Parents' role in preventing gadget addiction amongst preschoolers living in urban and rural areas: A qualitative study

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Abstract: Parents frequently give their children electronic devices without considering the consequences. Most typically do this to calm temperamental children, which increases the risk of detrimental effects. This study aims to investigate how parents manage electronic device usage among preschool children. A qualitative research design using a phenomenological method was used. Ten parents with children aged 3-6 participated, selected by purposive sampling. The data collection methods employed included documentation, in-depth interviews, and observation. The trustworthiness strategy included reflexive journaling during the thematic analysis process, bracketing, peer debriefing, and a participant check procedure. The data analysis methodology used was interpretative phenomenological analysis (IPA). The study findings reveal three main themes: 1) the influence of the nuclear family on children's use of electronic devices; 2) the behavioral patterns associated with the utilization of electronic devices in preschool children; and 3) parental management of electronic devices among preschool children. It is suggested that nurses and health workers collaborate with parents and other family members to prevent preschool children from developing an addiction to electronic devices. It can be achieved through various strategies, such as establishing rules for playing with gadgets, limiting internet access, determining the duration of gadget play, rewarding or punishing children for achievements or negative behaviors, and redirecting them to physical activities outside the home.

Keywords: gadget addiction; parenting; preschool children

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Introduction

The number of electronic device users in Indonesia is significant. According to a prominent digital marketing research institute, it was projected that the total number of active electronic device users in Indonesia would have surpassed 100 million by 2018 (Ramaita et al., 2019). Indonesia is forecast to rank as the fourth largest active consumer of electronic devices globally, following China, India, and the United States.

According to a study conducted by the Asian Parents Insight in the Southeast Asia region, a total of 2,417 parents in five nations, Singapore, Thailand, the Philippines, Malaysia, and Indonesia, were found to possess electronic devices. A significant majority of children between the ages of 3 and 8 (98%) have utilized electronic devices for the purposes of information retrieval, entertainment, and online communication (Alifiani et al., 2019). Eventually, gadget addiction may result from excessive use of such devices.

The concept of addiction has expanded to encompass not only substance addiction but also internet addiction, gadget addiction, online game addiction, and pornography addiction (Gunawan et al., 2021; Kiatsakared & Chen, 2022; Mubarok, 2022; Priyanto, 2019). Any disorder that consistently induces self-satisfaction with specific activities is referred to as addiction (Kusumawati et al., 2017). Gadget addiction is a type of dependence on devices that can result in social issues, including withdrawal from and lack of interaction with the environment and difficulty in controlling or refraining from actions that can be detrimental to one's well-being (Ningsih, 2022). Various factors, including social, psychological, and biological aspects, can contribute to the development of addiction (Montag & Reuter, 2015). There are numerous characteristics of gadget addiction, including salience, tolerance, mood modification, withdrawal, relapse, conflict, and problems such as online games (Lemmens et al., 2009).

Parents often provide their children with electronic devices in the expectation that they will facilitate the early development of technological literacy (Nurfadilah et al., 2020). This early exposure to technology is believed to enhance children's ability to gain knowledge more efficiently and comprehensively. However, the overuse of electronic devices has been observed to contribute to a decrease in physical activity and motivation among children. Moreover, excessive exposure to electronic screens hinders the social contact of children, particularly those between the ages of 3 and 6, a critical period for their growth and development. A notable proportion of preschool children, ranging from 5% to 25%, encounter growth and development issues as a result of excessive utilization of electronic devices (Jafri & Defega, 2020). The presence of individualistic attitudes could lead to a lack of communication and interaction with the surrounding environment (Marpaung, 2018). In addition, the addiction to gadgets has a detrimental effect on student's academic progress by diminishing their interest in reading academic texts (Bukhori et al., 2019).

The current situation includes the widespread ease with which parents provide electronic devices to their children, both in domestic settings and in public environments. It has been observed by researchers that parents frequently let their children use mobile phones in public settings such as restaurants, with the intention of engaging them in gaming or video-watching activities, thus providing a quiet and undisturbed environment for parents to carry out their own activities.

Our preliminary research found that preschoolers' gadget handling differs substantially. Participant statements show this, for example:

> "I usually give kids gadgets to help them relax and not bother me while I work" (K.40.FM).

However, another participant's opinion differed:

> "*Alhamdulillah,* my first kid is not addicted to gadgets. It is because my husband and I constantly set restrictions and guidelines for our children on the use of their devices; for instance, on vacations, there has to be an agreement with the kids over the length of use of their gadgets" (GR.33.FM).

The participation of parents in supervising children's use of gadgets throughout the learning process is crucial, as it enables children to develop wisdom in their gadget usage and enhances their attention to learning (Rizki et al., 2021). A study indicates that not all parents engage in joint gadget play with their children, and there are still those who fail to establish guidelines for the duration and frequency of gadget usage (Novianti et al., 2019).

Currently, there is a dearth of research that investigates the experiences and perspectives of parents in the management of gadgets for their children, even though parents play a vital role in preventing gadget addiction. The novelty of our research is that it uncovers the psychological mechanisms underlying parents' involvement in introducing electronic devices to children and their endeavors to mitigate addiction, as explained in their own words. It is crucial to examine the developmental factors that affect the mental well-being of preschool children. This study is similar to the research conducted by Tafrihah and Utanto (2022), who employed a literature review methodology. In contrast, our study directly investigates the firsthand experiences of parents in regulating their children's electronic devices. It aims to understand the parents' experiences of managing gadgets for children. The study findings are expected to provide the basis for parental strategies aimed at preventing addiction to gadgets.

Methods

The study utilized a phenomenological qualitative research design. Qualitative research is distinguished by its emphasis on processes rather than outcomes, which enables an in-depth understanding of the significance of each component and the acquisition of insights that are challenging to obtain if using a quantitative questionnaire (Antonovsky et al., 2022).

The data collection was conducted in Sleman District, Special Region of Yogyakarta, Indonesia, with a total of 10 research participants. The determination of sample size is contingent upon the degree of data saturation achieved. Such saturation is achieved by conducting participant interviews until information redundancy is reached (Creswell, 2014). In addition to data saturation, qualitative phenomenological research does not necessitate a large sample size, as the objective of this approach is to motivate participants to thoroughly articulate the significance of a specific subject and their life experiences. In the context of phenomenological research, there is no clear rule for determining the appropriate sample size (Salama & Chikudate, 2023).

The process of selecting and determining the number of participants in descriptive phenomenological research is distinct from that of quantitative research, primarily due to the departure of the philosophical foundation from logical positivism. Therefore, the logic of the representativeness of the sample and the number of participants (or external validity) that is the foundation of a quantitative research study does not apply to phenomenological research (Salama & Chikudate, 2021). Peer reviews were also conducted among the researchers to identify any potential gaps or areas that needed additional examination.

The study employed a purposive sampling technique, which involves selecting samples based on specific considerations and conditions (Maltby et al., 2014). We undertook sample selection by visiting kindergartens in Sleman Regency and

conducting initial screenings regarding children's gadget use. Upon identifying children's active engagement with gadgets, we provided them with details of the research and requested their consent to participate in the study. Considerations included limited time, energy, and funds, which prevented the researcher from collecting a large sample from distant or hard-to-reach locations.

The study participants needed to satisfy the specified inclusion criteria, namely that they were a) parents residing in the Sleman district with children aged 3-6 attending preschool or kindergarten, and b) parents of preschool children who were already using electronic devices. The study included participants between the ages of 26 and 38, with the majority falling in the 26-30 age range. The participants were predominantly female and had different levels of education, ranging from junior high school to a bachelor's degree.; however, the majority had completed high school. The individuals' socioeconomic positions ranged from middle to low. The study employed the in-depth interview approach to provide a thorough investigation of the experiences of the participants. The majority of the interviews were semi-structured and consisted of a series of queries that had to be answered, but there was no specific format for the responses. The interviewees were permitted to provide additional commentaries or engage in discussions regarding related matters but were prohibited from deviating from the subject matter (Mooi & Sarstedt, 2011).

In order to reduce bias in the process of gathering data, we ensured that the questions asked were unambiguous, impartial, and did not influence the respondents' answers. The use of triangulation, which involves employing different methodologies or data sources, was able to effectively mitigate bias and enhance the reliability of our conclusions. The researchers created an interview guide to investigate parents' experiences handling their children's electronic devices. It encompassed the initiation of children's utilization of gadgets, the rationales for providing gadgets to children, the duration of gadget usage, regulations and restrictions for device usage, the impact on children after using gadgets, parents' comprehension of gadget addiction, and their endeavors to mitigate it. The interviews were conducted at the participant's house and lasted for 30-60 minutes. The data analysis methodology employed was interpretative phenomenological analysis (IPA), which encompasses several distinct stages. First, the transcripts are thoroughly read and reread to extract relevant material. Detailed notes are then taken to capture key insights and observations. Subsequently, themes are identified, and links between them are developed (Mohajan, 2018).

The research extended beyond individual instances, as patterns and connections between multiple cases were sought. To ensure the accuracy of the gathered data, several methodological techniques were employed, including bracketing, triangulation (Hammarberg et al., 2016), peer debriefing, and member checks (Loiselle & McGrath, 2010). Bracketing is performed before conducting interviews with participants to ensure that the data obtained is truly objective and not affected by the researcher's subjectivity.

Researchers engage in question-and-answer discussions with their peers during peer debriefing to enhance the accuracy of their findings. They also conduct member checks by reviewing the data obtained from the data providers (participants). The researchers ensured the preservation of confidentiality and anonymity for every individual involved in the research.

The study received ethical approval from the Research Ethics Committee of the Faculty of Medicine, Universitas Muhammadiyah Yogyakarta, under the reference number 047/EC-KEPK FKIK UMY/I/2023.

Results

The study yielded three distinct themes: the impact of the nuclear family on children's utilization of electronic devices, the behavioral patterns associated with the utilization of electronic devices in preschool children, and parental management of technological devices among preschool children.

The Impact of the Nuclear Family on Children's Utilization of Technological Devices

This theme encompasses three sub-themes, namely: the behavioral patterns of electronic device usage within nuclear families, the rationale/s behind parents' decisions to provide electronic devices to their children, and the primary provider of electronic devices in the family.

The role of nuclear families in the introduction of electronic devices was supported by participant statements, as shown below:

"The first person who introduced the electronic device was the mother. When he's still small, he does something, and this is to be quiet first, so he becomes calm, as a diversion to be quiet" (P4).

The following participant statements illustrate the behavior of the nuclear family towards the use of technology:

"Yes, frequently when I'm selling online, when I open my mobile phone, he's beside me, so it's like seeing that because he often watches it, and he wants to join in" (P10).

Factors that influence parental decision-making regarding the act of providing electronic devices can be attributed to environmental factors and societal circumstances, as supported by the statements provided by the participants:

"Actually, we give gadgets because of the environment here; the children have been watching YouTube since they were little, and they have been using gadgets since they were little. I also want my child to learn to use gadgets like everyone else, as he fears becoming less social and inactive without them. For us busy parents, we give gadgets to our children so that they are quiet and don't make any noise, but if there are friends, they play with their friends" (P10).

Other participants also expressed similar things:

"That's right so that children don't become obsolete. Electronic devices are introduced, but they are limited so that they can't be used for long periods of time." The information comes from a mobile phone; you will regret not learning the information from your friends later. They will undoubtedly talk about the game and this and that. My child will not want it if he does not engage in the discussion" (P8).

The Behavioral Patterns Associated with the Utilization of Electronic Devices in Preschool Children

The theme encompasses various sub-themes, including the initiation of electronic device usage, the accessibility to electronic devices, the duration of electronic device usage, and the effects of device usage on children.

With regard to the early development of children's recognition and utilization of technological devices, one participant stated:

".... He was frequently shown baby films or anything like that while he was a baby..... He became obsessed from there, so he just kept playing on his mobile phone" (P2).

Children's age when they first used electronic devices was evidenced by the statements of the following participants:

"The child's use of electronic devices appears to have begun when he was 3.5 years old" (P6).

Electronic device accessibility pertains to children's skills in accessing electronic devices.

"He already knows what's going on; he also knows where his YouTube is, perhaps also because he frequently sees his pals playing with their phones. If he wants to use his phone

but it's still locked, he can do it on his own; otherwise, he asks me to unlock it" (P10).

Regarding the duration of children's gadget usage, one respondent stated:

"Only on Saturdays and Sundays is additional time permitted. For instance, in the morning, after eating and having a shower, it is important that everyone is done before looking at or playing with mobile phones" (P3).

Another participant elaborated on the division of time for the use of devices:

"Yes, it's sporadic—sometimes after school in the afternoon, sometimes before bed in the evening" (P6).

Participant 5 provided information on the number of hours their children spent playing with devices each day:

"One hour. The internet is shut off by turning off the WiFi as soon as I realize it has been taken, but sometimes it takes up to two hours if I forget because I overslept or forgot to set the alarm" (P5).

Children may experience both advantageous and detrimental consequences as a consequence of interacting with electronic gadgets.

The use of gadgets positively influences children's language acquisition, as shown by the following participant statement:

"There are advantages to learning new words. He spoke extremely well last night, but I can't remember what he said. Despite the fact that my vocabulary at home is basic" (P1).

In addition to knowledge, other participants provided information regarding the skills their children acquired as a result of using devices:

"There is an impact; children pick up new skills to broaden their knowledge, like praying and ṣalawāt on YouTube" (P4).

The adverse effects of gadget use on children include the proliferation of inappropriate marketing, less social interaction, and deteriorating ocular health, as articulated by the following participant:

"The negative impact is that sometimes there are advertisements on TikTok for the song *Abang jahat* and then it is sung by my child, at that age he remembers quickly, maybe bad songs have a bad impact" (P4).

"Yes, he became slammed stuff. My children play nonstop, lack social skills, have poor eye health from staring at screens too much ...." (P4).

This is also supported by the statements of another participant:

"His older brother is the worst, as he refuses to leave the house to play with his friends" (P5).

A different participant elaborated on the detrimental effects on his child's eye health:

"The negative impact is that their eyes become myopic due to using the mobile phone for too long" (P7).

Furthermore, excessive gadget use has a detrimental effect on the dietary habits of children, as elucidated by participant:

"Eating requires more time, food is not consumed, and she eats irregularly" (P10).

The Management of Preschool Children's Electronic Devices by Their Parents

This theme can be subdivided into three sub-themes: strategies adopted by parents; electronic device management challenges, and successful electronic device management.

Parents implement a range of strategies to regulate children's use of gadgets, including limiting offline gadget use and establishing specific timeframes for usage. The following participant statements illustrate this point:

"We watch the video on TV after downloading it from YouTube" (P4).

Different participants implemented strategies to restrict the duration of device use:

"The internet is shut off by turning off the Wi-Fi as soon as I realize it has been taken, but sometimes it takes up to 2 hours if I forget because I overslept or forgot to set the alarm" (P5).

Participants 3 and 5 implemented a strategy that involved implementing rules that were consented to by the child, as evidenced by the following statements:

"Yes, we first make an agreement with the child; for example, if the minute hand on the clock is already at 12, playing on the mobile phone must stop" (P3).

"However, if you have exceeded the time limit, I usually give a penalty; usually, you are not allowed to play electronic devices for 2 to 3 hours." (P5).

"All we do is reduce it. If we stop it completely, it will be a shame because all children are now like that" (P8).

An additional approach is to encourage children to engage in outdoor activities, as illustrated by the following statement:

"We take them out of the house to a public space such as a playground or the rice fields. My child is content in this manner. So, we take a break from playing with our mobile phones. We sometimes accompany the children when they play mobile games because we are concerned that there may be inappropriate marketing" (P4).

Parents have issues while introducing devices to their children, including the rise of gadget addiction, as shown by the following participant remarks.

"Children are beginning to become addicted to using mobile phones; it's as if they are uncontrollable at age five. We can talk to him now. For a while, we managed how much time was spent playing on the phone. In the past, it was challenging to regulate his temper tantrums" (P7).

The success of parents in regulating children's use of devices stems from their resolute enforcement of established guidelines. as articulated by the subsequent participants:

"We were successful because his father and I must be firm yet tolerant when educating the children" (P4).

This statement was supported by another participant:

"Successful, very obedient, yet disobedient to the rules, despite being mischievous" (P9).

A conceptual overview of the comprehension of gadget management in children (selective coding) is shown in Figure 1.

Discussion

The study findings demonstrate the experience of parents in regulating gadget use amongst children, from their initial introduction to their efforts to prevent addiction. The themes that have been identified show the influence of the nuclear family on the use of technology, the behavioral patterns of technology use within the family, and the efforts to manage gadget use amongst children.

The Impact of the Nuclear Family on Children's Utilization of Electronic Devices

The findings indicate that there may be a correlation between the nuclear family structure, comprising a father and mother, and the extent to which children engage with electronic devices. In Indonesian society, mothers tend to engage in more activities with their children and provide them with companionship, while fathers are often occupied with professional responsibilities outside the home. Consequently, it is typically mothers who take the initiative in introducing electronic devices to their children.

In Indonesia, this prevailing model of family structure entails that women assume domestic responsibilities and childcare duties while men actively engage in economic pursuits outside the household (Purbasari & Suryanto, 2020).

Figure 1

Parents' Role in Preventing Electronic Device Gadget Addiction amongst Preschool Children
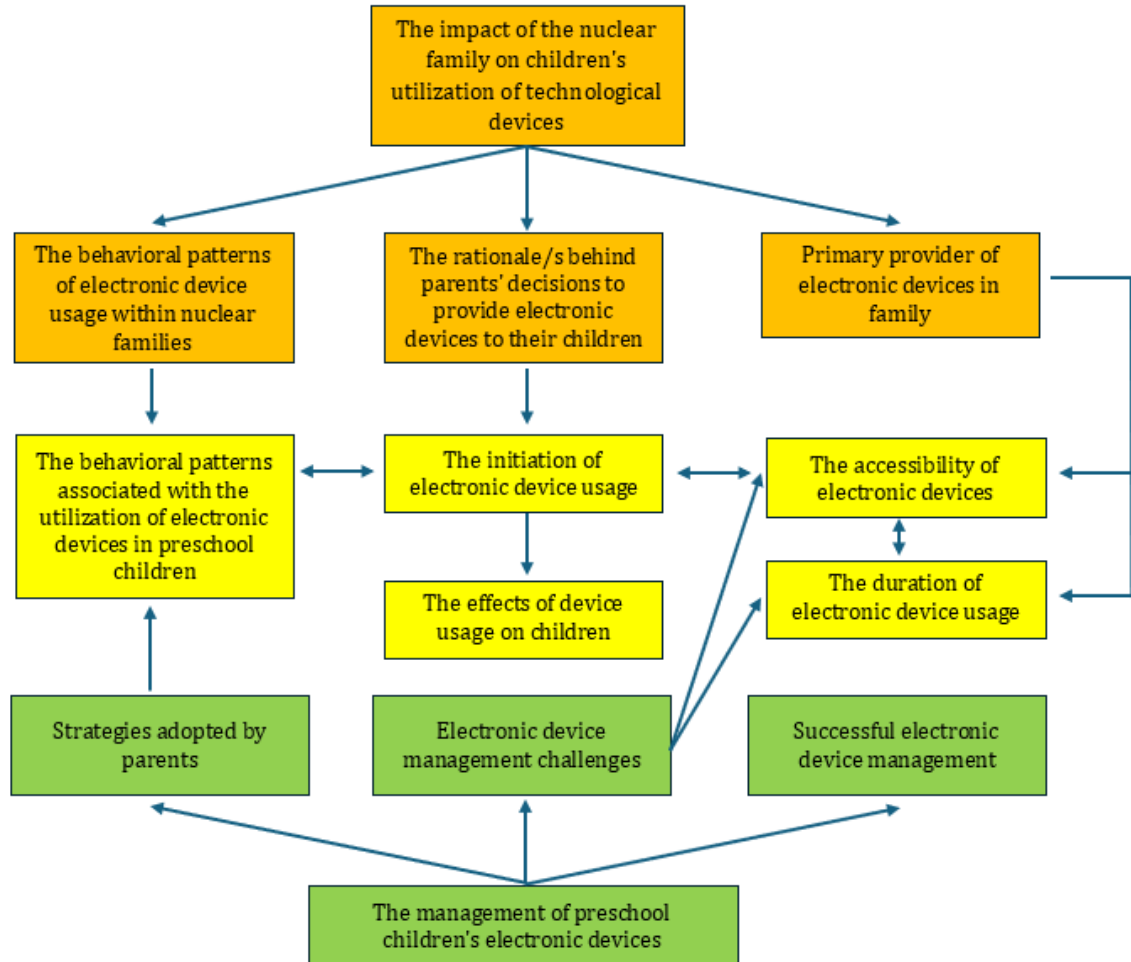
Parents employed technological devices as tools for parenting (S. Noor et al., 2022), while children use them for various purposes such as viewing films, engaging in social media activities, participating in online educational courses, playing games, and making phone calls (Rashid et al., 2021). It is essential for parents to be involved in the use of gadgets during the learning process for children aged 4-5 years (Rizki et al., 2021). Conflict between parents and children is also correlated with the incidence of gadget addiction in children (Kurnia et al., 2023).

The Behavioral Patterns Associated with the Utilization of Technological Devices by Preschool Children

The phenomenon of childhood loneliness is common; children who encounter such feelings tend to exhibit heightened levels of boredom, which in turn contribute to a heightened susceptibility to developing an addiction to electronic devices (Li et al., 2021). According to the findings of a study involving nine individuals, the average duration of electronic device usage fell within the range of 2 to 4 years. In addition, a

significant proportion of children (27%) have been exposed to electronic devices by age two (Jafri & Defega, 2020). The majority of parents permit their children to utilize such devices between the ages of 3 and 4—the significant impact of early exposure to electronic devices (Joseph et al., 2022). Children also tend to replicate the conduct exhibited by their parents when utilizing electronic devices. They learn by imitating the behavior of others in response to various stimuli (Rahman, 2009). Parents rationalize that electronic devices could offer educational opportunities as well as serving as a source of amusement. The motivations behind using YouTube are that it is a platform for both educational and entertainment purposes (Iskandar & Nadifa, 2021). YouTube Kids is a media platform that facilitates parental involvement in guiding children's engagement with electronic devices. The use of such an application has the potential to contribute to the cognitive development of young children due to the predominantly positive nature of the content it offers (Lubis & Dasopang, 2021; F. Noor et al., 2020). The appropriate implementation of family digital literacy has significant importance during early life (Lindriany et al., 2022). Children predominantly utilize electronic devices when returning home from school, during dinner time, and prior to bedtime (Yana, 2021).

The utilization of electronic devices seems to have a discernible influence on the well-being of children. Their ocular health has been shown to be experiencing a decline as a result of the excessive amount of light that enters the eyes through the screens of electronic devices (Abdu et al., 2021). There is also a correlation between limited electronic device usage (under 3 hours per day) among children and the occurrence of speech delays and diminished attention spans (Al Sagr & Al Sagr, 2020). Children who exhibit electronic device addiction and engage excessively with electronic devices may be at risk for developing speech-language difficulties, speech delays, and behavioral issues (Aurelia et al., 2022). Delays in children's speech can be attributed to various factors, including insufficient motivation, limited chances for conversation or communication, exposure to a foreign language, and parental challenges in fostering verbal expression (Bawono, 2017).

The premature utilization of electronic devices can lead to speech delays, resulting in disruptions in social contact (Ali & Agustina, 2021). The overuse of such devices may also have the capacity to diminish cognitive capabilities (Liza et al., 2023). Excessive use of mobile phones among youngsters has been found to be associated with a heightened risk of developing mental and emotional illnesses (Wijoyo et al., 2023). Individuals who have encountered addiction to electronic gadgets are prone to experiencing heightened levels of anxiety in situations when they are not engaged with their devices. Elevated levels of anxiety are also associated with an increased likelihood of engaging in aggressive behavior (Sari et al., 2022).

Parental Management of Technological Devices among Preschool Children

The study findings demonstrate the endeavors undertaken by parents regarding the administration of electronic devices and the obstacles they encounter. They make attempts to impose restrictions on electronic device usage, for example, by employing quota limits to ensure that children do not exceed a certain duration of use (Mascheroni et al., 2018). Furthermore, parents also enforce offline-only play, thereby limiting the extent to which children engage with their devices. Applications that children are permitted to access should possess the capability to facilitate enhanced color, form, and sound recognition (Yumarni, 2022).

Parents also establish duration or time limits and serve as positive role models for their children

(Neno, 2019). In order to mitigate the potential risks associated with media/screen exposure in children under the age of two, it is recommended to implement a time restriction of one to two hours per day for screen or electronic device usage (Bassam & Qalawa, 2022). The establishment of a well-structured schedule is of utmost importance in order to regulate and moderate the excessive use of electronic devices among children (Darmalaksana et al., 2020).

The involvement of parents in actively supervising their children's electronic device usage can provide favorable outcomes, as it promotes greater control over the content accessed by children on the internet (Asmawati, 2021). The presence of parents beside their children can foster a sense of affection and attention (Sahriana, 2019).

Engaging in supplementary pursuits, such as taking vacations or visiting relatives, can effectively diminish the use of electronic devices, hence facilitating a temporary break from reliance upon them (Manik et al., 2022). It is also important to provide children with alternative activities to reduce their reliance on such devices (Putri et al., 2020). It is necessary to ensure their interactions with the surrounding environment remain undisturbed. One effective approach is to provide games that can support their overall development. Moreover, aside from mitigating the risk of electronic device addiction, this approach has the potential to identify and nurture the latent skills of children (Zati et al., 2019).

One primary difficulty parents encounter is managing their children's tantrums and associated behaviors. Tantrums can be attributed to three primary factors: the frustration experienced by children when their desires are unmet, the presence of inconsistent parenting practices, and fluctuations in children's emotional states (Siwi & Safitri, 2019). Preschool children who engage in high levels of media usage exhibit a greater propensity for losing their temper and experience difficulty in achieving a state of calm when they become enthusiastic, in comparison to children who engage in low levels of media usage (Coyne et al., 2021). The utilization of games, particularly those characterized by violent themes, heightens the likelihood of aggressive conduct among individuals who engage in gameplay (Fahrizal & Pratama, 2021).

Gadget management is crucial nowadays because children live in an era where gadgets are developing very rapidly. Such management can ensure that children's development remains optimal and does not develop into a problem, such as gadget addiction. All family members should participate in gadget management. As this study predominantly features mothers as the participants, future studies should to delve deeper into the father's role and explore diverse viewpoints within the family. The study findings have the potential to inform the development of effective counseling and intervention programs to prevent gadget addiction in preschool children, as well as to identify psychological dynamic patterns. The lack of information concerning fathers' experiences, the restricted range of information sources available, and the low number of individuals who participated in the study are all potential limitations of the research. Future researchers should consider the following recommendations: to include data sources from metropolitan regions and to devise therapeutic interventions to prevent children from becoming addicted to electronic devices.

Conclusion

The overuse of electronic devices in preschool children can lead to a range of physical, behavioral, emotional, and social challenges, which can hinder their growth and development. Hence, parental oversight is vital concerning the utilization of technological gadgets. The nuclear family plays a

crucial role in managing electronic devices among preschoolers and in treating and avoiding addiction to them in this age group. It is because the nuclear family is the primary entity that exposes children to electronic devices. Future studies should further investigate the role of fathers and examine other viewpoints within the family, since previous studies have predominantly focused on women.[]

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Author Contribution Statement

Yanuar Fahrizal: Conceptualization; Data Curation; Formal Analysis; Methodology; Resources; Validation; Visualization; Writing, Review & Editing. **Dian Mya Mariyana:** Data Curation; Formal Analysis; Investigation; Writing Original Draft. **Shukir Saleem Hasan:** Validation; Writing, Review & Editing.

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