

The Health Effects of Modern Gaming Devices and Phones on the Child's Mind and Intellectual Level

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KEYWORDS

Child's Mind, Health Effects, Game Devices, Mobile Phones, Level of Thought

ABSTRACT

This study included 200 children between the ages of 2-12 years, who use mobile phones for multiple purposes. This study was conducted by distributing questionnaires to parents, and their answers were approved for their children. This study showed that the age group ≥ 5 years had the highest percentage, reaching 60% of children. The study sample was mostly females (girls) at 54%, while the remaining section was males (boys) at 46%. This study showed that children in an urban environment use mobile phones more than children who live in a rural environment, where their percentage reached (66%). The study showed that the educational level of the parents of these children was good, as most of them held a university degree (38.0%, 36. %) for both the mother and the father, respectively. The study showed a significant relationship $P = 0.0001$ between parents' occupation and Children used mobile phones and gaming devices, and the percentage was higher if both parents worked (42% and 78%) for the mother and father, respectively. The study showed that most children belong to a middle-income family environment. The study showed that the percentage of children who use modern phones and gaming devices reached (96%), while those who do not use mobile phones (4%). Most of the families had more than two phones at home (58%), and (78%) of the children used the phone throughout the day, and (48%) of them felt happy as a result of using the mobile phone, and (52%) of the study sample used the mobile phone for a period of time. (two years or more). The study showed that 56% of children suffer from lack of concentration and a low level of intelligence. According to the results of the study, 54% of them suffer from problems in their fingers as a result of frequent use of toys, and 70% of children suffer from dry eyes and a constant feeling of sleepiness as a result of radiation emitted from toys and devices. 93% of them suffer from anxiety and depression. The study also showed that (72%) of the children were addicted to the phone and the phone caused them headaches. It is clear from this study that children's use of the phone causes them many problems, including psychological and physical ones. Therefore, parents must keep their children away from mobile phones as much as possible, and if they have to, allow them to use them. There must be a specific time for using phones, and the harmful effects of phones must be explained to them, whether in the short or long term.

1. Introduction

The progression of technology has significantly influenced contemporary childhood, leading to a substantial rise in the duration spent using digital devices since the commencement of the twenty-first century. (1,2) and is now a large portion of a child's free time (3). Children aged 8–12, for example, spend an average of 4–6 h with a screen each day watching videos, gaming, and socializing (1,4). Digital media introduce a range of novel experiences that may have advantages as well as disadvantages for the cognitive development of children (5). Due to the shift to an online environment, neuroscientists are increasingly directing their focus toward understanding the potential effects of digital technology on our brains and behavior. The emerging data indicate that consistent use of technology can influence brain function and behavior, yielding both positive and negative outcomes. For instance, elderly individuals experiencing cognitive decline might benefit from using the internet to access information that supports their independence. Nonetheless, a significant number of seniors facing cognitive challenges may be hesitant or unable to embrace new technologies (6). internet game addiction is characterized by cognitive and emotional deficits. Previous studies have reported the co-occurrence of Internet addition and (7,8). Furthermore, a longitudinal investigation revealed a positive correlation between the severity of Internet game addiction/depression at an earlier stage and the severity of depression/Internet game addiction at a subsequent stage. This suggests the potential existence of a bidirectional relationship between depression symptoms and addiction among online gamers. Individuals often resort to playing online games as a means of coping with emotional distress. However, prolonged and excessive engagement in online gaming can lead to a detachment from real-

life relationships, consequently contributing to more severe mental health issues, including depression. (9). Despite its advantages, it is still hazardous for the human being in the sense of physical & mental well-being with negative effects on social relationships, working capabilities, and day-to-day activities. The major health risk is associated with radiofrequency electromagnetic fields, as the main source of mobile phone communication is linked through the emission of radio signals (10). Many mobile games feature content centered around combat, killing, gunfire, eccentric characters, mechanical and rugged animations, as well as nonsensical plots and swift pacing. These elements can have a significantly adverse impact on the moral and psychological well-being of students. Those who develop an addiction to such games often exhibit restlessness, impulsivity, a lack of emotional calmness, and a propensity for violence. This, in turn, introduces destabilizing factors into the realms of campus life, family dynamics, and broader society. The individuals, though physically present in reality, tend to immerse their minds in the virtual world of online gaming, making them susceptible to symptoms of schizophrenia. Very few children addicted to mobile games demonstrate psychological well-being. The contemporary focus on the study of mobile games also underscores concerns about antisocial behavior. While video games are primarily created for entertainment or educational purposes, it must be acknowledged that a considerable number of them incorporate violent content. Data from Children Now in 2001, a non-profit organization dedicated to children's learning and development, revealed that even 15 years ago, 89% of all games included violent elements, with almost half of them featuring severe violence. (11).

2. Methodology

This study was conducted on a sample of 200 children residing in different areas (rural and urban), by distributing questionnaire forms to parents, and the parents' answer was the approved one. The children's ages ranged from 2 to 12 years. The questionnaire included questions on many variables such as (age, gender, and livelihood). The parent's educational level, occupation, etc.) The study was conducted during the six-month period from January to June 2023.

Statistical analysis

Analysis of data was carried out using the available statistical package of SPSS- 28(Statistical Packages for Social Sciences –version 28) Data were presented in simple measures of percentage P value was equal or less than (0.05)

3. Results and discussion

The results showed that the use of mobile phones and gaming devices is common in age groups ≥ 5 years and by (60%) of children, as shown in Table (1). The highest percentage is (54%) among females compared to (46%) among males, and those who live in an urban environment (city centers) more than in a rural environment (66%), and with regard to the educational level of parents, the highest percentages showed (38%, 36%).) for both the mother and the father respectively were university graduates, this study showed a significant association between the mother's occupation and the child's use of mobile phones and gaming devices P value = 0.0001, and the percentage was higher in both working parents (42% and 78%), correlation The study sample was based on the economic level of the guardian, and showed the highest percentage (51.5%) in children who live in a (Moderate) income environment. This result is consistent with other studies/

Table 1. Demonstrate social, demographic and environmental characteristics using mobile devices and gaming devices

Socio-demographic characteristics	Use of mobile and play devices			P. value
	No	Yes	Total	

		N o.	%	No.	%	No.	%	
Age groups	<= 5 years	8	50.0%	72	39.1%	80	40.0%	0.395
	>=5 years	8	50.0%	112	60.9%	120	60.0%	
Gender	Male	4	25.0%	88	47.8%	92	46.0%	0.079
	Female	12	75.0%	96	52.2%	108	54.0%	
Living	Rural environment	4	25.0%	64	34.8%	68	34.0%	0.428
	Urban environment	12	75.0%	120	65.2%	132	66.0%	
Level of education of mother	No formal education	0	0.0%	28	15.2%	28	14.0%	0.077
	Primary	8	50.0%	60	32.6%	68	34.0%	
	Secondary	0	0.0%	28	15.2%	28	14.0%	
	College	8	50.0%	68	37.0%	76	38.0%	
Level of education of father	No formal education	0	0.0%	20	10.9%	20	10.0%	0.017
	Primary	8	50.0%	48	26.1%	56	28.0%	
	Secondary	0	0.0%	52	28.3%	52	26.0%	
	College	8	50.0%	64	34.8%	72	36.0%	
Occupation of mother	Employed	8	50.0%	76	41.3%	84	42.0%	0.0001
	Unemployed	0	0.0%	32	17.4%	32	16.0%	
	Housewife	4	25.0%	76	41.3%	80	40.0%	
	Student	4	25.0%	0	0.0%	4	2.0%	
Occupation of father	Employed	16	100.0%	140	76.1%	156	78.0%	0.086
	Unemployed	0	0.0%	32	17.4%	32	16.0%	
	Student	0	0.0%	12	6.5%	12	6.0%	
Level of Family income	Good environment	12	75.0%	72	39.1%	84	42.0%	0.018
	Moderate environment	4	25.0%	99	53.8%	103	51.5%	
	Poor environment	0	0.0%	13	7.1%	13	6.5%	

In the Table No. (2) also showed that a high percentage of children used phones and modern gaming devices (96%), while they did not use a mobile phone (4%). According to the number of phones used in the home, more than two phones were the highest percentage (58%) and (78%) of the time the child uses the phone throughout the day, which leads to the child feeling happy when using the phone and (78%). The percentage was the highest (48%) and the highest percentage (52%) in the study on the dose of using the phone for a long period (two years or more) leads to a decrease in the level of concentration and intelligence with its effect on the nervous system. This is due to the rapid and repetitive movements that your child makes.

Table (2): Show the habits and patterns of children's practice of mobile phones

Children's habitats and patterns		Use of mobile and play devic	
		No.	%
Child use of mobile phone	Use	192	96%
	Not used	8	4%

Number of phone in the home	Tow and less	84	42%
	More than two	116	58%
When the child uses the phone	Every day	156	78%
	Several times or twice a day	44	22%
The child's feeling when using the phone	Happiness	96	48%
	Freedom	20	10%
	Comforts	44	22%
	Other than that	40	20%
The time period for the child to use the phone	A year or less	96	48%
	Two years or more	104	52%

Table No. (3) also showed an increase in the percentage of children who use mobile phones, which led to them developing autism, and the symptoms of this disease include linguistic and motor skills and mood changes at a rate of (84%). As a result of frequent use of the phone, which leads to a decrease in the child's concentration level to that was high (56%). showed of this study, health effect for Use of mobile and play devices and child suffering from pain in the finger of the hand as a result use of the phone were (54%). According to the finding of this study, there was highest percentages of the radiation emitted from the gaming devices causing damage and dryness of the eyes in your child and his constant feeling of drowsy , anxiety, depression and loneliness) were (70% , 93%) respectively and that the highest percentages was (72%) Were the intermittent flashing of modern phones ,games ,and loud lights cause headaches in your child as a results of gamming addiction .

Table (3): Show health effects for use of mobile and play device

Health effect	Use of mobile and play device			
	Yes		No	
	No.	%	No.	%
Having autism	168	84%	32	16%
Decrease in the child s level of concentration	112	56%	88	44%
Using the phone affects the child's fingers	108	54%	92	46%
Eye damage resulting from using the phone	140	70%	60	30%
Occurrence of health problems such as anxiety and depression	186	93%	14	7%
The child suffers from addiction to using the phone	144	72%	56	28%

Discussion

In this study, we found that The results showed that use of mobile and play devices is common in the age groups ≥ 5 years and was 60% of the children. These results are similar to those obtained by Iqbal M et al. (2022) where most of the children were The age groups ≥ 5 years got the highest proportion (60%) .(12) A higher percentage (54%) in female while (46%) in male ,the result of this study is disagree to what had been reported by Wang et al.(2019).(13) Also, the finding of the present study is agreement with finding reported in Karachi, Pakistan by Iqbal M et al.(2022) Most of studied sample (66%) were living in urban environment areas.(14) Regarding the educational level of parents showed highest percentages (38% ,36%) of both mother & father) respectively were collage graduate. these results were similar to other studies found in Dehradun India by Ausier et al. (2020) that found the highest percentage (68%) collage graduate and significant association for educational level of father. (15) This study showed a significant association

between occupation mother and Use child for mobile and play devices P value = 0.0001, a higher percentage in both occupation parents were Employed (42% & 78%) respectively. these results agree with studies by Jamel et al. (2019) finding association (p value < 0.05) (16).

The association of the studied sample related to the Level of educational of parent, and showed highest percentage was (51.5 %) in (Moderate) environment this result agree with other studies by Wang et al. (2019). (17)

This table (2) The result study show a high percentage of children use phones and modern gaming devices were (96%) while not used mobile phone were (4%) According to the number of phones used in the home, more than two was the highest percentage (58%) and (78%) the time the child uses the phone for whole day, These results are similar to those obtained by Iqbal M et al. (2022) where (49%).(18) The results of the study were that the child felt happy when using the phone and the percentage was high (48%). This table (3) show of this study highest percentage in dose the use of gaming devices cause your child to have autism, one of its symptoms is delayed language and motor learning skills, rapid mood changes such as anxiety and tension were (84%) and (70%), these results were similar to other studies found in China Wang et al. (2019) that found the highest percentage (90%).(19)

The finding of this study is consistent with study conducted by Raghad Al-Samman (2019) (20) in Saudi Arabia. were (56%) higher percentage in both studies about dose using the phone for a long time lead to a decrease in the level of concentration and intelligence with affect the nervous system, due to the rapid and repetitive movements that your child makes.

show of this study health effect for Use of mobile and play devices and child suffering from pain in the finger of the hand as a result use of the phone. According to the finding of this study, there was highest percentages of the (radiation emitted from the gaming devices causing damage and dryness of the eyes in your child and his constant feeling of drowsy, anxiety, depression and loneliness) were (54%, 70 %) this results agree with studies done in Dehradun India Dimri et al. (2022) (21) . The results of the study showed that the highest percentages was (72%) respectively Were (the intermittent flashing of modern phones, games, and loud lights cause headaches in your child as a results of gaming addiction) this results agree with other studies done in Indonesian Islamic University by Rosyati et al. (2020) (22).

4. Conclusion and future scope

In our study, we found that the use of mobile phones and gaming devices is common in age groups ≥ 5 years, and a high percentage of children, The results also showed that most of them live in an urban environment (city centers) more than in a rural environment., and most of the parents had a good level of education. The study also showed that the mother's occupation has a role on the child's use of the mobile phone, and their percentage increased when the fathers were both employees The results of the study also showed that a high percentage of children use phones and modern gaming devices, and that most families had more than one mobile phone at home, and that most of the children were using the phone throughout the day. The study also showed that the child's use of the phone affected the children through the appearance of signs of autism in them and their lack of Their concentration, as the study showed that the child's use of a mobile phone affected him through a feeling of pain in the fingers of the hand. As a result of using the phone. According to the findings of this study, children were suffering from radiation emitted from gaming devices, causing them damage and dry eyes, and making them feel constantly sleepy, anxious, depressed, and feeling lonely. The results of the study showed that the intermittent flashing of modern phones, games, and bright lights causes headaches in your child as a result of gaming addiction, so parents should reduce the period of mobile use as much as possible to protect them from all the side effects mentioned.

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