, they are seeing a group of 3-5-year-olds who have very little social skills and may be behind developmentally due to the isolation and lack of interaction with others during that time. She seemed genuinely worried about what will happen with that group of children as they move through school. This seemed to align well with what the pediatricians were also saying.

Professional5 Field Notes

Professional5 was interviewed through Microsoft Teams (virtually). She was in her classroom and researcher was in her office.

Professional5 is a pre-school teacher at a local private pre-school center. She works mostly with 2-year-olds but by the end of the school year, she has a classroom with 3s because of birthdays. Her experience was similar to the other to teachers in that she has expectations with digital devices such as a smartboard and iPad (when they get to use them). She did mention that the kids tend to be attracted to any and all electronic devices that are in the classroom and if given a choice, they would choose the electronics for sure.

For Professional5, her experience with the children and technology involves a lot of redirection and use of another adult to help distract the child to get the device away. She also stated that their preschool is a little behind technology-wise.