

Statistical Study on the Impact of Computer-use on Child-health in the Arab-community

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Abstract

United States of America (USA), Australia, and Canada recommending children computer-use should be imperfect. It obligated a strong influence on children's lives. The problem was for stuck in the computer-use for a long time per day. The goal was to follow child-health in the Arab-community to notice its influence on the child-health. The method was through a arithmetical study by sending Internet questionnaire and receiving the parents' advice. The results were in the 500 parent answers and 14 comments. The first was "You have a child up to 13 years old?"; 83.6%. The second was "Your child used a computer?"; 80.8%. The third was "Your child used the computer for a long time?"; 67.9%. The fourth was "The computer caused a health problem for your child?"; 70.3%. The fifth was "The computer caused your child mental disorder?"; 68.5%. The sixth was "The computer caused your child trouble seeing?"; 77.2%. The seventh was "The computer caused your child trouble sleeping?"; 72.0%. The eighth 8 was "The computer caused your child feeding problem?"; 69.5%. The ninth was "The computer caused your child family relationship problem?"; 72.0%. The tenth was "Prevent your child from using the computer to protect his health?"; 79.0%. It was concluded that the extent of the harms of child computer-use from a health and psychological point. They have young and sensitive tissues. The computer-use affected them, child-health. It was recommended the parents instructions will protect children from the computer-use for long periods. That will reduce child-health and psychological problems.

Introduction

Computer-use is the most general activity for children [1]. The children computer-use is rapidly increasing universal [2]. Recently computer-use is the main force in child life [3]. United States of America (USA) Centers for Disease Control and Prevention (CDC), recommended an average child 8 hour in computer-use [4]. USA, Australia, and Canada recommending children computer-use should be imperfect [5]. Computer-use disruption unhappy the fences among parents and children [6]. It had a strong influence on children's lives [7]. It had interfering problem-solving skills and creative expression affecting their overall development [8]. That affected social communication between children [9]. It had

Research Article

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Peer-Reviewed Article

DOI: 10.14302/issn.2576-6694.jbbs-22-4417

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Keywords:

Computer-use, Child-health, Internet, questionnaire, Parents.

Received: Dec 30, 2022

Accepted: Mar 24, 2023

Published: Apr 20, 2023

Academic Editor:

Ian James Martins, Edith Cowan University

Citation:

Rahgad Nasser M. Al-Subaie, Hiafa Hamuwd A. Al-Subaie, Dhabia Turki M. Al-Subaie, Sherifa Mostafa M. Sabra, Statistical Study on the Impact of Computer-use on Child-health in the Arab-community Journal of Biotechnology and Biomedical Science - 3(1):7-15. <https://doi.org/10.14302/issn.2576-6694.jbbs-22-4417>

effect on normal child development. The American Academy of Pediatrics guidelines recommended children aged 2 or older computer-use must limit to <2 h / day [10]. Too much computer-use affected child-health and behavior [11].

Spending more time had more behavioral problems and sleep difficulties and lower psycho-social health [12]. It affected the bodily and cognitive child-growth. That due to timing, duration of exposure, and socio-demographic [13]. That causing physical, psychological and behavior disorders on child-health. Coordination disorder, diabetes, obesity, autism, abnormal developmental. Also lead to learning difficulties, speech, anxiety, depression, sensory disorder, and sleep disorder. At the main health repair centers of Tabuk. There was a significant relationship between computer-use and both physical and psychological child-health [14]. Impacts was on child capacity to learn and maintain private and family relationships [15]. That computer-use reduced physical suitability and health decreased well-being and psycho-social health [16], as obesity and poor sleep [17]. As well computer-use leading to depression and loneliness, decreased social activities and risk of obesity [18]. Also, lead to child fierceness, violent conduct cumulative nervousness and terror [19]. Through more effects were on eyesight, in bone thickness reduction, focus trouble, and attention deficit hyperactivity disorder (ADHD). Language delay was 5%–8% [20]. At Qassim region, children had 79.7%, 87.5% and 40.6% for more than 6 hours computer-use, they resulted low social relation, high loneliness, and rare head-on family and friend [21].

The problematic of the study was for children under 13 years old are stuck in the computer-use for a long time during the day. The goal was to trail up children in the Arab-community to notice what computer causing by its impact on the child-health in time of use, which leading to health problem. The disorder represented in the mind, vision, sleep, nutrition, and family relationship. Did the parents follow the policy of preventing the computer-use to preserve the child-health? The method used to be through a statistical study by sending questionnaire via the Internet and receiving the parents' advice.

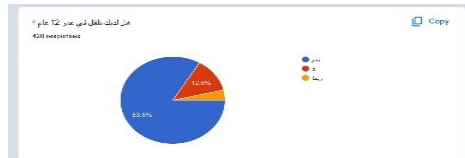
Materials and Methods

The “Study Skill” was used safely on the parents have children up to 13 years old. The “Planned Physical” was prepared the questionnaires for the paper aims; (Table 1), [22].

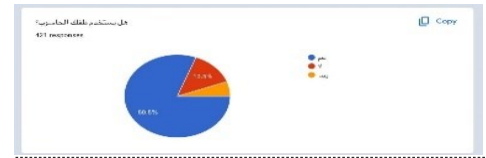
The “Related Assessments” was used for study diffidence. The “Reaching review question consequenc-

Table 1. Questionnaire for the Impact of Computer-use on Child-health in the Arab-community

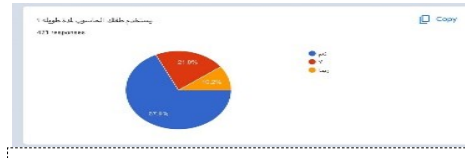
No.	Question	Answer	
		Yes	No
1	You have a child up to 13 years old		
2	Your child used a computer		
3	Your child used the computer for a long time		
4	The computer caused a health problem for your child		
5	The computer caused your child mental disorder		
6	The computer caused your child trouble seeing		
7	The computer caused your child trouble sleeping		
8	The computer caused your child feeding problem		
9	The computer caused your child family relationship problem		
10	Prevent your child from using the computer to protect his health		



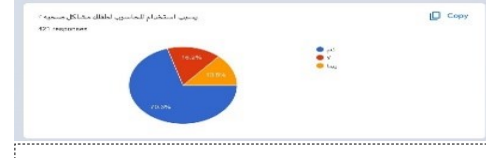
Picture 1. Questionnaire from the internet



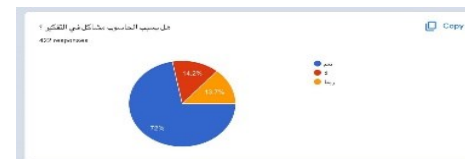
Picture 2. Questionnaire from the internet



Picture 3. Questionnaire from the internet



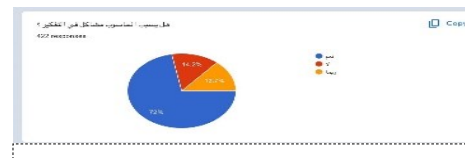
Picture 4. Questionnaire from the internet



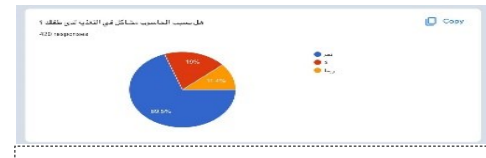
Picture 5. Questionnaire from the internet



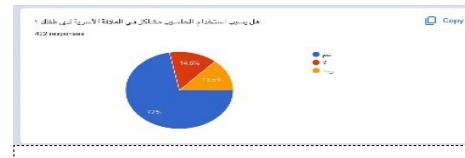
Picture 6. Questionnaire from the internet



Picture 7. Questionnaire from the internet



Picture 8. Questionnaire from the internet



Picture 9. Questionnaire from the internet



Picture 10. Questionnaire from the internet

es” were collected, then the "Excel Package” clear the consequence [23].

Results and Discussions

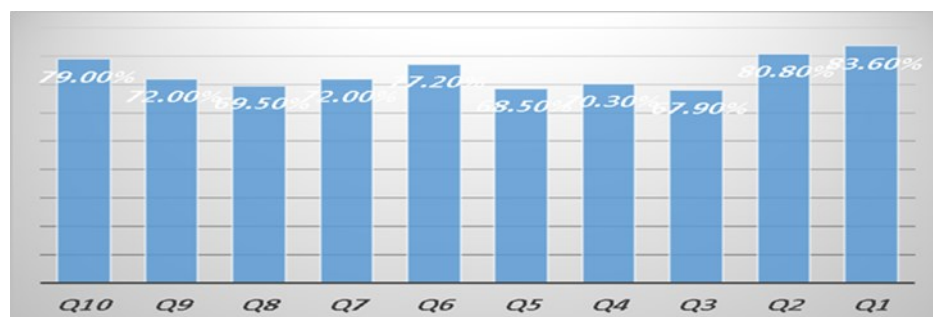
Questionnaire from the internet: The result of an online questionnaire was from the participation of 500 parents. They contributed to the results in terms of answering the questions. That was in order to investigate what was behind the child computer-use for long periods, which affects the child in Arab-community (Picture 1-10).

Prevalence of the questionnaire: the results were in the parent answers about 500 persons (Table2 & Graph 1). The question 1 was "You have a child up to 13 years old?"; the result was 83.6%. It showed that about four-fifths of future child are under 13 years of age. It's single of the dangerous stages in raising and guiding the child [1-5]. The question 2 was "Your child used a computer?"; the result was 80.8%. It turned out that four-fifths of the children use the computer. That indicated the tendency of children to computer-use for almost all children [1-5]. The question 3 was "Your child used the computer for a long time?"; the result was 67.9%. It was found that about two thirds of the children continue to the computer-use for a long period of the day whether inside or outside the house. Until this period of time, the chil-

dren refused to leave the house in order to sit in front of the computer. They did not prefer visits, claiming that he was sleeping in order to work on the computer. That reduced family relations and relations of friends [1-5]. The question 4 was "The computer caused a health problem for your child?"; the result was 70.3%. Through the results of the parents, it was found that nearly three quarters of them have health problems caused by the use of the computer for long periods. That affected the child's health as well as the psychological impacted on the child, parents and family [10-21]. The question 5 was "The computer caused your child mental disorder?"; the result was 68.5%. As for the damage to the child mind, it affected more than two thirds of the children. This may reach them to the age of youth. As they are the mainstay of youth after less than ten years. This could affect the mental ability of future youth [10-21]. The question 6 was "The computer caused your child trouble seeing?"; the result was 77.2%. That explained that about three-quarters of them seeing were affected by the computer-use. This showed the extent of the effect on prolonged sight. Which resulted in insults with poor eyesight while they are at the age of flowers. That could affect productivity for study and work [16-21]. The question 7 was "The computer caused your child trouble sleeping?"; the result was 72.0%. It was found that the effect was clear on about three quarters. They lack of proper sleep leads to a high imbalance in the body and mind. That find the future of children would include irregular sleepers, which would affect the society's progress and success through its members [16-21]. The question 8 was "The computer caused your child feeding problem?"; the result was 69.5%. It was found that the effect is about three quarters. That may be overweight, it could be a food malfunction. Also, loss of a goose and digestive disorders may be accompanied by for example, teeth cores, stomach and intestine problems. As well as excretory problems as a result of sitting for a long time. Unstable individuals will produce food or digestive upset. This will be accompanied by a high-cost treatment to return to the normal course [17-21]. The question 9 was "The computer caused your child family relationship problem?", the result was 72.0%. It was found that many children, about three quarters, do not communicate with the family. There was always a reason he was busy or asleep. It will cause family problems and family cohesion. It leads to the

Table 2. Prevalence of the questionnaire

Question	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
Percent	83.6%	80.8%	67.9%	70.3%	68.5%	77.2%	72.0%	69.5%	72.0%	79.0%



Graph 1. Prevalence of the questionnaire

disintegration of families and ignorance of the family relationship [6-10]. The question 10 was "Prevent your child from using the computer to protect his health?"; the result was 79.0%. From the parents about four-fifths against the occurrence of problems related to computer-use by children. The parents were trying hard to reduce the computer-use for children and they were aware of what will be happening as a result. Parents are among the individuals that preserve their children at a young age in order to produce young people with beautiful qualities. That will help their presence in life without influence or defects. That will support and strengthens the Arab-community is to reduce exposure to the computer-use, as the damages of invisible appear after a long period [1-5].

Comments of the watcher: The result of an online comment was from the participation of 14 watchers (Picture 11-14). Negative effect on long-term memory. Its contribution to the individual's introversion and depression, especially when it comes to the point of addiction. Sedentary in obverse of the computer long time, may make some brain functions serviceable, long memory, in addition to stressing the brain. Commercial uses of specializations, communicating with people, Saudi Arabia, communicating with people. They posture a hazard to the skin, cells, and genitals, and are the most vulnerable, which renews questions about how to deal with this technology at a time when expanding.

Excessive computer-use negatively affects the health of the child; It causes headaches and gradual visual impairment as a result of constant eye strain and exposure to tablet or computer rays, as well as affecting the muscles of the hands by way of consequence of holding one position for long periods, and leads to bone weakness, especially the spine and back.

Sitting for long periods at the computer leads to vision problems and pain in the vertebrae and back, and it can also lead to headaches and headaches. In the case of sitting on the Internet without benefit, this is considered a waste of time and comes at the expense of work or study. Leads to neglecting the basic aspects of life and not achieving success.

Although technology helps children acquire huge amounts of knowledge, it has many negative effects; Such as social isolation, diseases such as obesity, depression, computer syndrome, as well as increased neck concavity of computer users. Therefore, those who are older than the child should always watch the child.

Excessive use of electronic games may expose the child to many harms; Because the frequent use of computers and tablets affects the health of the eyes and brain.

Increased use of tablets and computers leads to a loss of social relationship and family bonding between the child, his parents and those around him, and the child becomes withdrawn and unable to communicate with others.

Excessive use of tablets or computers by children leads to delayed mental development; What results in forgetfulness, distraction, poor concentration, and lethargy in brain functions. This, of course, affects the child's attention, as well as the academic level and educational attainment.

Children and computers are almost inseparable these days. Many school-aged and even pre-school children spend hours in front of a computer every day, it's worth considering the effects



Figure 11. Comments of the watcher



Figure 12. Comments of the watcher



Figure 13. Comments of the watcher



Figure 14. Comments of the watcher

of computers on your children's eyes and vision. Computer dangers for children.

But too much of anything can be a problem. Children who spend long hours in front of the computer have a higher risk of developing problems with computer vision syndrome. In addition, excessive exposure to blue computer light damages the eyes due to high-energy visible light, which may increase the risk of injury to the child. They may develop macular degeneration later in life or put them at risk of progressive myopia.

When a child plays computer games, his desire duties required of him decreases, and his motivation for traditional games decreases, and this affecting the child's practical life.

Excessive use of technology negatively affects the health of the child. It causes headaches and gradual visual impairment as a result of constant eye strain and exposure to tablet or computer rays, as well as affecting the muscles of the hands as a result of holding one position for long periods, and leads to bone weakness, especially the spine and back.

The frequent sitting of the child for hours in front of a computer or mobile phone to browse the Internet leads to poor eyesight, headaches and bone aches, especially since his body is still in the stage of formation, and may also lead to obesity and related diseases, especially if he does not exercise any sport at other times. One of the most important negatives of the Internet for children is that it works to lose the child's confidence in himself and weaken his personality, and it also exposes the child to getting to know many ideas,

some of which are wrong, especially strange beliefs and cultures that are not compatible with his society and environment.

Conclusions

It was concluded from the results, the extent of the harms of child computer-use from a health and psychological point of view. It was found that children, as they have young and sensitive tissues, so the computer-use affected them, which affected the child-health.

Recommendations

It was recommended following the instructions from the parents and will protect children from the computer-use for long periods. So that will reduce child-health and psychological problems.

Acknowledgments

Sent thanks a lot to all parents had reply the questionnaire.

References

1. Laura E, Levine M, Waite L, Bowman B, & Kyla K. (2019). Mobile media use by infants and toddlers. *Computers in Human Behavior*, 94: 92-99.
2. Yoon H, Chang Park E, Yoo H, won J, Lee & Shin Y. (2018). Electronic Media Exposure and Use among Toddlers. *Psychiatry Investig*, 2018 Jun; 15(6): 568–573.
3. Matthews G, Hancock A, Lin J, Panganiban R, Reinerman-Jones E, Szalma L, & Wohleber W. (2021). Evolution and revolution: Personality research for the coming world of robots, artificial intelligence, and autonomous systems. *Personality and individual differences*, 169: 109969..
4. Nirwana N, Mappapoleonro M, & Chairunnisa C. (2018). The Effect of Gadget Toward Early Childhood Speaking Ability. *Indonesian Journal of Early Childhood Education Studies*, Nov 23,7 (2): 85-90.
5. Dylan B, Jackson A, & Bryanna F. (2021). Adverse Childhood Experiences and Digital Media Use Among U.S. Children. *American Journal of Preventive Medicine*, 60(4): 462-470.
6. Gerson A, Morey D, & van Schaik E. (2022). Coding in the cot? Factors influencing 0–17s' experiences with technology and coding in the United Kingdom. *Computers & Education*, 178: 104400.
7. Horiuchi F, Oka Y, Kawabe K, & Ueno S. (2020). Sleep Habits and Electronic Media Usage in Japanese Children: A Prospective Comparative Analysis of Preschoolers. *Int. J. Environ. Res. Public Health*, July, 17(14): 5189. <https://www.mdpi.com/1660-4601/17/14/5189.com>
8. Chetty S, Samuel M, Fuhrmann M, Basera W, Hartinger S, Aqiel M, Dalvie D, & Rösli M. (2020). Different aspects of electronic media use, symptoms and neurocognitive outcomes of children and adolescents in the rural Western Cape region of South Africa. <https://doi.org/10.1016/j.envres.2020.109315.com>
9. Lisa K, Mundy K, Canterford L, Hoq M, Olds T, Moreno M, Betancur S, Kosola S, & George P, (2020). Electronic media use and academic performance in late childhood: A longitudinal study. <https://journals.plos.org/plosone/article?id=10.1371.com>

10. MiaoLin Y, YuKuo S, KaiChang Y, ChuLin P, KuangLin Y, HsiaLee P, Hung P, LinMS N, & RuChen S. (2021). Effects of Parental Education on Screen Time, Sleep Disturbances, and Psychosocial Adaptation Among Asian Preschoolers: A Randomized Controlled Study. *Journal of Pediatric Nursing*, 56: e27-e34.
11. Sarah E, Domoff, Aubrey L, Borgen, Ryan P, Foley F, & Maffett A. (2019). Excessive use of mobile devices and children's physical health. Wiley Online Library. <https://onlinelibrary.wiley.com/doi.com>
12. Flor j. & Ann p. (2017). Behavioral and Developmental Impact of Media Exposure and Content. Pediatric guidelines pdf., <https://www.archildrens.org.com>
13. Nazli M, Khatib, Sinha A, Abhay M, Gaidhane, Simkhada P, Prakash B, Behere, Saxena D, Unnikrishnan B, Khatib A, Ahmed M, & Quazi S, (2018). A Systematic Review on Effect of Electronic Media among Children and Adolescents on Substance Abuse. *Indian J Community Med.*, 43(1): S66–S72.
14. Zahra A. & Alanazi A. (2019). Digital Childhood: The Impact of Using Digital Technology on Children's Health. *International Journal of Pharmaceutical Research & Allied Sciences*, 8(3).
15. Gavin B. & Alan, F. (2011). *Blackwell handbook of infant development*, Blackwell publishers, USA, P 389.
16. Poulain T, Vogel M, Neef M, Abicht F, Hilbert A, Genuneit J, Körner A, & Kiess W. (2018). Reciprocal Associations between Electronic Media Use and Behavioral Difficulties in Preschoolers. *Int. J. Environ. Res. Public Health*, April, 15(4): 814. <https://www.mdpi.com/1660-4601/15/4/814.com>
17. Nasser A. & Abdullah N. (2020). The effect of electronics on the growth and development of young children:A Narrative Review. *Research Articles, Pdf., Home Archives*. 14(1).
18. Salunkhe S, Bharaswadkar R, kumar M, Patil, Agar S, khedkar, Pande V, & Mane S. (2021). Influence of electronic media on speech and language delay in children. *Medical jurnal*, 14(6): 656-661.
19. Rideout V. (2021). The Common-Sense Census: Media Use by Kids Age Zero to Eight in America, A Common-Sense Media Research Study. <https://www.icpsr.umich.edu/web/ICPSR/studies/37491.com>
20. McNeill J, Steven J, Stewart A, Vella V, & Dylan P. (2021). Cross-Sectional Associations of Application Use and Media Program Viewing with Cognitive and Psychosocial Development in Preschoolers. *Int. J. Environ. Res. Public Health*, 18(4): 1608. <https://doi.org/10.3390/ijerph18041608.com>
21. Bassam, A. (2022). Impact of Electronic Media in Health Status and Behavior of Children in Qasim Region, KSA. *International Journal of Novel Research in Healthcare and Nursing*. 9(1): 63-71. www.noveltyjournals.com
22. Jirwe M, Gerrish K, & Keeney S, (2009). Identifying the core components of cultural competence: findings from a Delphi study. *Journal of clinical nursing*, 18(18): 2622-2634.
23. Purwanto A, Santoso B, & Siswanto E, (2021). Effect of Hard Skills, Soft Skills, Organizational

Learning and Innovation Capability on Islamic University Lecturers' Performance. International Journal of Social and Management Studies, 2(1): 4-40.