The Relationship between Gadget Addiction and Early Child Growth in Malaysia

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ABSTRACT

Modern technology helps advance humans forward and makes it more effective and efficient in completing routine tasks. Technology also helped in establishing the revolution in knowledge and skills among people. Children are no exception, also involved in the development of this technology, especially with the use of gadgets. The rise in gadget usage among young children around the world has raised concerns about the influence of addiction on child development. Thus, this study aims to identify the relationship gadget addiction on young children in Malaysia with language development and health development. This study is targeted at parents (mothers or fathers) who have a child aged 0 to 75 months. Thus, 144 respondents were chosen used nonprobability sampling which is convenience sampling and questionnaires were distributed through social media such as WhatsApp, Facebook, Instagram, Twitter and Telegram. Data was analyzed using Statistical Package for Social Sciences 28.0 version Software focusing on Pearson Correlation to identify the association between gadget addiction with social and language development and health development. The results show that gadget addiction has moderate positive relationships with language development and health development. It shows that gadgets are not main tools interfere with language development and health development among early child in Malaysia. This finding will help parents to teach their child how to use the gadgets responsibly. Additionally, it also helps educators, especially teachers in child education, to study this topic to maintain good and active student achievement inside the classroom. It is important for device makers to develop appropriate apps for young children because device makers play a major role in the development of this ecosystem.

Keywords: Gadget addiction, young children, language development, health development, SPSS

INTRODUCTION

In our modern practice, technology and gadgets have become the most important part of our daily lives. Nowadays, it is common practice to carry a miniature computer or a mobile phone in a pocket. Modern technology helps advance humanity forward and makes it more effective and efficient in completing routine tasks. As technology continues to advance, the devices have also grown stronger and smarter so that people feel like holding a supercomputer in their hands. Thus, excessive use of phones or some other device equates to addiction. This gadgets addiction does not discriminate against anyone be it in terms of age or race also brought influences that varied from psychological, physical, and emotional.

The National Population and Family Development Board (LPPKN) recorded that 78.3 percent of parents in Klang Valley alone allowed their children to own gadgets in 2019. This became even more critical after the country faced the COVID-19 pandemic when maximum use and access of digital especially involving children. This is due to the exposure that these days children have towards electronic devices from an early age. Furthermore, parents are so preoccupied with their jobs that they spend less time with their children, causing the youngsters to feel neglected and unloved (Marici et al., 2023). These digital gadgets or technologies appear to have become companions and caretakers. With the possession of the gadgets, they

begin to immerse themselves in the virtual world to alleviate their feelings of loneliness. As a result, children are more at ease to be in virtual world on mobile devices and engross themselves with smartphones.

Fundamentally, the early childhood period encompasses several quite distinct phases: from 'conception to birth' and from 'birth to 3 years', with emphasis on the first 1,000 days (from conception to 24 months), followed by the 'preschool and pre-primary years (3 years to 5 or 6 years, or the age of school entry) (American Academy of Pediatrics, 2024). In a study conducted with children under the age of 7 in Turkey, it is stated that 50 % of children use technological devices for an average of 1 h, 26 % for 2 h, 2 % for 4 h or more. (Maksude and Emriye, 2023; Ricci et al., 2022). These rates show that the use of technological devices in early childhood is undeniably high. The children have a large tendency towards growth problems when addicted to gadgets. Addiction to gadgets can cause serious problems, especially for early children as it can manifest as a social problem for a minority of individuals over time. These addictions have been identified as non-chemical behavioral addictions involving human-machine interaction, or so called “technological addictions” (Griffiths, 1996), “Gambling disorder” and “Internet gaming disorder” are currently the only non-substance-related disorders defined as behavioral addictions in the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 2013).

Problem Statement

Nowadays, these are the common sights that we see every day; a baby carrying a tablet, an infant holding an iPhone in his hand and kids obsessed with online gaming. Parents considered the use of gadgets to pacify their children’ tantrum and as an entertainment and educational instrument. However, it will become a troubling sight later. The Internet User Survey 2020 by Malaysian Communications and Multimedia Commission (MCMC) revealed that as of 2016, the number of children aged five to seventeen years who use the Internet has risen by 155% and 56.3 percent of them own a gadget themselves. The Perak Clinical Research Centre report stated that it is highly troubling for children with an average age of two years to look at the screens every day for six hours. Today, children spend more than seven hours a day in their lives using mobile devices and information and communication technology, either in their learning process, talking or playing games (Adila et al., 2017). The use of gadgets is rapidly growing in Malaysia, with children being exposed to different types of gadgets, especially in educating and comforting children. This practice may make a significant contribution problems of childhood development in Malaysia. Therefore, this study is proposed to study the relationship of gadgets on the development of young children growth in Malaysia.

LITERATURE REVIEW

Gadget Addiction

There are many terms for gadget addiction, such as smartphone addiction, cell phone addiction, problematic mobile phone use (PMPU), mobile phone dependency, compulsive mobile phone use, and overuse of mobile phones (Al-Barashdi et al., 2015). Kumar & Sherkhane, (2018), defined gadget addiction as inability to constantly abstain, lack of behavioral regulation, craving, reduced awareness of serious behavioral and interpersonal relationship issues, and a dysfunctional emotional response as a reaction to the gadget being overused.

For children with digital addiction, there is a decrease in participation in real-life environments and negative consequences such as procrastination behavior, distraction and decreases in grade achievement due to poor time management. While the focus has been on the positive aspects of digital technology such as creating a more comfortable and better world, today, the negative aspects that affect personal and social life due to the addiction created by this digital technology have gained importance in research (Busch and McCarthy, 2021).

The Relationship of Gadgets and Language Development

Language development is a hierarchical change that begins with hearing and learning through the sounds of words. According to Piaget's theory, before a child can speak, the child communicates through actions and behavior. After that, children begin to perform concrete thinking operations and develop expressive and

receptive language. After six months, the child's ability to differentiate sounds will increase, followed by rapid development of lexical resources and word interconnections from the age of 1.5 years to 3 years.

Concerns are often expressed about modern lifestyle issues (e.g. the impact of television viewing and gadget use). Some studies have found that children who are heavy gadget users have lower language scores while other studies have shown that television can be a positive factor and provide important opportunities for children to engage verbally with other family members (Massaroni et al., 2023; Karani et al., 2022; Zain et al., 2022)

Purnama et al. (2024) identified that there was an influence of gadget use in children on speech delays. Children who use gadgets are more likely to experience speech delays. On the other hand, children who do not use gadgets are less likely to experience speech delays. This research is in line with research conducted by Alamri et al. (2023) which states that the use of smart devices can prevent speech delays in children. The use of gadgets in children tends to reduce children's involvement in activities that encourage the development of their ability to talk with their parents and siblings. Gadget use is also associated with poor vocabulary and lower lexical skills in children. In addition, the research conducted by Nugraha et al. (2019) states that toddlers who are given gadgets by their parents are likely to experience speech delays. It is explained more clearly that the use of gadgets among toddlers is a form of barrier to communication between children and those around them. Toddlers who use gadgets will experience a reduction in time for two-way interaction with their parents so that the toddler's cognitive development will also be delayed and ultimately result in the toddler experiencing speech delays.

The Relationship of Gadgets and Health Development

Stein (2024) defined child health as the extent to which individual children or groups of children are able or enabled to: (a) develop and realize their potential, (b) satisfy their needs, and (c) develop the capacities that allow them to interact successfully with their biological, physical, and social environments."

A study by Onguner et al. (2024) found that 26% of the parents reported that their children postponed toilet use when occupied by mobile devices, while 8% reported digestive problems. Depending on internet use, 31% of the children experienced eye-related problems, such as eye inflammation, burning, and pain, and these problems were significantly related to internet addiction. According to the answer of the parents, 11% of the children tended to postpone their daily hygiene/self-care routines and 6% experienced urinary problems.

Lee et al. (2023) stated that there was a statistically significant relationship between gadget usage and mental emotional state among school-aged children, indicating that the (i) duration of playing gadgets in a day, (ii) frequency of playing gadgets in a week, (iii) type of gadget used, (iv) ownership of the gadget, and (v) the use of gadgets affected the mental emotional state of the schoolchildren.

It is known that internet addiction is associated with factors such as psychological problems, mood disorders, and aggression meanwhile technology addictions are associated with low quality of life, general health such as anxiety, somatic symptoms, depression, risky behaviors such as violence and low self-control (Maksude and Emriye, 2023).

Thus, from the studies above, the following hypotheses were formed:

H1: There is a significant relationship between gadget addiction and language development of pre-school child growth

H2: There is a significant relationship between gadget addiction and health development of pre-school child growth

METHODOLOGY

Population and sample size

Sekaran and Bougie (2016) stated that population refers to the overall group of people, events, or objects of interest that the researcher desires to explore and draw conclusions about using a statistical sample. Hulland et al. (2017) recommended using convenience sampling as this is a marketing-based study and the target population is often unknown. Thus, for this study, sample size of target population is focus on citizens of Malaysian. A link of Google form consist of questions was distributed randomly to respondents via email, WhatsApp messenger and telegram. The question starts by asking whether the respondents are parents and having children. If the answer is yes, then it moves to the next questions. Thus 144 respondents successfully answered all questions and thus adequate for further data analysis for this online survey (Hair et al., 2011).

Unit of Analysis

As the focus of the study is on the impacts of gadget addiction on early children in Malaysia, researcher is targeting for parents (mothers or fathers). In this regard, the researcher used the individual as the measurement unit of this study. Thus, the researcher observed the data collected from each individual and viewed each parent's response as a separate data source.

No	Profile	Description	Percent
1	Age of Infants / Child	0 – 23 months	18.8
		24 – 36 months	44.4
		37 – 49 months	13.2
		50 – 62 months	7.6
		63 – 75 months	16.0
2	Gender	Male	49.3
		Female	50.7
3	Races	Malay	79.2
		Indian	1.4
		Chinese	16.7
		Others	2.8
4	Marital Status	Married Widow / Widower	95.1
			4.9
5	Education Level	SPM	15.3
		Diploma	16.0
		Degree	54.2
		Master	9.7
		PHD	2.1
		Others	2.8
6	Occupation	Working	74.3
		Housewife	25.7

Data collection method

Interviews, observations, and questionnaires were the three primary data collection methods. The researcher conducted random interviews with parents in getting opinions and information about the use of gadgets among the children. Besides, the researcher employed questionnaires that consist of several questions related to the study's objectives. Secondary data was also acquired from websites, publications, and journals from previous studies to support this research. Moreover, in analyzing the data, Statistical Package for the Social Science Software (SPSS) version 26.0 was used for that purpose.

Instrument

In this study, the questionnaire consists of 4 sections, which are Section A, B, C, and D. In Section A, the demographic section is the first section which gathers information of respondents' profile or background. Section B, C, and D seek information on the relationship of independent variables (language development and health development) against the dependent variable (gadget addiction).

FINDINGS AND ANALYSIS

Frequency Distribution

The summary of the demographic compositions of the respondents is shown in Table 1 below. Most of the respondents are working (74.3 percent) and mainly have a child between 24 – 36 months old with majority of them being female / girl (50.7 percent). In addition, the respondents are mostly Malay (79.2 percent) and most of them have a bachelor's degree (54.2 percent).

Table 1. Respondents Demographic Profile

Reliability Test

The reliability test is figured by corresponding the score of every scale thing with the aggregate score for every perception (normally singular review respondents), contrasting that with the difference for all individual thing scores (Goforth, 2015). The rule of thumb states that the acceptable reliability is 0.7 and above (Tavakol and Dennick, 2011). A Cronbach's alpha is a reliability coefficient that indicates how well the items are.

Table 2. Relability Analysis

Variables	Number of items	Cronbach's Alpha
Language Development	5	0.870
Health Development	5	0.861
Gadget Addiction	7	0.849

Table 2 above shows the values of Cronbach's alpha were greater than 0.60 which ranges from 0.849 – 0.870, contributing that all variables are both reliable and consistent (Taherdoost, 2016). Language development obtained the greatest Cronbach's alpha value at 0.870, followed by health development at 0.861. The lowest one was gadget addiction with Cronbach's alpha value at 0.849.

Pearson Correlation Analysis

Pearson Correlation was used to identify the possible relationship between the variables and analyze the strength of the relationship between the two variables.

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Table 3. Pearson Correlation Analysis

		1	2	3
Mean language development	Pearson Correlation Sig. (2-tailed)	1		
Mean health development	Pearson Correlation Sig. (2-tailed)	0.588** 0.000	1	
Mean gadget addiction	Pearson Correlation Sig. (2-tailed)	0.576** 0.000	0.583** 0.000	1

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

Based on the Table 3 above, it shows moderate relationship between gadget addiction with language development and health development which the value of r=0.576 and r=0.583 respectively.

Findings and Analysis

DISCUSSION AND CONCLUSION

The purpose of this study is to investigate the relationship of gadget addiction on language development and health development of early child growth in Malaysia. Based on the findings, the researcher has found that gadget addiction has moderate relationship with language development among young children. Meaning that gadgets have a moderate effect on language development among early child in Malaysia. This is in line with the study by Purnama et al. (2024) that stated children who do not use gadgets are less likely to experience speech delays. In contrast, the use of gadgets in children tends to reduce children's involvement in activities that encourage the development of their ability to talk with their parents and siblings (Alamri et al., 2023).

One possible explanation for the findings of this study is that referring to the age of infant/child in this study, most of them are between 24 to 36 months. Thus, at this age they are not strongly obsessed with the gadget as they have a lot of other activities, get bored quickly and still under their parents' supervision.

In addition, findings also show that gadget addiction has moderate relationship with health development among young children. Here the researcher can say that gadgets have a moderate effect on children's health development. This result is not consistent with Onguner et al. (2024) which reported that 31% of the children experienced eye-related problems, such as eye inflammation, burning, and pain, and these problems were significantly related to internet addiction. It is known that internet addiction is associated with factors such as psychological problems, mood disorders, and aggression meanwhile technology addictions are associated with low quality of life, general health such as anxiety, somatic symptoms, depression, risky behaviors such as violence and low self-control (Maksude and Emriye, 2023).

A possible explanation for this result is that as most of respondents of this study are infants aged 24 to 36 months, thus at this age their health is still in parent's attention and priority. Recap, gadget addiction is not the main tools relate to their health development. As a conclusion the study has managed to achieve the research objectives and answer all the research questions based on the findings.

RECOMMENDATIONS

This study examined the relationship gadgets addiction with language development and health development. The researchers believe that the study can be expanded into different areas such as perception of parents towards young children's usage of gadgets, comparison between gender and focusing on different units of analysis such as primary school students' education in improving their language or vocabulary in future.

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