

Social, Psychological, Behavioral Implications of Smart Phone Use among Children Less than 10 Years in Iraq

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Abstract

Background: Smart phone is rapidly spreading throughout the world in recent years; it has become indispensable tool in everyday life and mobile tool that everyone can easily reach.

Objectives: To determine the proportion of children who use smartphones and relationship with demographic variables, the impact on the social, psychological and behavioral aspects of children.

Material and methods: The study targeted parents with children younger than 10 years who were in the community in Baghdad city. Self-reported questionnaires were distributed among 200 parents that were conveniently selected throughout the period of 10th January to 25th May 2022.

Results: 90.3% of children in present study were using smart phone devices with boy predominance 66%; mean age 7±1.63 Years. 37.6% of children have their own devices. Most parents 88.6% supervise on their children while they are on the devices. Most children were normal, the remaining 12%, 7%, 6%, 3% open minded, nervous, audacious, and isolated, consequently. Fifty-eight of parents noticed variation in children's behaviors before and after using smartphone. Psychological effects detected in 17% of children. Both of girls and boys (46%) smart phone have effects on their study. Approximately 10% have problems in growth processes, and lost regular meals (64%).

Conclusions: The study concludes that the majority of parents notice differences in their child's behaviors after using smart phones.

Key words: Social, Psychological, Behavioral, Smart Phone Use, Children Less than 10 Years.

Introduction

Recently, smart phone is rapidly spreading throughout the world. It has become indispensable tool in everyday life & mobile tool that everyone can easily reach.^[1] Smartphone addiction can be described as a psychological disorder in which the individual's inability to control uses of smartphone that can causes significant distress or functional impairment that further creates psychological disorder, difficulties with social relationships, school or work problems.^[2, 3]

In 2022, including both smart and feature phones, the current number of mobile phone users is 7.26 billion, which makes 91.16% of people in the world cell phone owners. Feature phones are the basic cell phones without apps and complex OS systems, more prominent in developing countries. In addition, smart phone does not fit early childhood development stage because it is a very passive tool which you just sit down and absorb the Knowledge. The function of frontal lobe in brain which relates to the ability to think, judge, and concentrate is damaged, so that normal brain development is hindered.^[4] Despite the above advancements of smartphones, their detrimental effects are becoming ever more apparent. Smartphone addictions present with direct symptoms of psychological anxiety, communication avoidance, weakening of social adaptations, and withdrawal symptoms that are similar to those of drug or alcohol addiction.^[5] It became more dangerous when addicted by children as they are in growing stage and smart phone have detrimental effects on them.

Therefore, it was necessary to highlight this group in the community. Iraq is an optimal situation to applied research smartphone addiction.

Objectives;

to determine the proportion of children who use smartphones and relationship with demographic variables, their impact on the social, psychological and behavioral aspects of children.

Materials and Methods

The present study targeted parents with children younger than 10 years who were in the community in Baghdad city. We distributed self-reported questionnaires to parents only after obtained their permission. Moreover, we select the sample conveniently (non-random sample) without considering whether their children had used smartphones or not.

The research objectives were clarified to the subjects before distribution of the questionnaire. The self-reported questionnaire was started from 10th January to 25th May 2022. A total of 200 questionnaires were distributed and only 151 were completed by parents. We asked either the mother or father to answer the questionnaire only if they had children under 10 years. The questionnaire consists general information part (age, gender) of the child and whether he/she use smartphone or not. Followed by several questions as (time spent on smartphone, supervision of parents on child when he/she use smartphone, type of apps watched). Important & final part of questionnaire that concerned the

effects of smartphone on the child (socially, psychologically, child's behaviors, consuming regular meals, effects on her/his study, imitations of views). Not accomplished questionnaire was neglected.

Statistical Package of Social Science Software program version 26 used to analyze data; number and percentages for categorical variables whereas mean and standard deviation used for quantitative variables.

Results

Figure 1 reveals that 90.3% of children in present study use smart phone devices while 9.6% not use these devices. This study shows predominance of boy 93(66%), 8 years age group and more 87(61.7%) with mean age 7 ± 1.63 years (table 1).

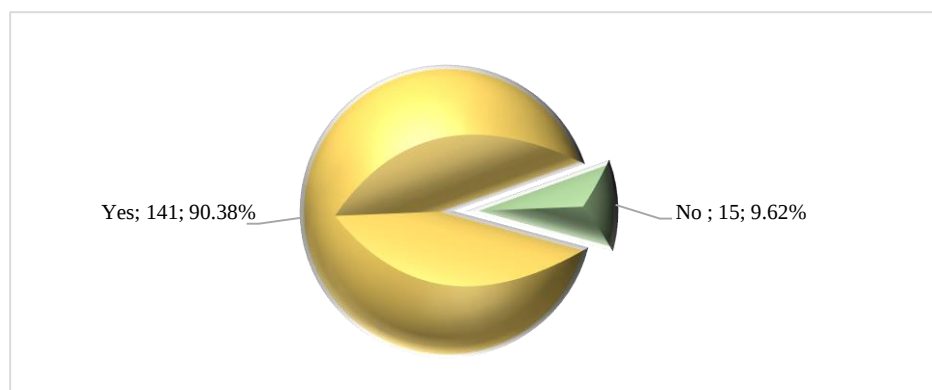


Fig 1. A model on Smartphone uses of early childhood in studied sample

Table.1. Demographic variables of 141 children who use mobile devices:

	Uses a mobile device /not	
	No	%
Gender		
Boy	93	66.0%
Girl	48	34.0%
Age group		
<4 Years	10	7.1%
4-5 Years	16	11.3%
6-7 Years	28	19.9%
>=8 Years	87	61.7%
Mean $\pm$ SD (Range)	7 ± 1.63 Y	3-10 Y

37.6% of children have their own devices, the majority of them use it all day (33.3%). Most parents (88.6%) supervise on their children while they are on the devices. As regard with reasons of devices uses; 62% for entertainment,

8.5% to avoid crying and less than this percentages by 2% to get rid of them. The study also found that 65% of children have addiction to use devices. Parents always can reduce number of hours that child be on the device 82% (table 2).

Table 2. General information about children on smartphone in studied sample.

Variable	No. = 141	%
Device specific for the child:	53	37.6
Time spends on the device:		
• Half hour	7	4.96
• One hour	30	21.28
• Three hours	27	19.15
• Five hours	30	21.28
• All day today	47	33.33
Supervision on child's device:	125	88.65
Causes to give the device to child:		
• For entertainment	87	62.14
• To avoid crying	12	8.57
• To get rid of them	9	6.43
Addiction to use devices	91	65.47
Reduction of devices uses/ hours	114	82.01

There are different applications (apps) used by children, highest percentages in current study prefer to use educational sport apps. (56%) followed by entertainment

games (35.4%) then educational languages games (32.6%), (14.8%) different types of games and finally 4.2% use religious apps (Fig 2).

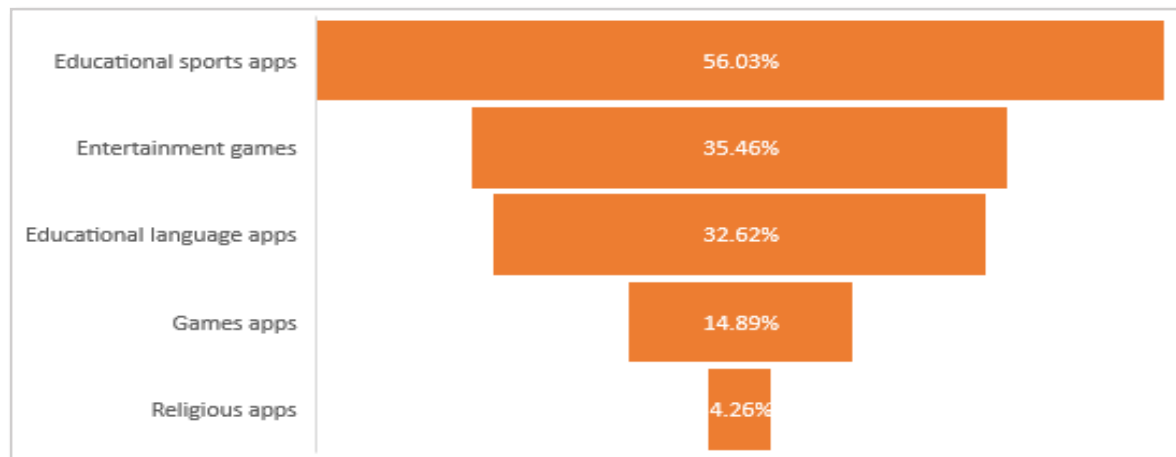


Fig 2. Applications more used by children.

The children were evaluated socially in present study and the results were as follows; 70% of children were normal, the remaining 12%, 7%, 6%, 3% open minded, nervous, audacious, and isolated, respectively. Fifty-eight of parents noticed variation in their child behaviors before and after using smartphone. Psychological effects detected in 17% of children. As regard with effects on children's study 46% of them affected after using smartphone and for both

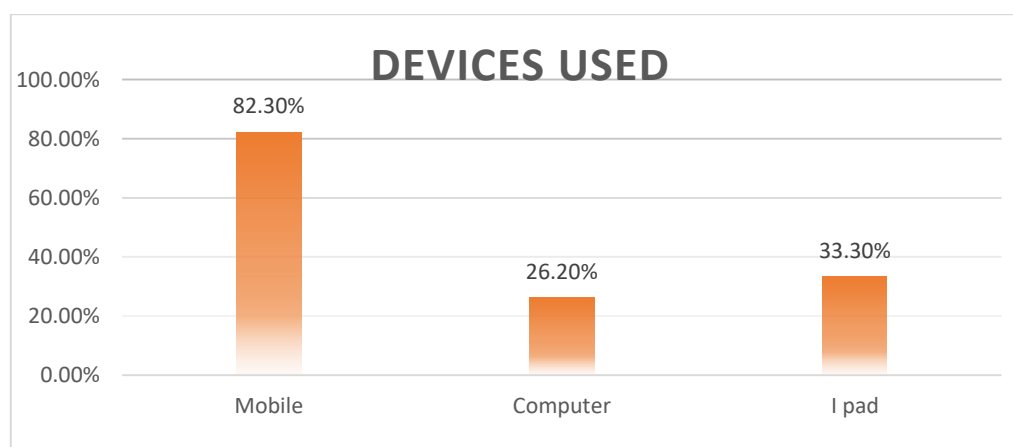
sexes. On the other hands approximately 10% of children have problems in their growth processes, as they lost regular meals (64%). Several children have simulation for scenes that they watched in smart devices regardless whether it is valuable or not. The highest percentages gave for playing 82%, prayer 8%, killing 7%, fasting 4% whereas very low percentages 1% for stealing and 24% other behaviors table (3).

Table 3. Effects of smartphones on children (n=141)

	No	%
Social evaluation of child	Open minded	18
	Isolated	5
	Normal	98
	Nervous	11
	Audacious	9
Child's behaviors		
Noticed a difference in behavior & style before-after using smartphones	82	58.2
Violent	15	10.6
Shy	23	16.3
Tenacious	74	52.5
Little Movement	44	30.7
Psychological effects in child after using smart devices	24	17.0
Any effects in child studies	65	46.1
Growth problems	15	10.6
The child's use of smartphones keep him away from regular meals	91	64.5
Imitation of some views watched in smart devices		
Playing	116	82.3
Killing	11	7.8
Stealing	2	1.4
Prayer	12	8.5
Fasting	6	4.3
Others	31	24.7

Although current study focused on the use of smartphone by children, other devices also found to be used by children that they have the same effects on them; 33% of

children on I pad, 26% on computer and the majority of them prefer mobile phone. Some children use more than one device as shown in Fig 3.

**Fig 3. Type of devices used.**

Discussion:

Today it has become challenging to imagine our life without a smartphone; it is crucial apparatus for all ages throughout the world and it used for different purposes include: learning, communication entertainment and so on. Moreover, it makes changes in daily habits, routines, social relationships, behaviors & emancipative values.^[6, 7] When children simply use these devices as their toys, also parents have benefitted from these devices to liberate from their children for long periods of time. Smartphone addiction and related implications are likely to arise.^[8]

Excessive usage of smartphone regarding gender differences was controversy. Several studies showed that girls report significant association and they are more likely to engage smartphone's uses ramifications than boys regardless age group to which they belong.^[9-13] Nevertheless, other studies showed opposite findings with boys more than girls in using and therefore addictive to smartphones.^[14-16] while other studies^[17 - 19] found no clear gender effect. 90% of children in the current study were found to be on the smartphone that was considered highest percentage, 66% of them were boys whereas 34% were girls. On the other hands Dhiaa and Tawfeeq by performing study in Iraq in 2016 show similar findings were boys use devices in particular for gaming more than girls.^[20]

Eight to ten years old children show predominance among other age groups in present research, study performed in Korea in 2017 revealed that children's smartphone usage was high in 5 years old children more than the others. Indeed, there is no significant differences between these two studies, both of them show increment usage of smartphone throughout childhood.^[21] A report in 2014 provides detailed evidence on smart devices uses among children aged 5-15 years, it provides evidence that 34% of them have their own tablet, rather than using devices belonging to their parents or school. In this research we conclude the same results as 37% of children have specific devices. Two studies [Jeong, *et al.* in 2016; Lee, & Ogbolu in 2018] in Korea carried out on 2-12 years old reported an unprecedented increment in the ownership of smart phones (72.2% & 73.3%) respectively.^[22, 23] These variations may be due to rapidly growing of smart phone uses by Korean children than others.^[24]

The World Health Organization (WHO) has begun identifying the risks associated with children using smartphone technology. The organization not recommend

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using these devices for infant (less than 1 year of age) and children (between two- and four-years-old) should spend no more than an hour per day in front of a screen. Excessive use is sometimes measured as duration of usage and usage frequency (Bae, 2017).^[25] As regarding with the daily uses of smartphones by children, the results was as follows; 4.96% used them for less than half an hour, 21.28% using them for one hour per day, 19.15% used them for three hours, 21.28% used them for five hours throughout the day, and 33.33% used them all day which was the most common percentages than others. Whereas

study in 2017 by Cho & Lee, showed results that were completely different as less than one hour/day of child's smartphone uses was the most common.^[21] This is because that 62% of parents in recent study allow their children to use smart phones for entertainment that make children prefer to be on devices for long time whereas in Cho & Lee, 2017 study, the parents allow this usage because of the children's amusement just (40%). Children have not reached the age to make rational decisions yet, so they can easily use & be addicted to smart phones, the best way to minimize this problem is to supervise children when use this apparatus that is done by 88.6% of parents in current study as well as try to diminishes hours spent on them (82%).^[26]

A routine and frequent use of smartphones appears to be associated significantly with behavioral problems in childhood.^[27] The current study confirmed these findings as changing in behaviors noticed in 58% before and after using them. One of the most important effects that rises in compatible with smartphone over use were psychological problems that detected in 17% of children, several studies showed same results.^[28-35] Previous studies have showed a causal relationship between using smartphone and in particular following violent video games with increased violence behavior.^[36, 37] Ten percent of parents in study sample notice violence in their children.

It can be concluded that boys less than 10 years old used smart devices more than girls. Applications most frequently used were sports apps. The majority of parents notice differences in their child's behaviors after using smart phones. Children must use smart devices regularly with parents' supervision, and at specific hours during the week. Parents should monitor children's behavior after they use these devices. Searching for alternative means as smart games and short stories so that children can spend their time away from smart phones.

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