JSSH
Journal of Social Sciences and Humanities

Parental Perceptions on Elementary Graders' Screen Time Towards the Development of Eduparental Engagement Model to Mitigate Gadget Overexposure: A Multiple Regression Analysis

Lea Mae S. Macabangon
Prof. Gilbert C. Magulod Jr, PhD
Cagayan State University – Andrews Campus
Caritan Sur, Cagayan, Philippines

ABTRACT

The increasing screen time among elementary graders, particularly due to the digital shift during and post-COVID-19, poses significant challenges to their health and academic performance. This study examines parental perceptions and engagement strategies concerning their children's screen time, aiming to develop an EduParental Engagement Model to mitigate gadget overexposure. The research involves 30 parents from a public school, utilizing a descriptive correlational design. Findings reveal that most parents perceive their children's screen time as excessive, expressing concerns about negative impacts on vision, sleep, physical health, and academic performance. Despite regular monitoring and setting screen time limits, parents face challenges in enforcement, highlighting the need for effective strategies and educational resources. The study's results indicate significant correlations between health status, screen time, and parental perceptions. Effective parental strategies and active involvement are positively associated with better academic outcomes, underscoring the importance of comprehensive parental training programs. Regression analysis further emphasizes that parental monitoring and regulation significantly enhance academic performance. The proposed EduParental Engagement Model includes practical, managerial, and theoretical recommendations, emphasizing the need for targeted interventions to address socioeconomic constraints, promote balanced digital habits, and support effective parental involvement. This model aims to create a supportive environment, fostering healthier digital habits and academic success among elementary graders. The study underscores the necessity for longitudinal research to explore long-term effects of screen time and parental engagement, and the development of tailored interventions to meet diverse family needs. By leveraging educational programs and community collaborations, the EduParental Engagement Model seeks to empower parents, ensuring balanced screen time and promoting children's overall well-being and academic achievement in the digital age.

Keywords: *Screen Time, Parental Perceptions, Gadget Overexposure, EduParental Engagement Model, Academic Performance, Elementary Education*

INTRODUCTION

The fast-changing digital world we live in exposes children earlier and earlier to devices and screen time. Technology is unavoidable and now serves as the main tool not only in administration but also in the fields of education, health, trade, and business. Technology and the Internet are no longer considered taboo in the society. Children these days, often known as Generation Z, were born into a digital age and are sometimes referred to as "Digital Natives". Members of Generation Z are more tech savvy, and will eventually be the ones who explore new applications as if it is part of their lives. Generation Z could not live a day without gadgets as if they were part of their basic needs. It is getting harder and harder for children and adolescents, in particular, to distinguish between the online and offline worlds because of how embedded the digital world and the internet are in daily routines, from sources of information and knowledge to ways of communicating with friends and family, to means of communicating with strangers.

An increasing number of young users were commonly accessible and interacting with digital technologies during their childhoods. This currently occurs from infancy due to younger children's quick adoption of touchscreen devices. Children between the ages of two and four may genuinely use touchscreen gadgets, such as tablets or smartphones, to play games or watch movies. Parents frequently allow their children to use these devices in boring social settings, like restaurant reservations or physician waiting rooms (Chong, Teo, & Shorey 2023). Based on the most recent report on the worldwide diffusion of the Internet among young people, one in three users of the Internet is estimated to be a child or teenager (under the age of 18). Children use digital devices extensively and for extended periods at home, especially during the weekends (Benedetto & Ingrassia, 2020).

Smartphones, iPads, tablets, laptops, gaming consoles, and other gadgets, there is a very high chance to encounter these devices everywhere which are used by kids for amusement. It is common for kids these days as young as two to handle a smartphone or tablet throughout numerous hours of playtime. According to a Daily Mail article, 70% of toddlers are proficient in using gadgets by the time they reach primary school age. While using technology might be beneficial for kids in terms of learning and entertainment, excessive use of it can have negative effects. A research study found that children who use electronics excessively may have learning difficulties, Attention Deficit Hyperactivity Disorder (ADHD), anxiety, childhood depression, delayed speech or language development, and a detrimental effect on character development. A child who spends too much time on electronics is also prone to gain weight, get seizures, and have eyesight issues. According to Dr. Parolita Mission, the head of the NNC, Region 7, "Parents and caregivers have the greatest responsibility to discipline children and control their exposure to gadgets."

Providing children with gadgets might be beneficial as they can express their creativity through mobile games or creative applications that stimulate their senses. However, excessive use of devices can cause children to become reliant on them, and if they use them without parental supervision, it can also result in addiction (Zain et al., 2022). Since children's strong reliance on screen media may be harmful to their cognitive, linguistic, and social-emotional development, this has prompted major concerns about public health. Excessive screen time also has negative consequences on social and emotional development and increases the risk of obesity, sleep difficulties, and mental health issues including anxiety and depression. It might make it difficult to understand emotions, encourage aggressive behavior, and harm one's psychological health in general (Muppalla, 2023). The digital world has an enormous number of benefits, opportunities, excitement, and thrills for both adults and children. Although there are many

advantages and benefits to this, there are also risks. The only way to make sure that this new domain in which children live their lives—one that is so deeply entwined with the domains of family and homes, schools, and larger communities—is best suited to maximize the benefits while minimizing and mitigating the risks and harms that might be attached to the environment is to truly understand how children go online, including where and what devices and instruments they use, how they learn, who supports them online, and what they do.

Why Children's Excessive Screen Time is a Global Concern?

In this digital era, children's gadget usage has gotten a lot of attention and worry. The Malaysian Communications and Multimedia Commission (MCMC) discovered that 83.2 percent of Internet users are children between the ages of 5 and 17. To illustrate, children make up 93% of Internet users and use smartphones to access services such as Telegram, WhatsApp, and others that involve communication. Because of the ubiquitous use of smartphones, tablets, computers, and other digital gadgets, children are becoming increasingly absorbed in screen- based activities. These activities include everything from instructive software to entertaining stuff. The rise in social media and gaming among children has significantly impacted their digital engagement, with research highlighting its association with psychological well-being. The Pew Research Center's findings (2021) support this trend, highlighting the integration of social media platforms into children's daily lives. The gaming landscape has also grown, particularly in online and mobile gaming, fostering social interaction and civic engagement. However, concerns have emerged regarding the impact of excessive gaming and social media usage on children's well-being.

Organizations such as UNESCO, WHO, and AAP offer recommendations for children's screen time. The United Nations Educational, Scientific and Cultural Organization (UNESCO) recently advised against too much tech in schools. UNESCO reiterated its stance, which states that technology should only be used when it supports learning (Raphael, 2023). The World Health Organization (WHO) has recommended children under one year old should have no screen time, children under two years old should rarely be exposed to screen time, and children under five years old should not surpass an hour of screen time per day. The American Academy of Pediatrics (AAP) also recommended that children under the age of twenty-four months should avoid screen time entirely, while children aged two to five years should limit screen time to one hour per day. OSF Healthcare recommends children 5-17 years old should generally no more than two hours of screen time per day, except for homework.

However, the amount of time children spend on screens is still rising despite these recommendations. Some parents choose not to follow these recommendations and expose their younger children to digital media for more than two hours each day. Children who watched television alone or whose parents spent more than two hours online or on social media were more likely to use screens excessively. Although two hours of screen time would not have much of an adverse effect on a two-year-old's development, it could be wise to go by the WHO's recommendations and limit screen time for this age group to less than one hour. It is also stressed that watching along with an adult, a sibling, or other children is recommended because children learn through modeling and interaction with others. (Blythe, Samantha, and Belle, 2023)

Childhood use of mobile devices has dramatically increased in many countries during the past decades. Children aged eight and under interact with screens for an average of two hours and nineteen minutes each day, a figure that has steadily climbed over time (Common Sense Media, 2017). According to a

study, over 98% of Canadian kids between the ages of zero and eight spend more than two hours a day on screens. American kids under the age of two are said to spend an average of half an hour on screens every day. Studies conducted in other countries suggest that more Asian children and adolescents have developed smartphone addictions— 10% in Britain (Lopez-Fernandez, 2017), 17% in Switzerland (Haug et al., 2018), and 31% in Korea (Cha & Seo, 2018). These studies applied different self-report smartphone addiction scales with cut-off scores, although these scales used commonly measured addiction symptoms such as craving, withdrawal, tolerance, physical/psychological problems related to use, and difficulty in performing daily activities. This trend has sparked discussions on the impact of children's increased screen time on their overall well-being, physical health, and cognitive development. Studies by Przybylski and Weinstein (2019) and Orben and Przybylski (2019) highlight the link between digital screen time and psychological well-being among young individuals, emphasizing the need for balanced and moderated engagement to safeguard children's mental health.

The Philippines, with a population of 110 million, has a high number of internet users, with 73.91 million in January 2021. With 92% connected to smartphones, 74% through laptops, and 38% through tablets, the country is also experiencing a rise in subscription-based services for entertainment viewing. Filipino children would grab every opportunity to utilize their gadgets. The age at which children in the Philippines first go online is, on average, ten years old, and children appear to be going online at a progressively younger age. Children tend to most commonly utilize smartphones, either their own or, less frequently, shared with another member of their family, to go online, followed by using Internet access in libraries and Pisonet cafés (Francisco, 2017). Older children tend to spend longer online every day, on average, than younger children, suggesting that older children are allowed more space and

time by their parents or caregivers, have increasing access to devices and data, and go online more for schoolwork, than younger children.

The State of the World's Children 2017 reported that ten years old was the common age at which a child in the Philippines owned a mobile phone. The study discovered that 76% of children in the Philippines use tablets, and 85% of all children polled use their mobile phones to access the Internet. UNICEF's The State of the World's Children 2017 also noted that children throughout the globe are becoming more and more a part of a "bedroom culture," which refers to the growing trend of children using their gadgets to browse the Internet in private, unsupervised bedrooms. Taken together, these results highlight the susceptibility of Filipino children in particular and caution parents about what their children do online.

According to cybersecurity company Surfshark, children in the Philippines are the second most exposed to online threats globally. The country follows Thailand and, together with Turkey, makes the top 3 countries with the highest online risk exposure levels worldwide. Local kids don't have the skills to deal with cyberbullying or other common cyber threats. The study also found that 6 out of 10 children ages 8–12 are exposed to cyber risks online. In addition, 1 in 2 children encounter cyberbullying, and close to one-third experience other cyber threats such as phishing or hacking. According to experts, excessive gadget use and low education quality are identified as key factors contributing to the reported lag of the Philippines in the 2022 Programme for International Student Assessment (PISA) results. Psychologist Dr. Camille Garcia stressed that children's learning might be affected by prolonged exposure to gadgets and social media. Attention span and concentration will be limited because it's one of the distractions. Not only does it delay a

person's progress, but it also has an impact on our ability to think critically.

With the advancement of technology, the prevalence and harmful consequences of excessive screen time on kids have grown to be a global concern that can result in adult and pediatric cardiovascular disorders as well as obesity. Prolonged periods of sitting and the use of screens are increasingly seen and understood as the unnoticeable standard of modern living. Young children who use screens excessively increase the risk of attention issues, developmental delays, and poorer academic performance. The extended use of screens and the possible disturbance they cause to children's circadian and feeding cycles can have an impact on sleep and nutrition. There is also evidence that more screen time has been associated with unhealthy diets, obesity, and poorer quality of life in children and eventually adolescents. (Nwankwo et al., 2019). The synopsis made it apparent that parents need to find a balance between limiting their children's screen time and appreciating its value in the modern environment.

The Increase of Screen Time among Children During and in the Post-COVID-19 in the Philippines

The increase in screen time among elementary learners in the Philippines got a lot of attention and worry, particularly due to the transition from face-to-face to online learning during the COVID-19 pandemic. The use of digital devices has a lot of benefits because learners will still be able to learn even in times of lockdown. However, the usage of gadgets among children has increased. Children spend hours on gadgets, watching YouTube videos and movies, listening to music, and playing games (Zain et al., 2022). Factors that have contributed to the increase of gadget exposure to elementary graders are attributed to changes in everyday routines such as the following: (1) lockdowns, wherein children are encouraged to stay at home leading to the usage of technological devices to reduce boredom, (2) social connections being restricted because of pandemic-related limitations, so children interact with their peers through online, (3) the shift to online and remote learning, where learners are encouraged to use digital devices for educational purposes, and lastly, (4) the rise in the usage of digital gadgets for entertainment as families stayed at home. To address these challenges, it is crucial to prioritize the mitigation of gadget exposure to elementary graders. Parents can implement strategies such as establishing guidelines and time restrictions, imposing boundaries, offering direction, actively supervising screen time, supporting substitute activities, encouraging educational materials, and actively participating in co-viewing activities. Creating a balanced environment, both at home and in school, will play a significant role in helping elementary graders reduce the negative effects of excessive screen time and develop healthy technology habits.

In the post-COVID-19 era, with the shifts towards online learning and remote education, learners are required to engage with digital media more than ever before. The increasing availability of technology has led to increased screen time significantly as a result of the COVID-19 restrictions that increased reliance on digital gadgets for education and entertainment, potentially affecting children's development (Ribner et al. 2021). As of April 2020, around 1.5 billion children have been out of school and as a result, many of them may be spending more time on screens to complete online activities as part of homeschooling, socializing with peers, or playing video games given that outdoor activities may be restricted due to lockdowns. Excessive amounts of anything, including beneficial activities for kids, may turn dangerous. According to research published in JAMA Pediatrics, adolescents use screens for an average of 7.7 hours a day, as opposed to 3.8 hours before the pandemic. It appears that screen time will continue to be increasing. The optimal amount of screen time for children has become difficult for parents to

determine due to possible issues with children's vision, posture, and other physical development issues.

While data on screen media use from Western countries is growing, there is a gap in the literature on media exposure effects in other populations, including Filipinos. There is a lack of systematic reviews on parental factors related to children's screen time, highlighting the urgent need to understand parents' perceptions of screen time in the presence of digital screens. Therefore, there is a need for additional studies to assess the effectiveness of parental engagement interventions in mitigating children's gadget overexposure. It is important and necessary to address excessive screen time in elementary grades as it can impact their development and overall well-being.

Parental Perceptions of Children's Gadget Use

Every parent has convictions and personal views about how their children should use media, including whether it is beneficial or detrimental, and what age is appropriate for them to start using it. Beliefs are the cognitive aspects of attitudes that influence a person's actions and decisions. When parents raise their children, they act and make decisions on their behalf based on their perceptions about what is desirable or what would best serve their child's growth. Though parents may not always be conscious of it, their views affect how parents and children interact as well as the child's opportunities to learn, experience, and acquire digital skills.

Digital media have swiftly transformed the ways that parents and children interact, have fun, learn new things, and deal with challenges daily (both in ordinary and exceptional situations like COVID-19 home confinement). Early digital engagement presents new problems to parent-child relationships and the parental role since very young children often use mobile devices and tablets (Benedetto &

Ingrassia, 2020). Parents themselves are heavily exposed to media experiences in many facets of their lives, along with their children. In addition, parents are the ones who introduce children to digital tools for the first time. They have the task to include these technologies into daily activities (play, amusement, education, meals, etc.) and to encourage safe and responsible usage. Modern technologies are perceived differently by parents. While some view them as a source of entertainment (Chong, Teo, and Shorey, 2023), relaxation (Thompson et al., 2017), education (De Decker et al., 2018), or reward or punishment (Jago et al, 2017), others believe that digital devices pose health risks to children (e.g., obesity, sleep disorders) (Saunders & Vallance, 2018), issues with emotion management, (Cerniglia et al., 2020), may have an impact on their cognitive development and socioemotional health (Twenge and Campbell, 2018), negative effects on mental health (Oswald et al., 2020), present social risks (e.g., social isolation or unfamiliar people), and physical exercise (Kardefelt-Winther, 2017), language proficiency and academic achievement (Dy et al., 2023), or impede parent-child activities and quality time.

Parents often face challenges due to the widespread use of "portable" technologies, such as smartphones and tablets, which children begin using as early as infancy (before the age of two). Later, kids incorporate mobile device activities into a variety of everyday routines, such as mealtimes, homework assignments, parent-child conversations, or bedtimes, because of unrestricted Wi-Fi access and improved connection. In particular, parents worry that their ability to effectively guide and regulate their children could be reduced due to the "pervasiveness" (or ubiquity) of mobile technology in daily activities (Ingrassia & Benedetto, 2020). The primary strategies that parents might use to "mediate" their children's digital technology use have been highlighted by a growing body of research on digital parenting. According to Vygotsky's theory of child development and his notion of the proximal

development zone, parental mediation is a crucial element in promoting children's interactions with new media. Children can learn things in the proximal development zone that fall between what they can do on their own and what they can learn with the help of others. Since gadget usage is viewed as the "norm," parents find it difficult to limit children's gadget use, partly because they want their kids to be prepared for the modern technology world. Parents cite benefits to screen viewing, even though the majority of them think it has negative effects on their kids. Because of the isolated nature of screen activities, many parents believe that not all screen is created equal. Educational screen viewing is viewed as being more advantageous than non-educational. To spend more quality time together as a family, most parents believe that achieving a digital balance is crucial (Solomon-Moore et al., 2018).

The Importance of Parental Engagement in Mitigating Children's Gadget Overexposure

Given the ubiquitous nature of technology in our lives, it is imperative to evaluate its effects on the younger members of our society and, consequently, how parental involvement can be a critical component in reducing the risk of potential overexposure to digital devices. Given that parents are the primary influence on their children's habits and behaviors, it is crucial to evaluate how they feel about the amount of time their elementary school-aged children spend using screens. As noted by Anderson and Subrahmanyam (2017), parental attitudes and perceptions have a big influence on how their kids use technology. Understanding these perceptions is crucial in developing strategies that support parents' goals and concerns regarding their children's digital experiences. Furthermore, knowing how screen time affects children's academic achievement and general well-being can aid in creating strategies that reduce excessive device use. The American Academy of Pediatrics (AAP) emphasizes the importance of developing healthy media habits early in childhood to support the best possible physical, cognitive, and socioemotional development (AAP, 2016).

In light of the current digital evolution, it is imperative to comprehend the attitudes and behaviors of parents regarding their children's screen time. Children's digital habits and general development are greatly impacted by parents' control over their exposure to gadgets. But there's a disconnect between what parents think and practical ways to control screen time (Twenge & Campbell, 2018). An in-depth investigation of parental attitudes and behaviors in controlling elementary learners' screen time within the context of a holistic model is necessary in light of this growing trend, which raises questions about the possible risks associated with excessive screen time. The research landscape concerning parental involvement in addressing children's overexposure to gadgets lacks a cohesive framework that encompasses parental perceptions, educational strategies, and practical implication methods (Joanes et al., 2021, Eyler et al., 2021, Nwankwo et al., 2019). Current research frequently focuses on specific features like content management, screen time limitations, or parental attitudes toward technology without offering a holistic model that incorporates all of these components (Belle et al., 2023; Ribner et al., 2021). This gap indicates that parents have not been given clear advice since there is no cohesive strategy that combines engagement techniques, parental perspectives, and useful implementation approaches into a single framework.

Problem Diagnosis and Context of the Study

The study identified a practical gap in the context of Lasam Central School, a public elementary school in the Municipality of Lasam, Cagayan, where intermediate learners who are overexposed to gadgets were observed to have poor academic performance. As a result, there is an explicit need for an integrated model that combines parenting attitudes, strategies, and practicable recommendations to help parents

effectively monitor and reduce their children's excessive device use. By offering a systematic framework that aligns parental attitudes, knowledge, and doable actions to support children's balanced gadget usage while boosting parental engagement, such a model could fill the current gap. The gap analysis table below identifies the current state of parental involvement in managing children's screen time, the desired state, the gaps identified, and the basis for conducting this study. This table serves to illustrate the areas that need improvement and provides justification for why this research was undertaken. This gap analysis provides a clear rationale for the study by identifying key areas where current practices fall short of desired outcomes, emphasizing the need for targeted interventions to support parental involvement, health, academic performance, and balanced screen time for children.

Table 1. Gap Analysis in the Context of the Study

Current State	Desired State	Gaps Identified
Pupils are excessively engaged in screen time, primarily for gaming and social media, far exceeding recommended limits.	Balanced screen time with a focus on educational purposes.	Excessive screen time for non-educational activities; lack of balanced digital habits.
There are grave concerns about the detrimental impact of excessive screen time on pupils' physical health, mental well-being, and academic performance.	Reduced screen time and mitigated negative impacts on health and academics through effective strategies.	Challenges in enforcing screen time limits and balancing screen time with educational activities.
Although some parents attempt to manage their children's screen time, there is a significant lack of consistency and effectiveness in their strategies.	Consistent and effective parental strategies and engagement in managing screen time.	Need for more effective and consistent parental involvement in screen time management.
Despite high parental involvement in regulating screen time, there is a critical underuse of educational programs designed to inform and mitigate the negative effects of excessive screen exposure.	Increased use of educational programs to inform children about screen time risks.	Lack of awareness or access to educational resources on screen time management.

Note: These Observations were conducted during the Internship period of the researcher duly attested by the Cooperating Teacher and Research Professor

Objectives of the Study

1. Describe the profile of the pupils as to age, sex, grade level, family income, parents occupation, parents level of education
2. Describe the learners' Health and Academic Information as to: Health Status, School Attendance, and Academic Performance
3. Assess the Screen Time and Gadget Use of the Pupils as to Average daily screen time (hours per day), Purpose of gadget use, and Types of gadgets used

4. Assess the Perceptions of parents on the Elementary Graders' Screen Time as

to: Perceived Excessive Use, Health Concerns, Monitoring and Regulation Academic Impact

5. Ascertain the significant difference on the perception of parents on elementary grader's screen time when grouped according to selected profile variables.
6. Ascertain the significant relationship between Perceptions of parents on the Elementary Graders' Screen Time on their Child's Health and Academic Information.
7. Identify the the predictors of academic performance among elementary graders based on screen time and demographic variables.

MATERIALS AND METHODS

Research Design

Employing a descriptive correlational design, the study covered the description of the existing relationship between Parental perceptions of elementary graders' screen time, and child's health and academic information. Bold, M. (2001) noted that the purpose of a correlational study is to define the relationships among variables. Also, Creswell, J. (2002) confirmed that a correlational design utilized a statistical test to construct arrangements of variables.

Research Participants, Sampling Procedure, and Ethical Consideration

The study comprises thirty (30) parents of elementary graders enrolled in a public school. The researcher used random sampling to have a sample within the population of the targeted respondents. The participants in this study comprised parents of elementary school students enrolled in a public school, spanning grades 1 through 6th grade. Given the scope and

resources of the study, a sample size of 30 parents was selected to provide insights into parental perceptions of their children's screen time. To achieve this, a simple random sampling

procedure was employed, ensuring that each parent had an equal chance of being selected (Creswell & Creswell, 2018). This method helps to reduce bias and ensures that the sample is representative of the entire parent population within the school. This approach ensured that the data collected reflected a wide range of perspectives on the issue of screen time among elementary graders. Ethical considerations were paramount in this study. Before participation, parents were informed about the purpose of the research, the procedures involved, and their rights as participants, including the right to withdraw at any time without any consequences. Informed consent was obtained from all participants. Additionally, the study ensured confidentiality and anonymity, with all data collected being securely stored and used solely for research purposes.

Research Instruments and Validation

The primary instrument used in this study was a checklist-based survey questionnaire designed to capture relevant variables and assess their relationships. The checklist includes profile variables, child's health and academic information, screen time, and gadget used, and consists of a series of items related to parental perceptions of elementary graders' screen time. To ensure the validity of the checklist, a rigorous validation process was undertaken. Initially, the checklist items were developed based on a thorough review of existing literature and established guidelines related to screen time recommendations for children. The items were designed to cover a range of factors such as the duration of screen time, types of devices used, and parental rules and supervision practices. While the checklist format provided a structured approach for data collection, its design also allowed for descriptive analysis to summarize parental

perceptions and correlational analysis to explore potential relationships between different variables of interest. By employing this checklist-based survey questionnaire within a descriptive correlational design, the study aimed to provide insights into the factors influencing parental perceptions of elementary school children's screen time.

Data Gathering and Ethical Consideration

Data for this study were collected using a checklist-based survey questionnaire administered to parents of elementary school children enrolled in a public school. Before the conduct of the study, the CSU Institutional Research Ethics Board (IERB) approved the protocols of the study (CSU IERB-2024-05-27). The survey questionnaire was distributed in printed format. Parents were provided with clear instructions on how to complete the checklist and were assured of the confidentiality and anonymity of their responses. Before the survey, the researcher asked the parents if they preferred to answer the questionnaire by themselves or if the researcher would just ask the questions and answer them based on their perceptions and experiences regarding their children's screen time habits. The checklist included items related to the child's health status and academic information, gadget use, parental perceptions of their child's screen time, and parental strategies and monitoring. The completed survey questionnaires were collected and compiled for analysis. Any missing or incomplete responses were reviewed, and efforts were made to follow up with respondents to obtain the necessary information. The collected data were then coded and entered into statistical analysis software for further processing and interpretation. The data collection process adhered to ethical guidelines and best practices to ensure the integrity of the study's findings.

Analysis of the Data/ Statistical treatment

To analyze the gathered data, descriptive statistics were utilized to describe the personal characteristics of the respondents. Likewise, inferential statistics particularly independent sample t-tests and one-way ANOVA were used to test the hypotheses of the study. The Kolmogorov-Smirnov and Shapiro-Wilks test for normality were used which are general normality tests designed to detect all departures from normality. Correspondingly, the Post Hoc Tukey HSD test was also used to analyze the significant difference in the specific groups of variables. Kendell Tau was used to identify the significant relationship between the identified variables. Finally, multiple regression analysis was used to identify the variables that predict the academic performance of the elementary graders. To interpret the parental perceptions of the respondents, the following scale was adopted: 4.20-5.00- Very High (VH)/ Always; 3.40-4.19- High (H)/ Often; 2.60-3.39- Moderate (M)/Sometimes; 1.80-2.59- Low (L)/ Seldom; 1.00-1.79- Very Low (VL)/ Never. The following percentage bracket and classification were adopted to interpret the academic performance of the elementary graders: 97-100- Excellent; 94-96- Very Outstanding; 91-93- Outstanding; 88-90- Very Good; 85-87- Good; 83-84- Very Satisfactory, 79-81- Satisfactory; 76-78-Fair; 75- Passing; below 75- Failing.

Test of Normality for the Variables

Table 2 provides the test of normality for various variables using the Kolmogorov-Smirnov and Shapiro-Wilk tests. The variables include Grade Average (Academic Performance), Perceived Excessive Use, Health Concerns, Monitoring and Regulation, Academic Impact, Parental Perceptions, and Elementary Graders' Screen Time Mean Score, and the EduParental Engagement Model Mean Score.

Table 2. Test of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk			Decision
	Statistic	Df	Sig.	Statistic	df	Sig.	
Grade Average (Academic Performance)	0.125	30	**0.200***	0.959	30	**0.293**	Normal
Perceived Excessive Use	0.136	30	0.166	0.920	30	0.027	Not Normal
Health Concerns	0.177	30	0.017	0.870	30	0.002	Not Normal
Monitoring and Regulation	0.187	30	0.009	0.928	30	0.044	Not Normal
Academic Impact	0.158	30	**0.054**	0.935	30	**0.065**	Normal
Parental Perceptions and Elementary Graders' Screen Time Mean Score	0.170	30	0.027	0.932	30	0.055	Not Normal
Parental Involvement in Screen Time Regulation to Mitigate Overexposure to Gadgets	0.131	30	0.199	0.921	30	0.028	Not Normal
*. This is a lower bound of the true significance.							
a. Lilliefors Significance Correction							

For Grade Average (Academic Performance), the Kolmogorov-Smirnov statistic is

0.125 with a significance level of 0.200, and the Shapiro-Wilk statistic is 0.959 with a significance level of 0.293. Both tests indicate that the distribution of this variable is normal. Perceived Excessive Use has a Kolmogorov-Smirnov statistic of 0.136 with a significance level of 0.166, and a Shapiro-Wilk statistic of 0.920 with a significance level of 0.027. These results show that this variable does not follow a normal distribution, particularly indicated by the Shapiro-Wilk test. Health Concerns display a Kolmogorov-Smirnov statistic of 0.177 with a significance level of 0.017, and a Shapiro-Wilk statistic of 0.870 with a significance level of

0.002. Both tests suggest that the distribution of this variable is not normal. For Monitoring and Regulation, the Kolmogorov-Smirnov statistic is 0.187 with a significance level of 0.009, and the Shapiro-Wilk statistic is 0.928 with a significance level of 0.044, indicating a non-normal distribution. The Academic Impact variable shows a Kolmogorov-Smirnov statistic of

0.158 with a significance level of 0.054, and a Shapiro-Wilk statistic of 0.935 with a significance level of 0.065. These results suggest that the distribution is normal, though it is borderline for both tests. The Parental Perceptions and Elementary Graders' Screen Time Mean Score has a Kolmogorov-Smirnov statistic of 0.170 with a significance level of 0.027, and a Shapiro-Wilk statistic of 0.932 with a significance level of 0.055. The Shapiro-Wilk test shows a non-normal distribution, while the Kolmogorov-Smirnov test is on the borderline. Finally, the EduParental Engagement Model Mean Score has a Kolmogorov-Smirnov statistic

of 0.131 with a significance level of 0.199, and a Shapiro-Wilk statistic of 0.921 with a significance level of 0.028. This indicates a non-normal distribution based on the Shapiro-Wilk test. The results generally show that the normality tests of Grade Average (Academic Performance) and Academic Impact are normally distributed. In contrast, Perceived Excessive Use, Health Concerns, Monitoring and Regulation, Parental Perceptions and Elementary Graders' Screen Time Mean Score, and the Parental Involvement in Screen Time Regulation to Mitigate Overexposure to Gadgets do not follow a normal distribution.

Test of Assumption of Normality for Linear Regression Analysis

Figure 1 presents the Normal P-P Plot of Regression Standardized Residuals assesses the normality of residuals in a multiple regression analysis that examines the effects of health concerns, monitoring and regulation, academic impact, and parental perceptions and elementary graders' screen time mean score on grade average (academic performance). The Normal P-P Plot indicates that the observed cumulative probabilities of the standardized residuals align closely with the expected cumulative probabilities, represented by the 45-degree line. This alignment suggests that the residuals are approximately normally distributed, which is an important assumption for linear regression analysis.
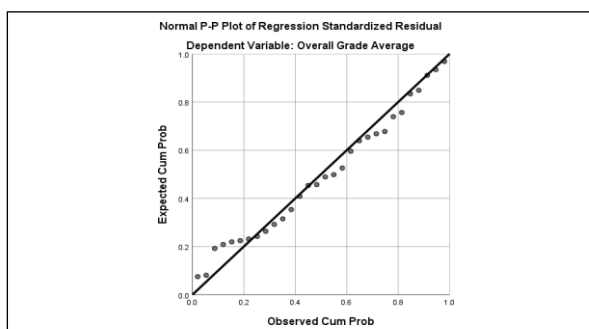

Figure 1. Normal P-P (Probability-Probability) Plot

The close fit of the data points to the diagonal line in the P-P plot suggests that the residuals from the regression analysis are normally distributed. This implies that the assumption of normality for the residuals is reasonably met, which is crucial for valid inference in regression analysis. Given that the residuals appear to be normally distributed, the statistical tests of the regression coefficients are likely to be valid. This increases confidence in the reliability of the conclusions drawn from the regression model. The regression model includes health concerns, monitoring and regulation, academic impact, and parental perceptions and elementary graders' screen time as predictors of grade average. The normality of residuals suggests that the relationships between these predictors and the dependent variable (grade average) are appropriately modeled by the regression equation. The findings highlight the importance of considering multiple factors that influence academic performance. Health concerns, monitoring and regulation by parents, academic impact, and screen time are all relevant factors. Interventions aimed at improving academic performance should address these areas comprehensively. In conclusion, the Normal P-P Plot of Regression Standardized Residuals supports the validity of the regression model used to predict grade average (academic performance). The normal distribution of residuals enhances the reliability of the regression analysis, suggesting that the predictors included in the model are appropriately chosen and that the results can be trusted for making inferences about the factors influencing academic performance. This analysis underscores the need for holistic approaches in educational strategies to enhance student outcomes.

Figure 2 presents the distribution of the regression standardized residuals for the dependent variable "Overall Grade Average." The histogram is used to assess the normality of residuals, which is an important assumption for linear regression analysis. The histogram bars form a roughly bell-shaped curve, which suggests that the residuals are approximately normally distributed. The superimposed normal curve further supports this visual

assessment, showing that the residuals align closely with a normal distribution. The mean of the residuals is approximately 0 (-2.97E-15), indicating that the residuals are centered around zero, which is expected in a well-fitting regression model. The standard deviation is 0.830, showing the spread of the residuals around the mean. The sample size (N) is 30, indicating that the analysis is based on 30 observations.
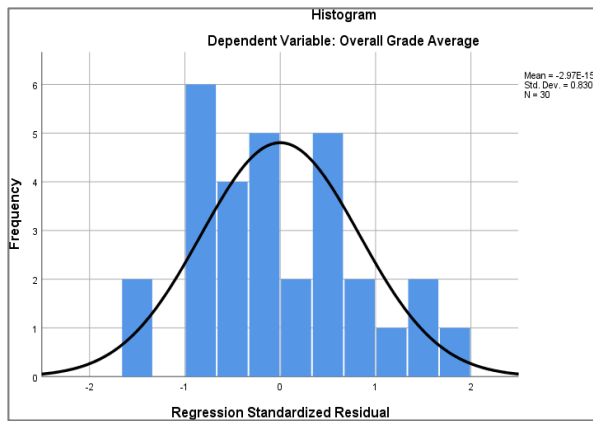

Figure 2. Histogram of Regression Standardized Residuals

The histogram indicates that the residuals from the regression analysis are approximately normally distributed, as evidenced by the bell-shaped curve and the alignment with the normal distribution curve. This suggests that the assumption of normality for the residuals is reasonably met. The normal distribution of residuals enhances the validity of the regression analysis, ensuring that the statistical tests of the regression coefficients are reliable. This supports the robustness of the conclusions drawn from the regression model regarding the predictors of overall grade average, such as health concerns, monitoring and regulation, academic impact, and parental perceptions of elementary graders' screen time. The histogram of regression standardized residuals indicates that the residuals are normally distributed, validating the assumption of normality and enhancing confidence in the regression analysis results. This finding confirms that the predictors included in the model are appropriately modeled and that the results can be trusted for making inferences about the factors influencing academic performance.

RESULTS AND DISCUSSION

Profile of the Respondents

Table 3 presents the profile of the respondents revealing that the majority of respondents come from lower-income families, with most earning between P5,000 and P10,000 monthly, indicating economic challenges that could impact the pupils' educational experiences. The educational attainment of parents, predominantly high school level, reflects broader socioeconomic constraints, which may limit their ability to support their children's academic progress. Despite these challenges, the high rate of home ownership suggests some stability in their living conditions, which can be a positive factor in their overall well-being and ability to focus on education.

Table 3. Respondents' profile and characteristics

Profile Variables	Categories	Frequency (n=30)	Percent
Age of the Pupil	8	1	3
	9	8	27
	10	8	27
	11	6	20
	12	7	23
Sex of the Pupil	Male	14	47
	Female	16	53
Grade Level	Grade 3	5	17
	Grade 4	7	23
	Grade 5	9	30
	Grade 6	9	30
Family Income	P5,000-P10,000	22	73
	P11,000-P15,000	2	7
	P16,000-P20,000	1	3
	P21,000-P25,000	1	3
	P26,000-P30,000	2	7
	P31,000-P35,000	2	7
Father's Occupation	Farmer	10	33
	Driver	7	23
	Construction Worker	6	20
	Nurse	1	3
	Massage Therapist	1	3
	Car Washer	1	3
	OFW	2	7
	Vendor	1	3
	Unemployed	1	3
Mother's Occupation	House Wife	11	37
	House Keeper	4	13
	Vendor	6	20
	Teacher	2	7
	Farmer	1	3
	OFW	4	13
	Car Washer	1	3
	Call Center Agent	1	3
Father's Level of Education	No Formal Education	1	3
	Elementary	6	20
	High School	16	53
	College	7	23
Mother's Level of Education	No Formal Education	1	3
	Elementary	5	17
	High School	15	50
	College	8	27
	Graduate School	1	3
Type of Housing	Owned	26	87
	Rented	4	13

A closer look at Table 1 showed that the age distribution of the respondents showed that 3% were 8 years old, 27% were 9 years old, 27% were 10 years old, 20% were 11 years old, and 23% were 12 years old. The sample comprised 47% males and 53% females, indicating a fairly balanced gender distribution. In terms of grade level, 17% of the respondents were in Grade 3, 23% in Grade 4, 30% in Grade

5, and another 30% in Grade 6. This indicates a representation across different grade levels, with a higher concentration in the upper grades. Family income varied significantly among the respondents, with the majority (73%) having a family income between P5,000 and P10,000. Smaller percentages fell into higher income brackets, with 7% earning between P11,000 and P15,000, 3% earning between P16,000 and P20,000, 3% earning between P21,000 and P25,000, 7% earning between P26,000 and P30,000, and another 7% earning between P31,000 and P35,000. Regarding fathers' occupations, 33% were farmers, 23% were drivers, 20% were construction workers, and smaller percentages were distributed among other occupations such as nurse (3%), massage therapist (3%), car washer (3%), OFW (7%), vendor (3%), and unemployed (3%). Mothers' occupations showed that 37% were housewives, 13% were housekeepers, 20% were vendors, 7% were teachers, 3% were farmers, 13% were OFWs, 3% were car washers, and 3% were call center agents. Educational attainment of the fathers revealed that 3% had no formal education, 20% had completed elementary, 53% had completed high school, and 23% had a college education. For mothers, 3% had no formal education, 17% had completed elementary, 50% had completed high school, 27% had a college education, and 3% had pursued graduate studies. Finally, housing status showed that a majority of the families (87%) owned their homes, while 13% lived in rented accommodations.

The demographic data illustrate a diverse yet predominantly lower-income group of pupils, with the majority of families earning between P5,000 and P10,000 monthly. This economic background is further highlighted by the occupational distribution of the parents, where many are engaged in manual or low-wage jobs, particularly in farming and driving for fathers, and housekeeping or vending for mothers. The education levels of parents show a tendency towards high school completion, with a

significant portion having not pursued education beyond this level. This may reflect broader socioeconomic factors that limit educational opportunities for these families. The relatively high percentage of home ownership (87%) suggests a degree of stability in terms of housing, despite the lower income levels. The gender and grade level distribution of the pupils appears balanced, which is beneficial for ensuring that the study's findings can be generalized across different segments of the student population in the sampled area.

The profile of the respondents indicates that the majority come from lower-income families, with most earning between P5,000 and P10,000 monthly. This economic background is indicative of broader socioeconomic constraints that may limit parental support for their children's academic progress. Studies have shown that socioeconomic status (SES) significantly affects educational outcomes, as children from lower-income families often face challenges such as limited access to educational resources and less parental involvement in academic activities (Bradley & Corwyn, 2020). Despite these challenges, the high rate of homeownership (87%) suggests some stability in their living conditions, which can positively impact pupils' educational experiences (Evans, 2019).

Child's Health and Academic Information

Table 4 presents the health status and school attendance of 30 children. The health status of the respondents showed that 40% were categorized as having excellent health, 56% as having good health, and 3% as having fair health. Regarding school attendance, a significant majority (86%) attended school for 21-25 days in a month, while 13% attended for 16-20 days. The data indicate that the majority of the children are in good to excellent health, with 96% falling into these categories. Only a small percentage (3%) were reported to have fair health, suggesting that most of the children are in a generally healthy state. This positive

health status is likely beneficial for their academic performance, as good health is often associated with better cognitive function and school engagement.

Table 4. Child's Health Status and School Attendance

Variables	Categories	Frequency (n=30)	Percent
Health Status	Excellent	12	40
	Good	17	56
	Fair	1	3
School Attendance	21-25 Days	26	86
	16-20 Days	4	13

In terms of school attendance, the majority of the children (86%) attend school regularly, with 21-25 days of attendance per month. This high level of attendance is critical for consistent learning and academic achievement. The 13% of children who attend school for 16- 20 days per month might face challenges that could impact their learning, such as health issues or other socio-economic factors. The overall positive health status of the children suggests that current health interventions and policies are effective. However, the presence of a small group with fair health indicates a need for targeted health programs to ensure all children can achieve optimal health. Regular school attendance for most children is encouraging, but efforts should be made to understand and address the reasons behind lower attendance for some. These findings underscore the importance of maintaining and enhancing health and attendance initiatives to support the academic success and well-being of all students. The study's mean grade of 87.73 falls within the "Good" category, suggesting that most pupils perform well academically. However, there is room for improvement to push more students toward higher academic achievements. The absence of students in the "Excellent" category indicates a need for interventions to elevate academic performance (Heckman & Rubinstein, 2022).

Learners' Academic Performance

Table 5 shows the academic performance of the pupils. The academic performance data indicates that the majority of the students perform at a "Good" level, with the mean grade being 87.73. The highest performance categories ("Very Outstanding" and "Outstanding") are represented by 7% each, showing that a smaller portion of the student population excels exceptionally well. Most students (76%) fall within the "Good" to "Very Good" range (85-90), which suggests a generally strong academic performance among the group. The absence of students in the "Excellent" and "Failing" categories suggests a lack of extremes in performance, with most students achieving satisfactory to good grades. The standard deviation of 3.493 indicates a moderate variability in the academic performance of the students, suggesting that while most students are clustered around the mean, there are some variations in their grades. The highest grade being 96 and the lowest 81 further underscores the range of performance within the "Good" to "Very Outstanding" categories.

Table 5. Academic Performance of the Respondents' Child when taken as a whole

Point Bracket	Description	Frequency (n=30)	Percent
97-100	Excellent	0	0
94-96	Very Outstanding	2	7
91-93	Outstanding	2	7
88-90	Very Good	10	33
85-87	Good	13	43
82-84	Very Satisfactory	2	7
79-81	Satisfactory	1	3
76-78	Fair	0	0
75	Passing	0	0
Below 75	Failing	0	0
Total Mean Grade= 87.73 (Good) Highest Grade= 96		Std. Dev.= 3.493 Lowest Grade= 81	

The generally positive academic performance of the students implies that the current educational strategies and learning environments are effective for most students. However, the absence of students in the "Excellent" category indicates room for improvement in pushing more students towards higher academic achievements. The data suggests that targeted interventions could be beneficial in supporting students who are on the cusp of moving from "Good" to "Very Good" or "Very Outstanding" categories. Additionally, the presence of students in the lower end of the

satisfactory spectrum indicates a need for continuous support to ensure these students do not fall behind. The findings highlight the importance of maintaining strong educational support systems while also implementing strategies to elevate students' performance to higher levels.

Pupils' Screentime and Purpose of Using Gadgets

Table 6 presents the data on the daily screen time and the purposes for which 30 pupils use gadgets. The average daily screen time indicates that 10% of pupils spend less than 1 hour, 6% spend 1-2 hours, 20% spend 2-3 hours, and the majority (61%) spend more than 3 hours on screens daily. Regarding the purpose of gadget use, 83% use gadgets for educational purposes, 73% for entertainment, 76% for social media, and 86% for gaming. The types of gadgets used show that 96% use smartphones, 3% use tablets, and 16% use televisions. The data indicates a significant amount of screen time among the pupils, with 61% spending more than 3 hours daily on their devices. This high level of screen exposure is a concern, as it can impact various aspects of health and well-being, including sleep patterns, physical activity, and academic performance. The majority of pupils use gadgets for multiple purposes, with a notable 86% using them for gaming, which is the highest among all categories. This suggests that while gadgets are used for educational purposes (83%), a considerable portion of time is also dedicated to entertainment and social media activities. The high prevalence of smartphone use (96%) among pupils suggests that smartphones are the primary device for accessing digital content. The low use of tablets (3%) and moderate use of televisions (16%) indicates that these devices are less favored compared to smartphones, possibly due to the portability and multifunctionality of smartphones.

The extensive screen time and the primary use of gadgets for gaming and social media highlight the need for balanced digital habits among pupils. While the use of gadgets for educational purposes is high, the substantial time spent on non-educational activities necessitates the implementation of guidelines to ensure healthy screen time. Schools and parents should collaborate to promote responsible gadget use, encouraging activities that enhance learning while limiting those that may detract from academic and physical well-being. Furthermore, the dominance of smartphones suggests that any interventions or educational programs related to digital literacy and healthy screen habits should be smartphone-centric. Educators should leverage the popularity of smartphones to deliver educational content effectively, while also teaching pupils about the importance of moderation and the potential risks associated with excessive screen time.

Table 6. Child's Daily Screen Time, Purpose of Gadget Use, and Types of Gadget Use

Variables	Categories	Frequency (n=30)	Percent
Average Daily Screen Time	Less than 1 hour	3	10
	1-2 hours	2	6
	2-3 hours	6	20
	More than 3 hours	19	61
Educational Purpose of Gadget Use	Yes	25	83
	No	5	16
Entertainment Purpose of Gadget Use	Yes	22	73
	No	8	26
Social Media Purpose of Gadget Use	Yes	23	76
	No	7	23
Gaming Purpose of Gadget Use	Yes	26	86
	No	4	13
Smartphone as Gadget Use	Yes	29	96
	No	1	3
Tablet as Gadget Use	Yes	1	3
	No	29	96
Television as Gadget Use	Yes	5	16
	No	25	83

The findings on screen time and gadget use highlight a significant concern, with 61% of pupils spending more than three hours daily on screens. This extensive screen time can adversely affect various aspects of health and well-being, including sleep patterns and physical activity (Twenge & Campbell, 2019). The high prevalence of smartphone use (96%) suggests that interventions to manage screen time should be smartphone-centric. Despite high usage for educational purposes (83%), the substantial time spent on gaming (86%) and social media (76%) necessitates balanced digital habits (Przybylski & Weinstein, 2020).

Assessment on Parental Perceptions of Elementary Graders' Screen Time

Table 7 summarizes parental perceptions regarding their children's screen time. The mean scores and standard deviations for various statements reveal that parents often perceive their children as spending excessive time on gadgets (M = 4.13, SD = 0.937) and frequently preferring gadgets over other activities (M = 3.87, SD = 0.937). Parents often notice their children using gadgets more than recommended (M = 3.77, SD = 0.935) and express constant concern about the negative effects on their children's vision (M = 4.27, SD = 0.785) and sleep quality (M = 4.30, SD = 0.750). They also often worry about the impact on physical health (M

= 4.00, SD = 0.871). Parents report regularly monitoring and limiting screen time (M = 3.80, SD = 1.064) and setting clear rules (M = 3.57, SD = 1.073), though they find enforcing these limits challenging (M = 3.40, SD = 0.855). They often believe screen time negatively impacts academic performance (M = 3.87, SD = 0.937) and note distractions during homework (M = 3.67, SD = 0.844). However, balancing screen time with homework occurs only sometimes (M= 3.17, SD = 0.913). The grand mean scores for perceived excessive use (M = 3.922, SD = 0.866), health concerns (M = 4.189, SD = 0.695), monitoring and regulation (M = 3.589, SD = 0.671), and academic impact (M = 3.567, SD = 0.526) suggest that parents often perceive these issues. The aggregate mean score for parental perceptions is 3.816 (SD = 0.357), indicating that parents often have concerns about their children's screen time.

Table 7. Parental Perceptions and Elementary Graders' Screen Time

Statements	Mean	Std. Deviation	Interpretation
I believe my child spends an excessive amount of time on gadgets.	4.13	0.937	Often
My child frequently prefers using gadgets over other activities	3.87	0.937	Often
I notice that my child is often on gadgets more than recommended.	3.77	0.935	Often
I am concerned about the negative effects of screen time on my child's vision.	4.27	0.785	Always
I worry that screen time is affecting my child's physical health (e.g. posture, weight).	4.00	0.871	Often
I believe my child's sleep quality is negatively impacted by screen use.	4.30	0.750	Always
I regularly monitor and limit my child's screen time.	3.80	1.064	Often
I set clear rules about screen time for my child.	3.57	1.073	Often
I find it challenging to enforce screen time limits with my child.	3.40	0.855	Often
I believe that screen time negatively impacts my child's academic performance.	3.87	0.937	Often
My child's screen time is balanced with homework and study time.	3.17	0.913	Sometimes
My child is distracted by gadgets during homework or study time.	3.67	0.844	Often
Perceived Excessive Use	3.922	0.866	Often
Health Concerns	4.189	0.695	Often
Monitoring and Regulation	3.589	0.671	Often
Academic Impact	3.567	0.526	Often
Parental Perceptions and Elementary Graders' Screen Time Mean Score	**3.816**	**0.357**	**Often**

Legend: 4.20-5.00 (Always), 3.40-4.19 (Often), 3.39-2.60 (Sometimes), 2.59-1.80 (Seldom), 1.00-1.79 (Never)

The data indicate that parents frequently perceive their children's screen time as excessive and are concerned about its impacts on health and academic performance. The high mean scores for concerns about vision and sleep quality suggest that these are significant issues for parents. The regular monitoring and setting of rules indicate proactive measures by parents, although the challenge in enforcement highlights the need for more effective strategies. These findings underscore the need for educational programs to guide parents on managing their children's screen time effectively. Schools and health professionals can collaborate to provide resources and strategies that address both the health and academic concerns related to excessive screen time. Additionally, creating awareness about the potential impacts of screen time on children's development can help parents make informed decisions. By addressing these concerns, parents can better support their children in achieving a healthy balance between screen time and other essential activities.

Despite parents frequently perceiving their children's screen time as excessive and expressing significant concerns about its negative impacts on health and academic performance, the data reveal challenges in effectively enforcing screen time limits and balancing screen time with educational activities. The findings highlight a critical need for further research into the specific barriers

parents face in managing their children's screen time and the development of targeted interventions that can enhance parental efficacy. Additionally, there is a gap in understanding the most effective educational programs and resources that can equip parents with strategies to mitigate the adverse effects of excessive screen time on their children's health and academic outcomes. Addressing these gaps can lead to more comprehensive support systems for parents, ultimately fostering healthier and more balanced screen time habits in children. Parental perceptions indicate significant concerns about the negative impacts of excessive screen time on health and academic performance. Parents find it challenging to enforce screen time limits (M = 3.40), suggesting a gap between awareness and effective management (Anderson & Jiang, 2019). Effective parental strategies, such as setting specific screen time limits and engaging in non-screen activities, are crucial for mitigating the negative impacts of screen time (Hiniker et al., 2020).

Assessment on Parental Strategies and Engagement in Managing Screen Time

Table 8 presents the data on parental strategies and engagement in managing their children's screen time. The mean scores and standard deviations for each statement indicate that parents often set specific screen time limits for their children (M = 3.73, SD = 1.112). They also frequently engage in non-screen activities with their children (M = 3.87, SD = 0.819) and have rules about gadget use during family meals (M = 3.87, SD = 0.937). Parents often encourage their children to participate in outdoor activities (M = 4.07, SD = 0.640) and regularly discuss the importance of balanced screen time with them (M = 4.07, SD = 0.868). The overall mean score for parental strategies and engagement is 3.920 (SD = 0.721), which falls into the "Often" category. The results indicate that parents frequently implement various strategies to manage their children's screen time. The high mean scores for encouraging

outdoor activities and discussing balanced screen time suggest that parents are proactive in promoting healthier behaviors. The consistent engagement in non-screen activities and the establishment of rules during family meals further reflect the parents' commitment to regulating screen time effectively.

Table 8. Parental Strategies and Engagement in Managing Screen Time

Statements	Mean	Std. Deviation	Interpretation
How often do you set specific screen time limits for your child?	3.73	1.112	Often
How often do you engage in non-screen activities with your child?	3.87	0.819	Often
Do you have rules about gadget use during family meals?	3.87	0.937	Often
Do you encourage your child to participate in outdoor activities?	4.07	0.640	Often
How often do you discuss the importance of balanced screen time with your child?	4.07	0.868	Often
Parental Strategies and Engagement Mean Score	3.920	0.721	Often

Legend: 4.20-5.00 (Always), 3.40-4.19 (Often), 3.39-2.60 (Sometimes), 2.59-1.80 (Seldom), 1.001.79 (Never)

These findings highlight the positive role parents play in managing their children's screen time. The "Often" category for all statements suggests that while parents are actively involved, there is room for improvement to elevate these practices to the "Always" category. Educational programs and resources can support parents by providing more effective strategies and reinforcing the importance of consistent engagement in non-screen activities. Schools and community organizations could collaborate to offer workshops and materials that help parents understand and implement best practices for screen time management. By strengthening these strategies, parents can better support their children's overall well-being and academic success. While the data indicates that parents are often engaged in managing their children's screen time through various strategies such as setting limits, encouraging outdoor activities, and establishing rules during family meals, there is a noticeable gap in the consistency and effectiveness of these practices. The mean scores suggest that while parents are proactive, these strategies have not reached the "Always" category, highlighting an area for further improvement. Future research should explore the barriers that prevent

parents from consistently implementing these strategies and identify specific interventions that can enhance parental engagement. Investigating the effectiveness of educational programs and resources in supporting parents to adopt and maintain best practices for screen time management could provide valuable insights. Additionally, understanding how socio-economic factors influence the ability of parents to enforce screen time limits could help tailor interventions to meet the diverse needs of different family backgrounds, ultimately improving children's overall well- being and academic success.

Assessment on the Parental Involvement in Screen Time Regulation to Mitigate Overexposure to Gadgets

Table 9 presents the data on parental involvement in regulating screen time to mitigate overexposure to gadgets. The mean scores and standard deviations for each statement reveal that parents often participate in creating a balanced daily routine that includes limited screen time (M = 4.17, SD = 0.874) and frequently encourage family activities that do not involve screens (M = 4.00, SD = 0.830). Parents consistently set specific times during the day when gadgets are not allowed, such as during meals or before bedtime (M = 4.43, SD = 0.817), and regularly review and adjust screen time rules to ensure their effectiveness (M = 4.00, SD = 1.050). However, the use of educational programs or resources to teach children about the negative effects of excessive screen time occurs sometimes (M = 3.17, SD = 0.592). The overall mean score for parental involvement in screen time regulation is 3.953 (SD = 0.736), indicating that parents often engage in these regulatory activities.

Table 9. Parental Involvement in Screen Time Regulation to Mitigate Overexposure to Gadgets

Statements	Mean	Std. Deviation	Interpretation
1. I actively participate in creating a balanced daily routine for my child that includes limited screen time.	4.17	0.874	Often
2. I use educational programs or resources to teach my child about the negative effects of excessive screen time.	3.17	0.592	Sometimes
3. I encourage family activities that do not involve screens to promote engagement and bonding.	4.00	0.830	Often
4. I set specific times during the day when gadgets are not allowed, such as during meals or before bedtime.	4.43	0.817	Always
5. I regularly review and adjust our family's screen time rules to ensure they remain effective and relevant.	4.00	1.050	Often
Parental Involvement in Screen Time Regulation	3.953	0.736	Often

Legend: 4.20-5.00 (Always), 3.40-4.19 (Often), 3.39-2.60 (Sometimes), 2.59-1.80 (Seldom), 1.00-1.79 (Never)

The results show that parents are highly engaged in setting and enforcing rules to manage their children's screen time, particularly by establishing gadget-free times and promoting non-screen family activities. The high mean scores for these activities reflect a strong commitment to regulating screen time. However, the lower mean score for using educational programs or resources suggests an area where parental involvement could be enhanced. This discrepancy indicates that while parents are proactive in practical regulation, they may not be fully utilizing available educational tools to inform their children about the risks of excessive screen time. These findings highlight the importance of supporting parents with comprehensive strategies to manage their children's screen time effectively. While parents are already actively involved in practical regulation, there is a need for increased awareness and use of educational resources that can reinforce the importance of balanced screen time. Schools, community organizations, and healthcare providers can collaborate to offer workshops and materials that educate parents on the benefits of using these resources.

While the data from Table 7 indicates that parents are actively involved in regulating their children's screen time, particularly through the establishment of gadget-free times and encouragement of non-screen family activities, there remains a significant gap in the use of educational programs or resources to inform children about the negative effects of excessive screen time. Despite high levels of engagement in practical regulatory activities, the relatively low mean score (M = 3.17, SD = 0.592) for the

utilization of educational tools suggests that parents may lack awareness or access to these resources. This gap highlights the need for comprehensive strategies that not only focus on enforcing screen time limits but also on educating both parents and children about the risks associated with overexposure to gadgets. To address this, schools, community organizations, and healthcare providers should collaborate to develop and disseminate educational materials and workshops that emphasize the importance of balanced screen time. By enhancing parents' knowledge and use of educational resources, it is possible to create a more informed approach to managing screen time, ultimately supporting healthier digital habits and better overall well-being for children.

Test of Relationship between Perceived Excessive Use, Health Concerns, Monitoring and Regulation, Academic Impact, and Parental Engagement Variables.

Test of Difference parental perceptions of perceived excessive use, health concerns, monitoring and regulation, academic impact, elementary graders' screen time, parental strategies, and engagement when grouped according to profile variables

Table 10 showed the differences in parental perceptions of various domains such as perceived excessive use, health concerns, monitoring and regulation, academic impact, elementary graders' screen time, and parental strategies and engagement when grouped according to the educational levels of fathers and mothers. The significance level was set at

0.05. The result of the study underscores the significant influence of mothers' educational levels on their perceptions of monitoring and regulation of their children's screen time, suggesting that educational interventions should be customized to maximize their impact on this domain.

Table 10. Test of difference on the Perception of Parents on Elementary Grader's Screen Time when Grouped according to Selected Profile Variables

Variables		Fathers Level of Education P value	Mothers level of Education P value
Parental Perception Domain 1. Perceived Excessive Use	Between Groups	.350 ns	.267 ns
	Within Groups		
	Total		
Parental Perception Domain 2. Health Concerns	Between Groups	.517 ns	.834 ns
	Within Groups		
	Total		
Parental Perception Domain 3. Monitoring and Regulation	Between Groups	.335 ns	.050**
	Within Groups		
	Total		
Parental Perception Domain 3. Academic Impact	Between Groups	.378 ns	.838 ns
	Within Groups		
	Total		
Parental Perceptions and Elementary Graders' Screen Time	Between Groups	.353 ns	.777 ns
	Within Groups		
	Total		
Parental Strategies and Engagement in Managing Screen Time	Between Groups	.989 ns	.984 ns
	Within Groups		
	Total		
Parental Involvement in Screen Time Regulation to Mitigate Overexposure to Gadgets	Between Groups	.695 ns	.711 ns
	Within Groups		
	Total		

*significance level, commonly set at 0.05.
Ns= not significant   **= significant

A closer look at that table showed that for the fathers' level of education, the p-values for all domains were found to be non-significant: perceived excessive use (p = .350), health concerns (p = .517), monitoring and regulation (p = .335), academic impact (p = .378), elementary graders' screen time (p = .353), parental strategies and engagement in managing screen time (p = .989), and parental involvement in screen time regulation to mitigate overexposure to gadgets (p = .695). This indicates that the fathers' level of education did not significantly influence their perceptions in any of the mentioned domains.

In contrast, when examining the mothers' level of education, one domain showed a significant difference: monitoring and regulation (p = .050). The remaining domains were non-significant: perceived excessive use (p = .267), health concerns (p = .834), academic impact (p = .838), elementary graders' screen time (p = .777), parental strategies and engagement in managing screen time (p = .984), and parental involvement in screen time regulation to mitigate overexposure to gadgets (p = .711). The results revealed a significant difference in the domain of monitoring and regulation, where the mothers' level of education showed a p-value of .050. This indicates that the educational background of mothers significantly influences their perceptions and practices regarding how they monitor and regulate their children's screen time.

Specifically, the sum of squares between groups for this domain was 3.995 with a mean square of .999, and the sum of squares within groups was 9.045 with a mean square of .362, resulting in an F-value of 2.761. The significance of this finding suggests that mothers with varying levels of education perceive and approach the monitoring and regulation of screen time differently. This could be attributed to the different levels of awareness, knowledge, and attitudes towards the impacts of screen time based on their educational backgrounds. Educated mothers might be more informed about the potential negative effects of excessive screen time and therefore more proactive in setting boundaries and monitoring usage. These findings suggest that while fathers' educational levels do not significantly affect their perceptions regarding their children's screen time and related concerns, mothers' educational levels have a notable impact on their perceptions of monitoring and regulation. This highlights the potential role of mothers' educational background in shaping how they monitor and regulate their children's screen time.

The study found that mothers' educational levels significantly influence their perceptions and practices regarding monitoring and regulation of screen. Educated mothers are likely more informed about the potential negative effects of excessive screen time and are more proactive in setting boundaries. This aligns with research indicating that parental education is a critical factor in effective screen time management (Livingstone & Blum-Ross, 2020). In contrast, fathers' educational levels did not significantly influence their perceptions, suggesting that educational interventions should target mothers to maximize their impact (Radesky et al., 2020).

Test of Relationship between Parental Perceptions, Engagement Strategies, Health Status, School Attendance, Academic Performance, and Screen Time Variables

The correlation analysis, as presented in Table 11, explored the relationships between parental perceptions, engagement strategies, and various selected variables using Kendall's tau_b correlation coefficient. Significant correlations were identified at both the 0.01 and 0.05 levels. The study highlights the significant roles that parental perceptions, engagement strategies, and involvement play in managing children's screen time, health status, and academic performance. Tailored interventions that address these aspects can help mitigate the negative impacts of excessive screen time and promote healthier, more balanced lifestyles for children. A closer look at the tale showed that the results indicate a strong positive correlation between health status and average daily screen time ($r = .594$, $p < .01$), suggesting that higher screen time is associated with poorer health status among children. Additionally, health status is positively correlated with parental perceptions of elementary graders' screen time ($r = .393$, $p < .05$) and negatively correlated with parental involvement in screen time regulation ($r = -$

.371, $p < .05$). These findings imply that increased screen time is perceived as detrimental to health, and active parental involvement in regulating screen time is crucial for better health outcomes. School attendance is positively correlated with overall grade average ($r = .495$, $p <$

.01), highlighting the importance of regular attendance for academic success. However, no significant correlations were found between school attendance and other variables, suggesting that attendance alone does not directly influence perceptions or strategies related to screen time.

Table 11. Correlation Matrix of Parental Perceptions, Engagement Strategies and selected variables

Kendall's tau_b			Health Status	School Attendance	Overall Grade Average	Average Daily Screen Time	Parental Perceptions and Elementary Graders' Screen Time	Parental Strategies and Engagement in Managing Screen Time	Parental Involvement in Screen Time Regulation to Mitigate Overexposure to Gadgets
	Health Status	Correlation Coefficient	1.000	-.212	-.267	.594	.393	-.282	-.371
		Sig. (2-tailed)		.247	.094	.001	.012	.073	.018
		N	30	30	30	30	30	30	30
	School Attendance	Correlation Coefficient	-.212	1.000	.495	.138	.107	.128	.205
		Sig. (2-tailed)	.247		.002	.435	.500	.424	.198
		N	30	30	30	30	30	30	30
	Overall Grade Average	Correlation Coefficient	-.267	.495	1.000	-.124	.056	.329	.344
		Sig. (2-tailed)	.094	.002		.421	.689	.019	.013
		N	30	30	30	30	30	30	30
	Average Daily Screen Time	Correlation Coefficient	.594	.138	-.124	1.000	.361	-.176	-.260
		Sig. (2-tailed)	.001	.435	.421		.017	.247	.085
		N	30	30	30	30	30	30	30
	Parental Perceptions and Elementary Graders' Screen Time	Correlation Coefficient	.393	.107	.056	.361	1.000	-.065	-.094
		Sig. (2-tailed)	.012	.500	.689	.017		.638	.493
		N	30	30	30	30	30	30	30
	Parental Strategies and Engagement in Managing Screen Time	Correlation Coefficient	-.282	.128	.329	-.176	-.065	1.000	.741
		Sig. (2-tailed)	.073	.424	.019	.247	.638		.000
		N	30	30	30	30	30	30	30
	Parental Involvement in Screen Time Regulation to Mitigate Overexposure to Gadgets	Correlation Coefficient	-.371	.205	.344	-.260	-.094	.741	1.000
		Sig. (2-tailed)	.018	.198	.013	.085	.493	.000	
		N	30	30	30	30	30	30	30

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Meanwhile, overall grade average shows positive correlations with parental strategies and engagement in managing screen time (r = .329, p < .05) and parental involvement in screen time regulation (r = .344, p < .05). These results indicate that effective parental strategies and active involvement in screen time regulation are associated with better academic performance in children. Average daily screen time is positively correlated with parental perceptions of elementary graders' screen time (r = .361, p < .05), indicating that parents' perceptions are generally accurate reflections of their children's screen time habits. However, average daily screen time is negatively correlated with parental involvement in screen time regulation (r = -.260, p = .085), suggesting that higher screen time might be due to less parental involvement, although this correlation is not statistically significant at the 0.05 level. Parental strategies and engagement in managing screen time are strongly correlated with parental involvement in screen time regulation (r = .741, p < .01). This strong correlation underscores the close relationship between general engagement strategies and specific regulatory involvement, suggesting that parents who actively engage in managing screen time also tend to be more involved in regulatory practices.

These findings have several practical implications. The strong link between health status and screen time underscores the need for health education programs that inform parents about the health risks associated with excessive screen time. The positive correlation between academic performance and parental involvement suggests that schools and policymakers should encourage and support parental engagement in screen time management to enhance academic outcomes. Finally, the significant relationship between parental strategies and involvement highlights the importance of comprehensive parental training programs that equip parents with effective strategies for regulating their children's screen time.

The correlation analysis revealed a strong positive correlation between health status and average daily screen time indicating that higher screen time is associated with poorer health status. This underscores the need for health education programs to inform parents about the health risks of excessive screen time (LeBlanc et al., 2019). Moreover, the positive correlation between academic performance and parental strategies for managing screen time suggests that active parental involvement is crucial for academic success (Coyne et al., 2020). The strong relationship between parental strategies and involvement emphasizes the importance of comprehensive parental training programs (Radesky & Christakis, 2020).

Multiple Regression Coefficients Predicting Grade Average (Academic Performance)

This table presents the results of a multiple regression analysis in Table 12 that examines the effects of Health Concerns, Monitoring and Regulation, Academic Impact, and Parental Perceptions and Elementary Graders' Screen Time Mean Score on Grade Average (Academic Performance). A multiple regression analysis was conducted to examine the effects of Health Concerns, Monitoring and Regulation, Academic Impact, and Parental Perceptions and Elementary Graders' Screen Time Mean Score on Grade Average (Academic Performance).

The multiple regression model predicting Grade Average (Academic Performance) can be represented mathematically as follows: ***Grade Average=77.193+1.946(Health Concerns) +3.564(Monitoring and Regulation) −1.572 (Academic Impact) −1.257(Screen Time) Grade Average=77.193+1.946(Health Concerns) +3.564 (Monitoring and Regulation) −1.572 (Academic Impact) −1.257 (Screen Time).*** This model indicates that parental Monitoring and Regulation has a significant positive impact on students' Grade Average. Specifically, for each unit increase in Monitoring and Regulation, the Grade Average increases by 3.564 points. Health Concerns, Academic Impact, and Screen Time perceptions did not significantly affect the Grade Average. This highlights the crucial role of active and structured parental involvement in enhancing children's academic success. Parents who actively monitor and regulate their children's activities can help create a supportive learning environment, leading to better academic outcomes.

Table 12. Multiple Regression Coefficients Predicting Grade Average (Academic Performance)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	77.193	6.211		12.428	.000
	Health Concerns	1.946	1.459	.389	1.334	.194
	Monitoring and Regulation	3.564	.931	.684	3.827	.001
	Academic Impact	-1.572	1.241	-.237	-1.267	.217
	Parental Perceptions and Elementary Graders' Screen Time Mean Score	-1.257	3.141	-.129	-.400	.692
a. Dependent Variable: Grade Average (Academic Performance)						

Perusing the table, it shows that the model's constant (intercept) was 77.193 (SE = 6.211, t = 12.428, p < .001), representing the expected grade average when all predictors are held at zero. Among the predictors, Monitoring and Regulation had a significant positive effect on academic performance (B = 3.564, SE = .931, β = .684, t = 3.827, p = .001). This suggests that higher levels of monitoring and regulation by parents are associated with higher academic performance in students. This finding underscores the importance of parental involvement and structured guidance in supporting children's educational outcomes.

Health Concerns did not have a significant effect on academic performance (B = 1.946, SE = 1.459, β = .389, t = 1.334, p = .194). Similarly, Academic Impact (B = -1.572, SE = 1.241, β = -.237, t = -1.267, p = .217) and Parental Perceptions and Elementary Graders' Screen Time Mean Score (B = -1.257, SE = 3.141, β = -.129, t = -.400, p = .692) were not significant predictors of academic performance. The significant positive relationship between Monitoring and Regulation and academic performance highlights the crucial role of active and structured parental involvement in enhancing children's academic success. Parents and educators can use this information to emphasize the need for consistent monitoring and regulation of children's activities to create a supportive environment for learning. Although Health Concerns, Academic Impact, and Screen Time Perceptions did not show significant effects in this study, the overall model suggests that the way parents manage and regulate their children's routines can have a profound impact on their academic outcomes.

This finding highlights the importance of structured parental involvement in creating a supportive learning environment (Madigan et al., 2019). Although health concerns, academic impact, and screen time perceptions did not significantly affect academic performance in this study, the overall model suggests that effective parental strategies are essential for enhancing children's educational outcomes (Nathanson et al., 2021). The generated results underscore the importance of targeted interventions to support low-income students and their families. Schools and policymakers should focus on providing resources and strategies to help parents manage their children's screen time effectively. Educational programs should emphasize the benefits of balanced digital habits and the risks associated with excessive screen time (Rideout, 2020). Additionally, collaborations between schools, community organizations, and healthcare providers can offer workshops and materials to

educate parents on best practices for screen time management (Chassiakos et al., 2020). The critical role of parental involvement in managing children's screen time and its impact on health and academic performance. By addressing the socioeconomic and educational challenges faced by families, it is possible to foster healthier digital habits and improve educational outcomes for children.

CONCLUSIONS

The study aimed to assess parental perceptions and elementary graders' screen time towards proposing an *EduParental Engagement Model* to mitigate gadget overexposure in a public school. The findings reveal significant insights into the profiles of the pupils and their families, children's health and academic information, screen time habits, and parental perceptions and strategies. The majority of the respondents come from lower-income families, predominantly earning between P5,000 and P10,000 monthly, with parents mainly having high school education. This socioeconomic background highlights constraints that potentially limit the academic support parents can offer. Despite these challenges, a high rate of home ownership provides some stability for these families. The children were generally in good to excellent health, with high levels of school attendance, suggesting positive health and attendance interventions are in place. However, there remains a small percentage of children with fair health and lower attendance rates, indicating the need for targeted health programs. Academically, most students perform at a "Good" level, but none achieved "Excellent," suggesting room for improvement in elevating academic performance.

Screen time analysis showed extensive use, especially for gaming and social media, highlighting the need for balanced digital habits. Parents frequently perceived their children's screen time as excessive, with significant concerns about health and academic impacts. Although parents regularly monitored and set rules for screen time, enforcing these limits posed challenges. This underscores the need for more effective and consistent parental strategies and educational programs to manage screen time better. The study's hypothesis testing revealed that mothers' educational levels significantly influenced perceptions of monitoring and regulation, while fathers' educational levels did not. This indicates the crucial role of mothers' education in shaping how they manage their children's screen time. The correlation analysis showed significant relationships between parental perceptions, engagement strategies, and children's health status and academic performance. Effective parental strategies and active involvement were associated with better academic outcomes, emphasizing the importance of comprehensive parental training programs.

The regression analysis further highlighted that monitoring and regulation by parents significantly positively impacted academic performance. This finding underscores the necessity for structured parental involvement in enhancing children's academic success. In conclusion, the study underscores the need for targeted interventions addressing socioeconomic constraints, health, and academic support, balanced screen time habits, and effective parental involvement. These insights can inform policies and programs aimed at supporting low-income families, enhancing educational attainment, and promoting healthier, more balanced lifestyles for children.

RECOMMENDATIONS

As to Practical Recommendations, study's findings highlight the importance of balanced screen time and active parental involvement in regulating children's use of gadgets. Parents should be encouraged to set clear and consistent screen time limits, promote outdoor and non-screen activities, and establish family rules about gadget use during meals and before bedtime. Educational programs and resources

that provide practical strategies for managing screen time should be made accessible to parents. Schools and community organizations can collaborate to offer workshops and seminars to educate parents on the potential negative impacts of excessive screen time on children's health and academic performance and to equip them with effective tools for regulation. Additionally, parents should be made aware of the importance of using educational programs or resources to teach children about the risks associated with excessive screen time, reinforcing healthy digital habits from an early age.

In like manner, as to Managerial Recommendations, School administrators and policymakers should recognize the significant role that parental engagement plays in children's academic success. It is essential to develop and implement policies that support and encourage active parental involvement in managing children's screen time. Schools can provide regular communication and workshops for parents, focusing on best practices for balancing screen time with educational activities. Developing a school-wide policy on screen time that aligns with recommended guidelines can help standardize practices and ensure consistent enforcement across all classrooms. Additionally, schools should consider integrating digital literacy programs into the curriculum to educate both students and parents about the responsible use of technology. Community partnerships can also be leveraged to provide resources and support to families, particularly those from lower-income backgrounds who may face additional challenges in managing screen time effectively.

Further, this study provide Theoretical Recommendations as it contributes to the existing body of literature on the impact of screen time on children's health and academic performance. Future research should explore the underlying mechanisms through which screen time affects various aspects of children's development, including cognitive, emotional,

and social outcomes. Longitudinal studies can provide deeper insights into the long-term effects of screen time and parental involvement on academic performance and overall well-being. Additionally, research should examine the effectiveness of different parental strategies and interventions in mitigating the negative impacts of excessive screen time. Investigating the role of socio-economic factors and educational backgrounds of parents in shaping their perceptions and practices can also provide valuable insights for tailoring interventions to diverse family contexts.

Effective communication strategies are crucial in disseminating the findings of this study and promoting awareness about the importance of balanced screen time and active parental involvement. Schools and community organizations should use multiple platforms, including newsletters, social media, and parent-teacher meetings, to share information and resources with parents. Creating informative brochures and infographics that highlight key findings and practical tips can help reach a broader audience. Collaborative efforts with local health professionals and educational experts can enhance the credibility and impact of the communication initiatives. Additionally, organizing community events and workshops that involve interactive sessions with parents can foster a supportive environment where they can share experiences and learn from each other. By effectively communicating the importance of managing screen time and promoting healthy digital habits, stakeholders can contribute to the overall well-being and academic success of children.

REFERENCES

Anderson, M., & Jiang, J. (2019). Teens, social media & technology 2018. Pew Research Center

Benedetto, L., & Ingrassia, M. (2020). Digital Parenting: Raising and Protecting

Children in Media World. In www.intechopen.com. IntechOpen. https://www.intechopen.com/chapters/72249

Belle, A., Blythe, A., & Samantha Katrina Santos. (2023). Measuring effects of screen time on the development of children in the Philippines: a cross-sectional study. BMC Public Health, 23(1). https://doi.org/10.1186/s12889-023-16188-4

Bentley, G. F., Turner, K. M., & Jago, R. (2016). Mothers' views of their preschool child's screen-viewing behavior: a qualitative study. BMC Public Health, 16(1). https://doi.org/10.1186/s12889-016-3440-z

Bian, M., & Leung, L. (2014). Linking Loneliness, Shyness, Smartphone Addiction Symptoms, and Patterns of Smartphone Use to Social Capital. Social Science Computer Review, 33(1), 61–79. https://doi.org/10.1177/0894439314528779

Bradley, R. H., & Corwyn, R. F. (2020). Socioeconomic status and child development. Annual Review of Psychology, 72, 183-208

Byrne, J., & Burton, P. (2017). Children as Internet users: how can evidence better inform policy debate? Journal of Cyber Policy, 2(1), 39–52. https://doi.org/10.1080/23738871.2017.1291698

Caliskan, E.F. (2022). Parental Views Regarding Distance Learning of Primary School Children and Screen Time during the COVID-19 Pandemic Process. International Journal of Progressive Education, 18(2), 180-192.

Cerniglia, L., Cimino, S., & Ammaniti, M. (2020). What are the effects of screen time on emotion regulation and academic achievements? A three-wave longitudinal study on children from 4 to 8 years of age. Journal of Early Childhood Research, 19(2), 1476718X2096984. https://doi.org/10.1177/1476718x20969846

Chang, F.-C., Chiu, C.-H., Chen, P.-H., Chiang, J.-T., Miao, N.-F., Chuang, H.-Y., & Liu, S. (2019). Children's use of mobile devices, smartphone addiction and parental mediation in Taiwan. Computers in Human Behavior, 93, 25–32. https://doi.org/10.1016/j.chb.2018.11.048

Chang, F.-C., Chiu, C.-H., Chen, P.-H., Miao, N.-F., Chiang, J.-T., & Chuang, H.-Y. (2018). Computer/Mobile Device Screen Time of Children and Their Eye Care Behavior: The Roles of Risk Perception and Parenting. Cyberpsychology, Behavior, and Social Networking, 21(3), 179–186. https://doi.org/10.1089/cyber.2017.0324

Chassiakos, Y. L., Radesky, J., Christakis, D., Moreno, M. A., & Cross, C. (2020). Children and adolescents and digital media. Pediatrics, 138(5), e20162593.

Chen, W., & Adler, J. L. (2019). Assessment of Screen Exposure in Young Children, 1997 to 2014. JAMA Pediatrics, 173(4), 391.

https://doi.org/10.1001/jamapediatrics.2018.5546

Cho, K.-S., & Lee, J.-M. (2017). Influence of smartphone addiction proneness of young children on problematic behaviors and emotional intelligence: Mediating self- assessment effects of parents using smartphones. Computers in Human Behavior, 66, 303–311. https://doi.org/10.1016/j.chb.2016.09.063

Chong, S. C., Teo, W. Z., & Shorey, S. (2023). Exploring the perception of parents on children's screen time: a systematic review and meta-synthesis of qualitative studies. Pediatric Research. https://doi.org/10.1038/s41390-023-02555-9

Coyne, S. M., Rogers, A. A., Zurcher, J. D., Stockdale, L., & Booth, M. (2020). Does time spent using social media impact mental health? An eight-year longitudinal study. Computers in Human Behavior, 104, 106160.

Dinleyici, M., Carman, K. B., Ozturk, E., & Sahin-Dagli, F. (2016). Media Use by Children, and Parents' Views on Children's Media Usage. Interactive Journal of Medical Research, 5(2), e18. https://doi.org/10.2196/ijmr.5668

Downing, K. L., Hinkley, T., & Hesketh, K. D. (2015). Associations of Parental Rules and Socioeconomic Position With Preschool Children's Sedentary Behaviour and Screen Time. Journal of Physical Activity and Health, 12(4), 515–521. https://doi.org/10.1123/jpah.2013-0427

Evans, G. W. (2019). Projected home environments and children's socioemotional and cognitive development. Annual Review of Environment and Resources, 45, 493-518.

Eyler, A., Schmidt, L., Beck, A., Gilbert, A., Keeper, M., & Mazzucca, S. (2021). Children's Physical Activity and Screen Time during COVID-19 Pandemic: A Qualitative Exploration of Parent Perceptions. Health Behavior and Policy Review, 8(3), 236–246. https://doi.org/10.14485/hbpr.8.3.5

Francis, K., Scholten, H., Granic, I., Lougheed, J., & Hollenstein, T. (2021). Insights about Screen-Use Conflict from Discussions between Mothers and Pre-Adolescents: A Thematic Analysis. International Journal of Environmental Research and Public Health, 18(9), 4686. https://doi.org/10.3390/ijerph18094686

Glüer, M., & Lohaus, A. (2018). Elterliche und kindliche Einschätzung von elterlichen Medienerziehungsstrategien und deren Zusammenhang mit der kindlichen Internetnutzungskompetenz. Praxis Der Kinderpsychologie Und Kinderpsychiatrie, 67(2), 181–203. https://doi.org/10.13109/prkk.2018.67.2.181

Gottfried, M. A. (2021). Chronic absenteeism in the classroom context: Effects on achievement. Urban Education, 56(3), 491-523.

Hale, L., & Guan, S. (2015). Screen time and sleep among school-aged children and adolescents: A systematic literature review. Sleep Medicine Reviews, 21(21), 50–58. https://doi.org/10.1016/j.smrv.2014.07.007

Hammons, A. J., Villegas, E., & Robart, R. (2021). "It's Been Negative for Us Just Across the Board": Focus Group Study Exploring Parent Perceptions of Child Screen Time During the COVID-19 Pandemic. JMIR Pediatrics and Parenting, 4(2), e29411. https://doi.org/10.2196/29411

Heckman, J. J., & Rubinstein, Y. (2022). The importance of noncognitive skills: Lessons from the GED testing program. American Economic Review, 91(2), 145-149.

Hiniker, A., Suh, H., Cao, S., & Kientz, J. A. (2020). Screen time reduction interventions:

Parenting practices that make a difference. In Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems (pp. 4823-4836).

Hinkley, T., & McCann, J. R. (2018). Mothers' and father's perceptions of the risks and benefits of screen time and physical activity during early childhood: a qualitative study. BMC Public Health, 18(1). https://doi.org/10.1186/s12889-018-6199-6

Hinkley, T., & McCann, J. R. (2018). Mothers' and father's perceptions of the risks and benefits of screen time and physical activity during early childhood: a qualitative study. BMC Public Health, 18(1). https://doi.org/10.1186/s12889-018-6199-6

Jabar, M. A. (2021). Child-related factors and parental involvement among parents in select public elementary and high schools in the Philippines. Education 3-13, 1–15. https://doi.org/10.1080/03004279.2021.1954968

Jago, R., Solomon-Moore, E., Toumpakari, Z., Lawlor, D. A., Thompson, J. L., & Sebire, S. J. (2018). Parents' perspectives of change in child physical activity & screen-viewing between Y1 (5-6) & Y4 (8-9) of primary school: implications for behavior change. BMC Public Health, 18(1). https://doi.org/10.1186/s12889-018-5445-2

Jago, R., Zahra, J., Edwards, M. J., Kesten, J. M., Solomon-Moore, E., Thompson, J. L., & Sebire, S. J. (2016). Managing the screen-viewing behaviors of children aged 5–6 years: a qualitative analysis of parental strategies. BMJ Open, 6(3). https://doi.org/10.1136/bmjopen-2015-010355

Jarvis, J. W., Berry, T. R., Carson, V., Rhodes, R. E., Lithopoulos, A., & Latimer-Cheung, A. E. (2021). Examining differences in parents' perceptions of children's physical activity versus screen time guidelines and behaviors. 57(9), 1448–1453. https://doi.org/10.1111/jpc.15518

Jones, A., Armstrong, B., Weaver, R. G., Parker, H., von Klinggraeff, L., & Beets, M. W. (2021). Identifying effective intervention strategies to reduce children's screen time: a systematic review and meta-analysis. International Journal of Behavioral Nutrition and Physical Activity, 18(1).https://doi.org/10.1186/s12966-021-01189-6

Kabali, H. K., Irigoyen, M. M., Nunez-Davis, R., Budacki, J. G., Mohanty, S. H., Leister, K. P., & Bonner, R. L. (2015). Exposure and Use of Mobile Media Devices by Young Children. PEDIATRICS, 136(6), 1044–1050. https://doi.org/10.1542/peds.2015-2151

Kardefelt-Winther, D. (2017). How does the time children spend using digital technology impact their mental well-being, social relationships, and physical activity? An evidence-focused literature review. I How does the time children spend using digital technology impact their mental well-being, social relationships, and physical activity? An evidence-focused literature review. https://www.unicef-irc.org/publications/pdf/Children-digital-technology-wellbeing.pdf

Kerai, S., Almas, A., Guhn, M., Forer, B., & Oberle, E. (2022). Screen time and developmental health: results from an early childhood study in Canada. BMC Public Health, 22(1). https://doi.org/10.1186/s12889-022-12701-3

Lauricella, A. R., Wartella, E., & Rideout, V. J. (2015). Young children's screen time: The complex role of parent and child factors. Journal of Applied Developmental Psychology, 36(36), 11–17. https://doi.org/10.1016/j.appdev.2014.12.001

LeBlanc, A. G., Katzmarzyk, P. T., Barreira, T. V., Broyles, S. T., Chaput, J. P., Church, T. S., ... & Tremblay, M. S. (2019). Correlates of total sedentary time and screen time in 9-11-year-old children around the world: The International Study of Childhood Obesity, Lifestyle and the Environment. PloS One, 10(6), e0129622.

Livingstone, S., & Blum-Ross, A. (2020). Parenting for a Digital Future: How Hopes and Fears about Technology Shape Children's Lives. Oxford University Press.

M, S. (2017). The Impact of Using Gadgets on Children. Journal of Depression and Anxiety, 07(01). https://doi.org/10.4172/2167-1044.1000296

M, S. (2017). The Impact of Using Gadgets on Children. Journal of Depression and Anxiety, 07(01). https://doi.org/10.4172/2167-1044.1000296

Madigan, S., Racine, N., Cooke, J. E., Korczak, D. J., Letourneau, N., & Lyon, A. L. (2019). Parenting stress and child mental health during the COVID-19 pandemic. Pediatrics, 146(4), e2020007580.

Muppalla, S. K. (2023). Effects of Excessive Screen Time on Child Development: An Updated Review and Strategies for Management. Cureus, 15(6). https://doi.org/10.7759/cureus.40608

Nathanson, A. I., Beyens, I., Radesky, J. S., & Kaiser Family Foundation. (2021). Electronic media use and sleep in children and adolescents. Pediatrics, 140(Supplement 2), S92- S96.

Neil. (2019, April 24). Filipino kids spend longer hours on the internet - studying. BusinessWorld Online.

https://www.bworldonline.com/technology/2019/04/25/227138/filipino-kids-spending-longer-hours-on-the-internet-study/

Nigg, C., Weber, C., Schipperijn, J., Reichert, M., Oriwol, D., Worth, A., Woll, A., & Niessner,

C. (2022). Urban-Rural Differences in Children's and Adolescent's Physical Activity and Screen-Time Trends Across 15 Years. Health Education & Behavior, 109019812210901. https://doi.org/10.1177/10901981221090153

Nwankwo, F., Shin, H. D., Al-Habaibeh, A., & Massoud, H. (2019). Evaluation of Children's Screen Viewing Time and Parental Role in Household Context. Global Pediatric Health, 6, 2333794X1987806. https://doi.org/10.1177/2333794x19878062

Oswald, T. K., Rumbold, A. R., Kedzior, S. G. E., & Moore, V. M. (2020). Psychological impacts of "screen time" and "green time" for children and adolescents: A systematic scoping review. PLOS ONE, 15(9), 1–52. https://doi.org/10.1371/journal.pone.0237725

Parental Supervision As A Strict Requirement To Filipino Children From Ages 3 To 12 On Their Utilization of Gadgets | PDF | Violence | Video Games. (n.d.). Scribd. https://www.scribd.com/document/285068882/Parental-Supervision-as-a-Strict- Requirement-to-Filipino-Children-from-Ages-3-to-12-on-their-Utilization-of-Gadgets

Przybylski, A. K., & Weinstein, N. (2020). Digital screen time limits and young children's psychological well-being: Evidence from a population-based study. Child Development, 91(5), e1057-e1070.

Pyper, E., Harrington, D., & Manson, H. (2016). The impact of different types of parental support behaviors on child physical activity, healthy eating, and screen time: a cross- sectional study. BMC Public Health, 16(1). https://doi.org/10.1186/s12889-016-3245- 0

Radesky, J. S., & Christakis, D. A. (2020). Increased screen time: Implications for early childhood development and behavior. Pediatric Clinics, 67(5), 917-929.

Radesky, J. S., Weeks, H. M., Ball, R., Schaller, A., Yeo, S., Durnez, J., Tamayo-Rios, M., Epstein, M., Kirkorian, H., Coyne, S., & Barr, R. (2020). Young Children's Use of Smartphones and Tablets. Pediatrics, 146(1). https://doi.org/10.1542/peds.2019-3518

Raphael, R. (2023, August 11). UNESCO Warns of Smartphones in Schools, Reigniting Debate. The Messenger. https://themessenger.com/health/unes co-warns-of- smartphones-in-schools-reigniting-debate

Ribner, A. D., Coulanges, L., Friedman, S., Libertus, M. E., Hughes, C., Foley, S., Devine, R., Fink, E., Selby, A., Brocki, K., Frick, M., Badinlou, F., Feng, X., Chan, M., Slaughter, V., Clark, S., Su, Y., Wan, S., Lecce, S., & Basile, C. (2021). Screen Time in the Coronavirus 2019 Era: International Trends of Increasing Use Among 3- to 7-Year-Old Children. The Journal of Pediatrics, 239, 59-66.e1.

https://doi.org/10.1016/j.jpeds.2021.08 .068

Rideout, V. (2020). The Common Sense Census: Media Use by Kids Age Zero to Eight. San Francisco, CA: Common Sense Media.

Saunders, T. J., & Vallance, J. K. (2016). Screen Time and Health Indicators Among Children and Youth: Current Evidence, Limitations and Future Directions. Applied Health Economics and Health Policy, 15(3), 323–331. https://doi.org/10.1007/s40258-016-0289-3

Sergi, K., Gatewood, R., Elder, A., & Xu, J. (2017). Parental perspectives on children's use of portable digital devices. Behavior & Information Technology, 36(11), 1148–1161. https://doi.org/10.1080/0144929x.201 7.1360941

Solomon-Moore, E., Matthews, J., Reid, T., Toumpakari, Z., Sebire, S. J., Thompson, J. L., Lawlor, D. A., & Jago, R. (2018). Examining the challenges posed to parents by the contemporary screen environments of children: a qualitative investigation. BMC Pediatrics, 18(1). https://doi.org/10.1186/s12887-018-1106-y

Stiglic, N., & Viner, R. M. (2019). Effects of screentime on the health and well-being of children and adolescents: a systematic review of reviews. BMJ Open, 9(1). https://doi.org/10.1136/bmjopen-2018-023191

Thompson, J. L., Sebire, S. J., Kesten, J. M., Zahra, J., Edwards, M., Solomon-Moore, E., & Jago, R. (2017). How parents perceive screen viewing in their 5–6 year old child within the context of their own screen viewing time: a mixed-methods study. BMC Public Health, 17(1).

https://doi.org/10.1186/s12889-017-4394-5

Twenge, J. M., & Campbell, W. K. (2019). Media use and adolescent psychological adjustment: An examination of individual differences. Pediatrics, 140(Supplement 2), S86-S91.

Xu, H., Wen, L. M., & Rissel, C. (2015). Associations of Parental Influences with Physical Activity and Screen Time among Young Children: A Systematic Review. Journal of Obesity, 2015, 1–23. https://doi.org/10.1155/2015/546925

Zain, Z. M., Jasmani, F. N. N., Haris, N. H., & Nurudin, S. M. (2022). Gadgets and Their Impact on Child Development. Proceedings, 82(1), 6. https://doi.org/10.3390/proceedings2022082006