

Role of Family in Controlling Smartphones Used by Children

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Abstract: The research highlights recent facts and research analysis of the hazards of smartphones on children and the role of their families to ban them from using the smartphone. The study also discusses some drawbacks of smartphones' used by children and presents examples of those drawbacks such as sleep deprivation, eye discomfort, aches, and pains in the neck, the effect on academics and hobbies, inhibition of social development skills, giving to a high level of anxiety and depression, and damage the shape and performance of the brain. The study showed that smartphones disturb the inner body clocks, smartphones decrease physical activity that increases the risk of obesity, and also cause toxicity of retinal photoreceptors. Using smartphones also leads to poor academic performance, and a lack of interaction with others, children were influenced by items that they sight and expose to through smartphones.

Keywords: Children, smartphone, media, sleep deprivation, obesity, body clocks.

I. Introduction

The world is a small village. Media has played an essential role in children's lives. Children who live in Arab countries like those who live in Europe have access to games video, computers, the internet, and movie players, smartphones ignoring completely the 'ancient media such as radio, television magazines, comics, and books. Children in Arab countries face global challenges in their media environment (Roberts et al., 1999). Although in the past this technology was used only before governmental affairs and by adults, now it is also addictive to adults and children

.Research can go back to the 1950s when some media included, like, radio, records, television, magazines, books, etc. (Roberts et al., 2005). Nowadays these types of media are considered old-fashioned media while games of video, laptops, and smartphones have existed in most families. In the US, 86% of households with children under 18 own at least one computer, and 74% have Internet access. (Roberts et al., 2005b). The EU Kids Online survey in 23 European countries found that an average 85% of children have Internet at home. 45% of children have an internet connection in their bedroom (Livingstone et al., 2011).

According to (Aries 1962) proposed that childhood, which is now defined as the years between babyhood and puberty, had undergone the process of social fabric Etymologically, the term “child” comes from the Latin *infans* which means “*the one who does not speak* “. *For the Roman, this term designates the child from its birth, up to the age of 7 years.*” This thought promoted a lot through centuries and cultures to finally specify human beings from delivery until puberty. But this motif of the child was broad and the age of the plurality differed from a culture to a young human being below the age of puberty or below the legal age of majority. Smartphones used by children in the world for different reasons. Some children spend a lot of time talking to their friends, and others spend their time playing games on their smartphones. The internet paves the way for knowledge for children. Though the usage of smartphones cannot be discussed the pertinacity use of smartphones can have harmful effects on the child.

Smartphones which are considered to be new devices to people became an essential part of people's life. Smartphones gather many features that allow people to keep pictorials, memories, verbal and written messages and communication, and many other things. Smartphones became the main part of the new communication facility. In

some places in the world, they are the most feasible phones. Smartphones allow people have continuous communication without the hindrance of their motion and distances. Smartphones combine advanced computing capabilities in the United States, for instance, smartphone ownership has jumped from 35% to 68% between 2011 and 2015 (Monica, 2015). People spend most of their time on social media, doing their business emails, doing academic searches, and playing video games. Almost 95 percent of Americans own cell phones and 77 percent own smartphones. (Cha and Seo, 2018) mentioned that around the world, smartphones were used by 1.85 billion people in 2014 which is expected to be 2.32 billion in 2017 and 2.87 billion in 2020. In addition to that, the increase of smartphones grants a great deal of usage; smartphones tool up a portable means by which people have the ability to interact with mates, and relatives play games listen to the news, and music, take and share photos, enjoy the environment of other countries, and have access to a great deal of information via the internet. Regarding the income of smartphone users, there were different research results. (A Pew Research Center survey 2016) reported that people with more education and higher income were more likely to use the Internet or own a smartphone than were those with lower income and less education.

II. Methodology

This study was based on a literature review related to hazards caused by smartphones used by children in different domains. The study tries to analyze the effects caused by smartphones in various ways and shows how families play an essential role in hindering these hazards; by controlling the use of these smartphones.

Smartphone has drawbacks when used by a children:

Sleep deprivation

One of the main drawbacks is sleep deprivation. The interval of sleep differs from one person to another, an adult needs sleep at night from seven to eight hours as an average (Hirotsu et.al 2015) Any type of media that has a screen transmits blue light which resorts to imitating daylight which disorders the inner body clocks. All people depend on their biological harmony to control their sleep, but when eyes are exposed to this blue light late in the night, it sends a signal to the brain that it is daylight and that it is time to stop sleeping. (Zimmerman, 2008) mentioned *“media use may interfere with adequate quantity (duration) and quality (nighttime waking, nightmares, irregular bedtimes) of sleep. In addition to the well-known problems associated with inadequate sleep, poor quantity or quality of sleep is associated with impaired immune function, and impaired regulation of metabolism”* (Chahal et.al., 2013) found a relationship between the use of smartphones at night and having little sleep, increases the weight of the body, and lower the standard of physical activity.

Smartphones boost sedentary behavior, which contributes to obesity

Another drawback is the desk-bound manner that comes up with obesity. The usage of any type of screen media needs a lot of notice. (The NHS 2012) defined child obesity as a health hazard to the young generations because it can make physical modifications that lead to many dangerous and possibilities of life-threatening cases, mainly type 2 diabetes, heart disease, cancer diseases, sleep apnoea, hypertension, stroke, etc. Today Smartphones are an inseparable part of people's daily life and become a primary source of amusement among people. Smartphones lower physical activity. (American College of Cardiology 2019) mentioned that *'university's students who used smartphones five or more hours per day have a 43% increased risk of obesity and were more likely to have other lifestyle habits that increase the risk of heart disease.'*

Smartphones cause eye discomfort.

Smartphones cause eye discomfort which is the third drawback. Although it's not yet known whether spending a lot of time at the screen of smartphones can cause any damage to the eyes. Both children and adults can undergo this damage, but children may be more sentient to have this damage depending on the ways that children use smartphones. According to (Rosenfield et.al 2012) computer vision syndrome, which is known as digital eye strain, is the combination of eye and vision problems associated with the use of screen devices. (Rosenfield et.al 2012) defined the use of all devices such as computers, laptops, tablets, smartphones, and any electronic reading devices have become very common. A literature review by (Vanderloo2014) reported that preschoolers spend up to many hours per day watching electronic screens, which may cause a symptom called digital eye strain these symptoms usually include, fatigue, blurred vision, pain headaches, and dry eyes. (Robert Glatter, 2018 assured that Laptops, smartphones, and iPad transmit blue light which is toxic to specialized cells known as photoreceptors located in the retina, and which are responsible for our vision

.Smartphone causes aches and pains in the neck, shoulders, back, hands, thumbs and other parts of the body.

Technology devices like computers and smartphones are producing a great effect on people's lifestyles and their health. (Wærstedet. al, 2010) mentioned that musculoskeletal disorders have been reported among computer users. Many studies have been conducted to study the connection between using smartphones for writing messages

and both, neck and shoulder pain. (Lee et.al., 2015) mentioned that the activities of extending neck flexion are linked to the neck, shoulder, and upper extremity pain (Gustafsson, et.al., 2011) mentioned that the number of sending text messages has a strong association with the severity of neck and shoulder pain, and even the number of letters per message has not been covered, it is thought that it influences. (Lamberg & Muratori, 2012) has mentioned that tension on tendons, muscles, and parametric tissue, could result in Visual Display Terminal (VDT) due to long-term usage of the smartphones.

Smartphones affect academics and hobbies

It is well-known that smartphones affect children's hobbies and academic achievements. Kids, like elder people, are obsessed with smartphones. These devices are equipped with more features, which include attractive performances like video, sound, camera, etc. These features help students to promote their learning process and visions effectively. Researchers have linked each of these activities, independent of cell phone use, to academic performance. For example, heavy video game playing has been associated with lower GPAs Jackson, et al., 2011; Jackson, et al., 2011). Also, low levels of Internet users have been associated with improved academic performance (Chen and Peng, 2008) (Chen and Tzeng 2010) mentioned that students using heavy Internet information searching were associated with better academic performance, while students using video-game were associated with lower levels of academic performance.

Smartphones in higher Education

(Walsh 2010) and (Ramsden and Jordan 2009) have both reported on the use of smartphones in supporting innovation with QR Codes: two dimensional coded patterns that, when scanned by a camera application, are capable of conveying and connecting to located information. (Ramsden and Jordan 2009) found the majority of students were able to access information on their personal devices, but were largely unaware of the technology and how it could be used, with only one in 50 ever having used a QR Code.

Smartphones contribute to higher levels of anxiety and depression.

Modern studies on Smartphone addiction show that overuse of smartphones is one of the factors of depression, indirectly or directly through mediating effects. There is a relationship between smartphone addiction and altered lifestyle habits. (Kim, J., et al 2017) mentioned that among smartphones, addicts avoid social activity, skip meals, eat unhealthy diets, gain weight, and avoid gatherings all these things lead to symptoms of depression, anxiety, and sleep-related disorders compared to less addicted smartphone users. These can be accounted as factors of depression. A study conducted by (Tomoko Nishida et al 2019) observed that females were more prone to depression than males

Smartphones may damage the structure and function of the brain

Internet addiction is associated with structural and functional changes in brain regions. (Lin & Zhou et al, 2012) mentioned that a lot of the damage occurs in the frontal lobe part of the brain, which undergoes the most drastic changes in the early teen years to mid-twenties which can affect everything from a person's relationship-building skills to their overall sense of well-being. Children who are technically "addicted" to mobile devices are at risk of suffering damage to their developing brains if they are regular users who spend several hours a day using them. According to (Asoke Nath, & Sneha Mukherjee, 2015) several studies among sizeable populations have found a dual risk of some brain tumors after 10 or more years of using mobile phones for about half an hour a day. Studies indicate a possible link between mobile phone use and tumors of the parotid gland a salivary gland in the region normally highly exposed to radiation during phone use.

An integrative psychiatrist, (Dunckley, 2018) mentioned that parents can eliminate their children's risk of impaired brain structure and function by limiting screen time to two hours or less a day. She suggests that parents get their kids to do an electronic "fast" or "detox" lasting about 3 to 4 weeks as a way to reset the brain as opposed to moderately scaling back. Smartphones have essentially changed the world as we know it, and even as adults, we need to be careful with how we use them. Children, however, are much more susceptible to experiencing more problems. Parents should educate themselves on best practices related to kids and mobile device use, stay conscious of their kids' habits, and work with them to find the right balance in using them. Although this issue has been present

III. Results & Discussion

This study provides some of the hazards of smartphones and focuses on their impacts on children. A smartphone is a piece of portable technology that emerged from computers. The smartphone allows people to stay connected with the world and events. People can have access to the internet and social group through this smartphone (Nurfit, 2012) mentioned that society is occupied with smartphones from many sellers or vendors providing a domain of advanced employment and services on a piece gadget. One of the negative effects of smartphones on children according to (Asoke Nath, 2017) the abrupt change in graphics, brightness, and details while children play games on a smartphone which is considered to be one of the main causes of chronic dry eye syndrome. The eyes bear a tremendous amount of reflexes, stress, and dryness. Also (Barar, 2007) mentioned that

extensive viewing of the computer screen can lead to eye discomfort, fatigue, blurred vision and headaches, dry eyes, and other symptoms of eyestrain. These symptoms may be caused by poor lighting, glare, improper workstation set-up, vision problems of which the person was not previously aware, or a combination of these factors. In most cases, symptoms occur because the visual demands of the job exceed the visual abilities of the individual for performing the task comfortably.

Smartphones have become an essential part of people's lives, addiction of children to smartphones has become a serious issue as well. Researchers have exposed that smartphones addiction has a negative impact on the psychological and physical health of children in addition to academic performance and work. (Kuss 2014) mentioned that it is possible that problematic smartphone use represents a form of addiction similar to internet addiction. In addition to that (Wise & Koob, 2014) mentioned that most people feel they have to check their apps and notifications. But some can become addicted to this positive feeling, compulsively checking their phones for updates. Such behavior could become stressful, leading to worsening symptoms of anxiety and depression.

This addiction to smartphones leads to stress, shyness, loneliness, anxiety, and depression. The strong attention people assign to their smartphones has a major, computable effect on their children's health, happiness, and social and family relationships. It's not solely children who overuse screen time. Parents are criminals by spending much time screening smartphones and e-mail which has bad results for their children. It is known that all children are very active and have a natural reason to do many physical activities like running, leaping, mounting, dancing, and playing, which helps them develop a strong and healthy body and brain. To keep children from spending a lot of time hanging around the house and entertaining themselves with smartphone devices, parents must try to enroll their children in extra-curricular activities like gym, swimming, football, or soccer to encourage them to get moving. Impacts of social media use on social skills include many types of social media that have become daily activities for most children and adolescents. (Common Sense Media, 2009) shows that a survey, 22% of teenagers log on to their favorite social media site more than 10 times a day and more than half of adolescents log on to a social media site more than once a day. 75% of teenagers own cell phones, and 25% use them for social media, 54% for texting, and 24% for instant messaging. (Hinduja & Patchin, 2007) shows children, ages 8-18, spend over 7.5 hours a day, 7 days a week using media sites outside of school (Rideout, Foehr, & Roberst, 2010) shows teenagers, between the ages of 12-17, report using text messages in their daily lives more than any other form of communication, including face-to-face interaction (Lenhart, 2010) mentioned that a large part of this generation's social and emotional development is occurring while on the Internet and cell phones. All the time that children and teenagers spend on the internet and more especially social media sites take time away from face-to-face communication and in-person activities (Giedd, 2012). According to a study, from 1997 to 2003, the amount of kids' non-screen playtime decreased by 20%, while screen activities TV, computer, videogames, etc. have increased. (Hofferth, 2010)

Mobile devices have a negative impact on family communication. Overuse of smartphones shows a fall in face-to-face interactions. This decline is a big issue because of the impact that social interactions play on humans' lives. They can also divert parents from face-to-face interactions with their children, which are conclusive for cognitive, language, and emotional development. In addition, devices provide instant access to videos and games, increasing the likelihood that smartphones' time will replace other child activities, as mobile smartphones are keeping the brain busy without any rest, kids tend to be more annoying. Children tend to become more rigorous and aggravated even at ordinary discussions. The worst case is that children stop communicating with the family altogether. Children can feel the need to always check for messages. Children become crusty when they stay away from their smartphones for some time. When kids live offline situations they become completely outcasts, their attention is only on their smartphones. The children become very anxious and do not focus on the environment around them and not only this but if they were sent to kindergarten or school they feel that they do not belong to this environment and feel isolated. Also, children feel anxious and uneasy in offline interactions, they flee to smartphone interactions and become addicted to smartphones. Another point is some parents when they want to accomplish certain work give kids their mobiles to be sweet and this issue may harm them. According to Lenhart (2015), "much of this frenzy of access is facilitated by mobile devices" (p. 1). This is an interesting statement that shows that there is an increase in owning smartphones, as a result, decrease the face to face interaction.

Smartphones have attractive features. In terms of psychology, researchers have shown children who used the internet more showed greater gains in GPA and reading test scores -- but not math test scores -- than did children who used it less (Jackson, et al 2003a). The redundant use of smartphone lower social relationships and boost isolation, depression, and social anxiety, resulting in mental immaturities like emotional insecurity, children's lack of attention, and self-control, it was found that increased cell phone usage was associated with sleeping problems. Three of the studies found a significant association between bedtime social media or smartphone use and increased latency (Fobian, Avis, & Schwebel, 2016; while one study found increased latency associated with a measure of

internet addiction (Ekinci et al., 2014) mentioned that media can also encourage children to spend less time with their parents and families and in outdoor activities that can lead to offensive and loneliness among them over some time. Children may be exposed to bullying, aversion, and violence on social media that can prompt negative and harmful impacts on their psychological health. In mid-adolescence, there is a strong drive to develop social identity and develop personal relationships. According to (Palmonari A, Pombeni ML, and Kirchler E. 1989) recent media platforms provide a good chance for social connection. Teens can converse with many of their peers at the same time via group text messages. Social media also allow conversation with many peers. Video chatting enables immediate face-to-face interactions all these things cause diseases. Another hazard of smartphones (Waersted et. al, 2010) mentioned they cause musculoskeletal disorders which are widely reported among computer users. Many studies have been conducted to study the correlation between using mobile phones for texting and both, neck and shoulder pain(Lee et.al., 2015) moreover, even with other activities, prolonged neck flexion is linked to the neck, shoulder, and upper extremity pain(Gustafsson, et.al.,2011) Also the potential impact of excessive mobile device use on other factors of physical health, particularly musculoskeletal pain and discomfort, headaches, and eye strain, has become a concern for researchers and clinicians. Phone use, specifically, has been linked to increased neck and back pain (Kim & Koo, 2016) eye strain, and increased risk for headaches (Wang, Su, Xie, & Yu, 2017). The number of sent text messages has a strong association with the severity of neck and shoulder pain, and even though the number of letters per message has not been covered, it is thought that it influences the results. (Lamberg & Muratori, 2012) . Long-term usage of the device leads to additional tension on tendons, muscles, and perimetric tissue, which could result in Visual Display Terminal (VDT) Syndrome (Berolo et al., 2010).

It is proven that using smartphones by adults for a long time causes cancer as well as for kids who are a 2-year-old. It is an astonishing thing when a 2-year baby handles a device and knows how to use it as the same as knowing how to use a feeding bottle. Images, toys, and blocks are no longer the standard toys among today's children. In addition to that children are growing up in a radio-frequency environment which is not been used before. The radiation sent by smartphones can have bad effects on children. Children are exposed to more than 60 percent of the radiation in the brain than adults. (Gandhi et al., 2012) mentioned that children have smaller heads and thinner skull bones than adults. Their brain tissue has also higher conductivity, and these circumstances give higher absorption from Radio Frequency radiation than in adults. According to the opinion of the (Russian National Committee on Non-Ionizing Radiation Protection 2008) reported to WHO the following health hazards are likely to be faced by the children using smartphones in the nearest future are disruption of memory, a decline of attention, diminishing learning and cognitive abilities, increased irritability, sleep problems, increase in sensitivity to the stress, and increased epileptic readiness.

In addition to that (Bali et al., 2007) mentioned that numerous studies have shown that too many amounts of screen time damages the brain by causing gray matter atrophy, compromising white matter integrity, reducing cortical thickness, impairing cognitive functioning, and debilitating dopamine function. A lot of the damage occurs in the frontal lobe part of the brain, which undergoes the most drastic changes in the early teen years to mid-twenties and can affect everything from a person's relationship-building skills to their overall sense of well-being. Even children who aren't immediately "addicted" to mobile devices are at risk of suffering damage to their developing brains if they're regular users who spend several hours a day using them. It's time to take screen time limits seriously. The parents can eliminate their children's risk of impaired brain structure and function by limiting screen time to two hours or less a day. According to (Asoke Nath, & Sneha Mukherjee 2015) several studies among sizeable populations have found a doubling of the risk of some brain tumors after using ten or more years of mobile phones for about half an hour a day. Studies indicate a direct link between mobile phone use and tumors of the parotid gland a salivary gland in the region normally highly exposed to radiation during phone use

Moreover (Izquierdo 2004) mentioned that children, are much more susceptible to experiencing more problems. Parents should train themselves on the best practices related to kids and smartphones device use, be careful and conscious of their kids' habits, and cooperate with them to find the right balance in using these devices. Although this issue has been at hand many times still a hot and active issue in society and considered as a family issue. Parents try to manage and regulate their children's experiences with smartphones. Parents' use of screens is a fatal problem. It does not discount the direct hazards of screens pose to children. Fundamental facts suggest that many types of screen time especially those involving fast-paced or serious imagery are damaging a child's brain. Parents try to monitor their children's time with smartphones. . Parents are influenced by the values, traditions, and experiences that are found in their culture, religion, or social beliefs. According to digital revolution digital parents were raised in the digital age, providing digital media for their young children. Parental education and household income are some of the factors that help to hinder the usage of smartphones by kids (.Nischint2014) mentioned that parental control is a solution whose prime focus is to create a safe digital environment for children today. It was

discussed the pros and cons of smartphones on the development of a child. The benefits may show the negative aspects but they definitely cannot be ignored. Children are the future generation of this world and the overuse of smartphones may hinder their overall development. The parents should serve as the sentry so their children are able to gain maximum benefits of smartphones since their use has become an integral part of their society and this can be done by supervising children's use of smartphones and monitoring them while they are connected to the virtual world at all times. With that being said all the physical health risks and potential mental issues can be resolved or prevented with a certain amount of physical activity. In young adults or children, it can have a positive impact on the domains of motor skills, psychological well-being, cognitive development, social competence, and emotional maturity along with all the physical benefits. (Cardon, Van Cauwenberghe & De Bourdeaudhuij, 2011) .Parents need to provide a sufficient time and make ample time to connect with their kids by doing outdoor activities on a steady basis so they are equipped to face the world and can avoid the negative aspects of technology which devastate their children.

IV. Conclusion

Smartphones play an essential part in people's lives in this world. The smartphone has a negative effect on health therefore, more research work should be done on prolonged usage of smartphones. It must not involve any kind of hazard factors of using this small electronic gadget. However, researchers must oblige the manufacturers and big industries to focus on doing extensive research projects on the effects of the usage of smartphones on human health. If any family or parent has children, they should have immediate access to their social media accounts and shorten the amount of time they can use them from a mobile device. The researchers believe that children must have time to rest as well as get enough amount of refreshed sleep. Families must strip smartphones and any electronics gadgets from kids before sleeping and never leave phones charging in their bedroom. Families must put strict rules on which social media sites are pliable to allow families or parents to see exactly what their children are watching. Families must limit children to just one social media account and make sure the correct privacy settings are in place and they must be aware of what their children are posting and who they are communicating with. The best counsel is to border how long children spend on the phone.

V. Recommendations

The study recommends at least 30 minutes of "gadget-free time" before bedtime for children. By mixing awareness of smartphone addiction and child use of smartphones into parent education programs, parents must be acquainted with the hazards of addicting smartphones to children. Some scientists recommend regular rest periods, practicing sports, and sleeping.

Further Studies

Further studies are needed to investigate these drawbacks and others deeply, and take the smartphones drawbacks seriously especially in children. Instruction and laws should be applied in controlling the use of smartphones by children at schools as well as homes.

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