

PREVALENCE ON THE USE OF ELECTRONIC GADGETS ON CHILDREN'S HEALTH ON PRIMARY SCHOOLS

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ABSTRACT

The use of technological gadgets has rapidly been increasing among adolescents, which may result in health issues and technology addiction. This study focuses on the prevalence of usage of technological gadgets and health-related complications among primary school-going children in Bengkalis. A total of 50 primary school students from 2 different districts of Bengkalis participated in the study. The children were asked questions relating to their access to electronic gadgets, time spent on outdoor activities, and whether they experienced any health complications as an after-effect of the usage. A binary logistic regression model was adapted considering time spent on gadgets as an independent variable and health problems (physical and mental) as the dependent variable. Based on 57.00% of the participants were reported to use mobile phones daily. The participants were reported to use gadgets significantly more ($P < .05$) in 2020 as compared to 2019. Children showed less tendency to spend time in outdoor activities.

Keywords: gadgets, health complications, primary school students

1. Introduction

According to Ramer 2002 the use of technological gadgets is growing at an unprecedented pace all over the world. Today, not only adults but also children are overly invested in technological gadgets, which raises questions and concerns about their effects on children in terms of physical and mental development. Although technology has contributed to breaking geographical barriers and making information accessible, however, technology has its negative records as well. Today's technology-dependent global population is constantly adopting an unhealthy, sedentary lifestyle, putting them at risk for developing severe diseases and mental disorders.

(Wellis: 2007) argues that a global review study, it was found that there is a positive correlation between the excessive use of electronic devices like smartphones and computers and psychiatric comorbidity. The effects were more on young children than other age cohorts. Studies also prove that the excessive use of electronic gadgets in early childhood or teenage years can result in different psychological disorders, like attention deficit hyperactivity disorder (ADHD), as well as physiological complications like obesity, myopia, dryness, blurring vision, headaches, etc.

Staring at the electronic screen continuously for a long time causes distress. Kids suffer various problems like eye irritation or have difficulty focusing for a while. If we are facing problems coping with screens, imagine what our child's eyes must be going through. In this era, we can't keep ourselves or our children away from these devices so we can try to minimize the impact of these devices on our children. It's really surprising a 2-year-old baby can and knows how to use a gadget, similar to how a kid knows to use a feeding bottle.

In 2013 Daily mail reported that 29% of toddlers can easily use the gadgets and the remaining 70% are mastered by primary school age (Al-Furaiji, 2022). Surprising! According to the USA Centres for Disease Control and Prevention, an average child spends about 8 hours a day watching electronic screens. As they are growing older the use of gadgets also increases. Too much gadget use can also affect the long-term vision problem (Valls-Ratés, 2023). Plus chance of myopia also increases in children when they spend about 8 hours daily on gadgets. When people use electronic

screens, they blink less. (Yadamjav, 2023) On average, a person blinks about 15 times in a minute. Due to the high attention required while using an electronic screen, this rate can drop to less than 5 times in a minute. The present study was carried out in various cities to find out the effect of the use of electronic gadgets on the overall behavior and health of secondary school-going children.

2. Method

We carried out the descriptive study among 50 primary school-going children and adolescents of grades 2022. The districts from each division were randomly selected, and all respondents including tribal origins were selected randomly from every class to avoid any biased outcome. The interviews were conducted based on a preformed questionnaire. An evaluation of the preliminary questionnaire in a piloting study was made to validate the tools developed. The questionnaire consisted of three parts: socio-demographic properties, gadget usage, and physical problems encountered by the participants. The sampling process was both random and purposive where institutions were chosen purposively to maintain diversity, while students were chosen randomly. The field test took place among the children of the mentioned grades from multiple regions instead of limiting it to some specific study sites. The association between various sociodemographic variables and gadget use was drawn by comparing the data obtained from the participants. The physical and psychological concerns experienced by the participants such as headache, sleeping difficulties, backache, visual concerns, pain in the limbs, and depression were recorded too. The statistical analyses of this study were performed using R (R core team, 2020) software. Pearson Chi-square statistics were used to test the association between gadget use and socio-demographic factors. Test result with less than .05 *P*-value is considered statistically significant factors for gadget use. Types of gadget use and purpose of gadget use are shown through different graphical presentations.

3. Results and Discussion

Positioning Figures and Tables: Place figures and tables at the top and bottom of columns. Avoid placing them in the middle of columns. Large figures and tables may span across both columns. Figure captions should be below the figures; table heads should appear above the tables. Insert figures and tables after they are cited in the text. Use the abbreviation “Fig. 1,” even at the beginning of a sentence.

Table 1. Variables using gadgets

Variable	Using gadgets		χ^2 test (<i>P</i> -value)
	Yes(%)	No(%)	
Gender			
Male	875 (82)	95 (10.75)	5.73 (.021)*
Female	875(82)	133 (14.47)	
Medium of education			
Father's education			
None	102 (71.83)	40 (28.16)	62.89 (<.0001)*
Primary	384 (83.29)	77 (17)	
SSC	330 (82)	53 (13.83)	
HSC	269 (78)	27 (9.21)	
Graduation	219 (93.58)	15 (6.41)	
Post-graduation	271 (94.42)	16 (5.57)	
Mother's education			
None	111 (74.00)	39 (54.00)	63.46 (<.0001)*
Primary	430 (81.91)	95 (18.09)	
SSC	407 (90.04)	45 (9.95)	
HSC	249 (89.56)	29 (10.43)	
Graduation	198 (95.19)	6	
Post-graduation	180 (94.74)	6	
Body mass index			
Underweight	664 (84.26)	25.00	145 (.0041)*

Normal	567(89.42)	86(10.57)
Overweight	111 (89.51)	118(10.48)
Obese	89 (93.58)	8 (6.41)

Motor skills are the skills that are linked with muscles of small movements like lips, fingers, wrists, tongue, and toes. So when toddlers play games on tablets or any other gadgets their fingers and hands get a workout This is such a healthy exercise for growing children. Using modern keyboards and keypads or other handheld devices they have no risk of any injury or any kind of threat as compared to playing outside. As a result, they know better use of their hands and fingers and become very efficient in it in a short time.

Cognitive skills are the ability to process information, reasoning, remembering, and relating objects with other objects. These skills are directly related to memory and language. Nowadays technology helps faster and better development of cognitive skills in kids. The games which they use to play before whether it's a puzzle or scribbling on drawing books everything now can be done on electronic devices. Like interactive apps, video games, different kinds of challenges and educative programs available on various kinds of devices. Such products would always improve a kid's cognitive skills. Modern gadgets help to develop their learning skills faster as they are more interested in gadgets than books. Gadgets occupy kid's minds. Leave the child with a Smartphone, tablet Xbox or any other handheld device he can spend hours or even weeks with it. So you don't have to worry about the child because there is no risk of getting injured or harmed by these gadgets. Also don't worry about any other major mess like painting a wall, or disturbing others. Technology has changed all that. Simply a Smartphone can keep a child busy for hours, whether he is playing games or watching videos etc.

Gadgets are fun for kids while they use them. They enjoy playing games on them whether it's a puzzle or race, or candy crush, or a simple first-person shooter game, children have fun and they understand simple aspects of cause and effect, action and reaction. Electronic devices have much more advanced learning options for children in a fun way than books or older methods. Technology has been proven to be very helpful in educating students. Children can access the educational websites and can get detailed information about required topic. Technology makes things better as have access to pile of material and can be very useful in research and understanding things better. Visual presentations, educational videos, interactive programs, learning tutorials and variety of books available all the time on internet has revolutionized in a better way. Kids learn state of the art tools and methods by their own. Educational games help children to perform well in their studies. As they can have many online quizzes available, online tutorials and brainstorming riddles. Children love to play video games. When playing such games with other people around the world and their relatives, friends they get the feeling of competition that enhances their skills of competition and enables them to manage themselves in competing e

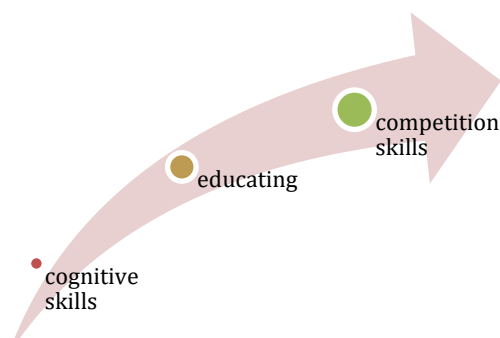


Fig 1. Technology helpful in the education system

4. Conclusion

According to this study, there is a significant relationship between electronic gadget use with the level of education and gender. Male students are more prone to using gadgets than female students. on this case, the Use of gadgets also depends on easy access to the internet and relevant online facilities, which could differ based on respondents' socio-economic status. This same reason applies to finding higher use of gadgets in urban areas compared with the students of rural areas. Unfortunately, gadgets have shown a notable effect on physical and mental health status. Different

health-related awareness programs can be promoted to initiate counseling of the students at both home and school. Proper time management lessons need to be imparted among the school-going children. More studies need to be carried out regarding this issue to address the problem more precisely and strengthen the strategies further for the near future. it will affect others (Liu, 2018)

REFERENCES

- Al-Furaiji, W. L. F. (2022). EFL Iraqi Students' Strategies in Reducing Speaking Anxiety. *Res Militaris*, 12(2), 4529–4536.
https://api.elsevier.com/content/abstract/scopus_id/85142133023
- Ariani A. (2017) Effects of playing with gadgets on elementary school children in an urban and rural environment. Paper Presented at: Health Science International Conference (HSIC 2017).
- Ashari ZM, Ngadiman AA, Zainudin NF, Jumaat NF. (2018) The relationship between knowledge and attitude towards technology gadget usage with students' socio-emotions development. *Int J Interact Mob Technol*.
- Do HN, Onyango B, Prakash R, et al. (2020) Susceptibility and perceptions of excessive internet use impact on health among Vietnamese youths.
- 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. UNICEF Office of Research-Innocenti Florence, Italy.
- Kader MA, Salam MA. (2018) A comprehensive study on service quality and satisfaction level to the English medium education system in Bangladesh. *Int J Contemp Res Rev*.
- Liu, M. (2018). Understanding Chinese middle school students' anxiety in English speaking class. *Journal of Asia TEFL*, 15(3), 721–734. <https://doi.org/10.18823/asiatefl.2018.15.3.10.721>
- Martinotti G, Vilella C, Di Thiene D, et al. (2011) Problematic mobile phone use in adolescence: a cross-sectional study. *J Public Health*.
- Valls-Ratés, Í. (2023). Encouraging participant embodiment during VR-assisted public speaking training improves persuasiveness and charisma and reduces anxiety in secondary school students. *Frontiers in Virtual Reality*, 4. <https://doi.org/10.3389/frvir.2023.1074062>
- Revathi KS, Nair S, Achuthan A. (2020) Influence of technological gadgets on health and lifestyle of medico. *Natl J Physiol Pharm Pharmacol*.
- Sánchez-Martínez M, Otero A. (2009) Factors associated with cell phone use in adolescents in the community of Madrid (Spain). *Cyberpsychol Behav*.
- Teng A Kids (2021) “using gadgets at earlier age being exposed to risks”: Study. The Strait Times. 2013. <https://www.straitstimes.com/singapore/kids-using-gadgets-at-earlier-age-being-exposed-to-risks-study>.
- Trines S (2021) Education in Bangladesh. WENR. 2018. <https://wenr.wes.org/2019/08/education-in-Bangladesh>.
- Tran BX, Hinh ND, Nguyen LH, et al (2017). A study on the influence of internet addiction and online interpersonal influences on health-related quality of life in young Vietnamese. *BMC Public Health*.
- Yadamjav, B. (2023). Students' Anxiety in Speaking English at the National University of Mongolia. *Journal for ReAttach Therapy and Developmental Diversities*, 6(7), 464–469.
https://api.elsevier.com/content/abstract/scopus_id/85165990808
- Wahyuni AS, Siahaan FB, Mudia Arfa IA, Nerdy N. (2019) The relationship between the duration of playing gadget and mental emotional state of elementary school students. *Open Access Maced J Med Sci*.