

THE IMPACT OF GAMES AND MOBILE PHONES ON BEHAVIORAL DISORDERS IN CHILDREN AND YOUNG PEOPLE

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Abstract: *A very vital tool/device for communication, gathering of information, and recreation are mobile phones and games. In our contemporary society, there is no age limit successfully backed up by the law for the ownership or use of these devices as such sometimes, there is a high tendency for these devices to get into the wrong hands or better still immature hands at things that people don't understand and can't handle inflict effects and damages on such users. Many have advocated that the playing of games and the use of mobile phones have been very pivotal in the psychological and intellectual development of children and young people. However, some others have also postulated that the usage of these technological devices has inflicted some form of behavioral disorders in these children and young people. Thus, this study seeks to investigate the impact of games and mobile phones on behavioral disorders in children and young persons*

Keywords: *Games, Mobile Phones, Behavioral Disorder, children, parents.*

Introduction

Children and young people have been progressively increasing the intensity and extent of their usage of new electronic media since the turn of the century. However, this largely refers to the communication and entertainment features that these kinds of gadgets offer. Nowadays, youngsters and teenagers cannot imagine living without their smartphones. In particular, as the 2019 International Data on Youth and Media reports showed, there has been a startling growth in mobile phone use, especially at younger ages, which places the start of the engagement with this device at the age of 7. This is because young people's lifestyles have changed as a result of the emergence of knowledge.

As a result, the usage of games and mobile phones among children and teenagers has significantly increased, even in its early phases. This growth is related to two usage patterns: the communicative one, which emphasizes calls, messages, and mostly the use of social networks; and the recreational one, which involves watching multimedia content and playing various mobile games. In a similar vein, the emergence of phenomena like RPG games, online competitive gaming, and the YouTuber phenomenon, tik-tok, which transforms young people into both content consumers and producers, has increased the usage of mobile devices in recent years.

The gamer market is developing more quickly. Companies and specialists are finding video games to be a major problem, and the market for them is expanding quickly. Some videogames have developed to the point where they can accurately represent the outside, real world and even "push" players to spend their spare time, and frequently a significant portion of their time overall, in virtual reality. Videogames have been played on various gaming consoles, computers, tablets, and cellphones for over 20 years now. Despite not being included in the DSM-IV diagnostic criteria or the widely accepted standard diagnostic tool ICD-10, video game addiction exhibits symptoms that are comparable to those of other behavioural disorders.

The public continues to have a misconception about video game addiction among young people. Video games can quickly transform from an infrequent form of enjoyment to a daily habit, and from a habit to an addiction. When does amusement turn into a problem? Numerous experts have recognized the existence of gaming addiction. In China, the Netherlands, and Korea, there are many clinics dedicated to both treating and preventing video game addiction. The majority of teens who played MMORPGs confirmed having experienced deleterious gaming repercussions in a study (Hellström, Nilsson, Leppert, and slund, 2012) that included 7757 Swedish adolescents (aged 13 to 18). The study examined the influences of time spent gaming and motives to play on the negative consequences of adolescent online computer gaming. Poor sleep, not having enough time to do schoolwork, and frequent arguments with parents were among these unfavorable effects (especially for girls). Boys cited having insufficient time to complete their schoolwork, spend time with friends, and play video games at home. The girls slept fewer hours and frequently neglected to eat.

Physiological health risks from excessive mobile phone use include weariness, headaches, earaches, warmth in the ears, and musculoskeletal complaints. Mobile phone use while driving is one of the main causes of accidents, and it is still debatable whether excessive mobile phone use causes tumors or not. Addicts to mobile devices may experience severe psychological effects. They don't exhibit any psychological or physical symptoms, and others are unaware they have a condition. Ozturan, et al. (2002 cited by Vandana and Diyva 2016) concluded that the ear is the first organ affected by cell phones. There is a higher energy buildup in the ear than in other organs, and its effects on hearing are still up for debate. Finally, excessive mobile phone use might result in physiological health risks like weariness, musculoskeletal complaints, headaches, earaches, and warming sensations. Mobile phone use while driving is one of the main causes of accidents, and it is still debatable whether excessive mobile phone use causes tumors or not. Addicts to mobile devices may experience severe psychological effects. They don't exhibit any psychosomatic symptoms, and others are unaware they have a condition. Thus, the study seeks to discover the various impacts that the playing of games and use of mobile phones have had on children and young people as well as discover the habits and behavior that children and young persons are beginning to exhibit which may lead to behavioral disorders in the days to come.

Research Objective and Working Method

In consideration that the use of mobile phones and playing of games particularly online games have become more pronounced among children and young people even the younger generation, the subject of study is now the impact of these games and mobile phones on the behavioural disorder in children and young people. This research tried to ascertain the various impacts and popularity of such effects among children and young people by getting information from both the young people and Parents/Guardians. The sample for parents and Guardians comprised of 150 individuals who were randomly selected in the Federal Capital Territory, Abuja, Nigeria. Also, the sample for children and young people comprised of 150 Children and young people from the age range of 7-18 in the Federal Capital Territory, Abuja, Nigeria. Two questionnaires comprising of 10 and 6 variables respectively were implemented to the parents/guardians and the children/young person respectively:

Parents:

1. Does your child/ward display mental stress, anxiety, and depression as a result of playing games and using mobile phones?
2. Has the use of Mobile Phones and gaming affected the Personal Hygiene (not taking their baths, unkempt room among others as a result of time on games and phones) of your child/ward?
3. Is your child/ward beginning to have a low attention span due to gaming and the use of mobile phones?
4. Does your child/ward stay up late at night playing games and using their mobile phone? If yes, does it affect their productivity during the day?
5. Has playing games and using mobile phones affected adversely the socialization of the child/ward (refusal to go out but stay glued to their phones and games)?

6. Does your child/ward display and act according to the games they play or the things they interact with on their phones?
7. Do you feel that your child/ward wastes resources (time, money, data, etc.) on games and mobile phones?
8. Has your child/ward cultivated an irregular eating pattern as a result of gaming and using a mobile phone?
9. Does your child/ward avoid errands just to stay with their games and mobile phone?
10. Do you feel that gaming and using mobile phones has opened them to a world of information that can adversely affect their growth?

Children/Young People:

1. Do you feel your parents/Guardian disturbs you so much when you use your mobile phone or play games?
2. Do you desire to be like the action guys that you see in the game or while you use your phone?
3. Do you desire to live freely off your parents so you can have more time to yourself to play games and use your phone?
4. Do you feel your games and mobile phone are better companions than humans?
5. Do you prefer to play games and use your phone than do school work?
6. Do you feel playing games and using mobile phones has opened you to many things in the world?

Results

Table 1. Frequency of Demographic Variables for Parents/Guardians

Demographic Information		Frequency (N=150)	Percentage (N=100%)
Sex	Male	68	45.3
	Female	82	54.7
Age	20-34	25	16.7
	35-49	64	42.7
	50-64	37	24.6
	64 and above	24	16
Employment Status	Public Servant	63	42
	Private Servant	37	24.7
	Self-Employed	32	21.3
	Unemployed	18	12
Parental Status	Single Parent	31	20.7
	Both Parents	107	71.3
	Guardian	18	12

Table 1: The above table presents the demographic distribution of parents/guardians respondents by Sex, Age, Employment Status, and Parental Status. The result in the table also shows that 68 (45.3%) of the respondents were male parent/guardians while 82 (54.7) of the respondents were female parent/guardians. Considering the age distribution of respondents in the table, 16.7% of the respondents fall within the age bracket 20-34 years; 42.7% of respondents were having the age between 35-49 years; followed by 24.6% within the age bracket 50-54 years, and 16% of the respondents were 64 and above. The Employment Status as indicated in the table shows that 63 (42%)

of the respondents are Public Servants, 37 (24.7%) are Private Servants, 32 (21.3%) are Self-Employed and 18 (12%) are unemployed.

Finally, in the Demographic Information section for Parents/Guardians, the table also shows that 31 (20.7%) of the total respondents were single parents while 107 (71.3) are both parents living together, and 18 (12) were guardians.

Table 2. Frequency of Demographic Variables for Children and Young People

Demographic Information		Frequency (N=150)	Percentage (N=100%)
Sex	Male	91	60.7
	Female	59	39.3
Age	7-10	22	14.7
	11-17	128	85.3
School Level	Primary School	24	16
	Secondary School	111	74
	University	12	8
	Out of School	3	2
Device Owned	Game System	43	28.7
	Mobile Phone	88	58.6
	Both	25	16.7

Table 2: The above table presents the demographic distribution of children/young people respondents by Sex, Age, School Level, and Device Owned. The result in the table also shows that 91 (60.7%) of the respondents were male children/young people while 59 (39.3) of the respondents were female children/young people. Considering the age distribution of respondents in the table, 22 (14.7%) of the respondents fall within the age bracket of 7-10 years; while 128 (85.3%) of the respondents were within the 11-17 years age bracket.

The School Level of respondents as indicated in the table shows that 24 (16%) of the respondents were in primary school, 111 (74%) were in secondary school, 12 (8%) are university and 18 (12%) are out of school. Finally, in the Demographic Information section for children and young people, the table also shows that 43 (28.7%) of the total respondents own a game system while 88 (58.6%) own a mobile phone, and 25 (16.7) own both.

Table 3: Variable related to the impact of games and mobile phones on the behavioural disorder in children and young people (Parents/Guardians' Questionnaire).

Name of Variable	Option A (Yes) Percentage(%)	Option B (Undecided) Percentage (%)	Option C (No) Percentage (%)	Total Number of Participants Percentage (%)
V.1 Display of Mental Stress, Anxiety, and Depression.	87 58%	23 15.3%	40 26.7%	150 100%
V.2 Bad Personal Hygiene	93 62%	9 6%	48 32%	150 100%
V.3 Low Attention Span	132 88%	2 1.3%	16 10.7	150 100%
V.4 Sleepless Night and Lesser Productivity During the day.	89 59.3%	21 14%	40 26.7	150 100%
V.5 Poor Socialization Skills	85 56.7%	23 15.3%	42 28%	150 100%
V.6 Acting like the Characters they come across	79 52.7%	30 20%	41 27.3%	150 100%

Poremećaji u ponašanju djece i mladih

V.7 Wastage of Resources	130 86.7%	6 4%	14 9.3%	150 100%
V.8 Irregular Eating Pattern	84 56%	22 14.7%	44 29.3%	150 100%
V.9 Avoiding Errands	101 67.3%	16 10.7%	33 22%	150 100%
V.10 Access to Information that can Adversely their Growth.	111 74%	13 8.7%	26 17.3%	150 100%
Total (N) Percentage (100%)	991 66.1%	165 11%	344 22.9%	1500 100%

Table 3 contains variables related to the impact of games and mobile phones on the behavioural disorder in children and young people that were administered to parents/guardians.

The data in the table demonstrate that majority of the participants (parents/guardians) declare that the hypothesis of the certain variables in the table are valid. In Variable 1 (**V 1**) which talks about the display of stress, anxiety, and depression, 87 (58%) of the participants' responses were positive, 23(15.3%) were undecided, while 40(26.7%) of the participant response were negative indicating that display of mental stress, anxiety and depression is a form of behavioral disorder in children and young people as a result of the playing of games and usage of mobile phones. Also in Variable 2 (**V 2**) which is about bad personal hygiene, 93 (62%) of the participants' responses were positive, 9(6%) were undecided, while 48(32%) of the participant response were negative indicating that bad personal hygiene is a form of behavioral disorder in children and young people as a result of the playing of games and usage of mobile phones.

Furthermore, in Variable 3 (**V 3**) talking about low attention span, 132 (88%) of the participants' responses were positive, 2(1.3%) were undecided while 16(10.7%), of the participant response, were negative indicating that a low attention span is a form of behavioral disorder in children and young people as a result of the playing of games and usage of mobile phones. Also in Variable 4 (**V 4**) which is about sleepless nights and lesser productivity during the day, 89 (59.3%) of the participants' responses were positive, 21(14%) were undecided, while 40(26.7%) of the participant response were negative indicating that sleepless night and lesser productivity during the day is a form of behavioral disorder in children and young people as a result of the playing of games and usage of mobile phones.

Furthermore, in Variable 5 (**V 5**) talking about poor socialization skills, 85 (56.7%) of the participants' responses were positive, 23(15.3%) were undecided while 42(28%), of the participant response, were negative indicating that poor socialization skills are a form of behavioral disorder in children and young people as a result of the playing of games and usage of mobile phones. Also in Variable 6 (**V 6**) which is about acting like the characters they come across, 79 (52.7%) of the participants' responses were positive, 30(20%) were undecided, while 41(27.3%) of the participant response were negative indicating that acting like the characters they come across (which can lead to loss of self-identity) is a form of behavioral disorder in children and young people as a result of the playing of games and usage of mobile phones. Furthermore, in Variable 7 (**V 7**) which is talking about the wastage of resources, 130 (86.7%) of the participants' responses were positive, 6(4%) were undecided while 14(9.3%), of the participant response, were negative indicating that wastage of resources is a form of behavioral disorder in children and young people as a result of the playing of games and usage of mobile phones.

Also in Variable 8 (**V 8**) which is about an irregular eating pattern, 84 (56%) of the participants' responses were positive, 22(14.7%) were undecided, while 44(29.3%) of the participant response were negative indicating that an irregular eating pattern is a form of behavioral disorder in children and young people as a result of the playing of games and usage of mobile phones. Furthermore, in Variable 9 (**V 9**) which is about avoiding errands, 101 (67.3%) of the participants' responses were positive, 16(10.7%) were undecided while 33(22%), of the participant response, were negative indicating that avoiding errands is a form of behavioral disorder in children and young people as a

result of the playing of games and usage of mobile phones. And finally, in Variable 10 (V 10) which is about having access to information that can adversely their growth, 111 (74%) of the participants' responses were positive, 33(17.3%) were undecided while 26(17.3%), of the participant response, were negative indicating that avoiding errands is a form of behavioral disorder in children and young people as a result of the playing of games and usage of mobile phones.

The above thus indicated that all the hypothesis variables were ascertained to be the true impact of games and mobile phones on the behavioral disorder in children and young people which have been noticed and assessed by parents and guardians.

Table 4: Variable related to the impact of games and mobile phones on the behavioural disorder in children and young people (Children/Young People's Questionnaire).

Name of Variable	Option A (Yes) Percentage(%)	Option B (Undecided) Percentage (%)	Option C (No) Percentage (%)	Total Number of Participants Percentage (%)
V.1 Disturbance from Parent/Guardian while using their device	81 54%	20 13.3%	49 32.7%	150 100%
V.2 Desire to be like what they play or see	101 67.3%	10 6.7%	39 26%	150 100%
V.3 Independence from parents to have more time to themselves and their device	99 66%	20 13.3%	31 20.7%	150 100%
V.4 Game and Mobile phones are better companions than human	76 46.7%	21 14%	53 35.3%	150 100%
V.5 Prefer to play games and use mobile phone than do school work	79 52.7%	32 21.3%	39 26%	150 100%
V.6 Games and use of mobile phone have opened you to many things in the world	104 69.3%	12 8%	34 22.7%	150 100%
Total (N) Percentage (100%)	540 60%	115 12.8%	245 27.2%	900 100%

Table 4 contains variables related to the impact of games and mobile phones on behavioural disorders in children and young people that were administered to children and young people.

The data in the table demonstrate that majority of the participants (children/young people) declare that the hypothesis of the certain variables in the table are valid. In Variable 1 (V 1) which talks about disturbance from parents/guardians while using their devices, 81 (54%) of the participants' responses were positive, 20(13.3%) were undecided, while 49(32.7%) of the participant response were negative indicating that disturbance from parent/guardian while using their device is a form of or is what can lead to behavioral disorder in children and young people as a result of the playing of games and usage of mobile phones. Also in Variable 2 (V 2) which is about the desire to be like what they play or see, 101 (67.3%) of the participants' responses were positive, 10(6.7%) were undecided, while 39(26%) of the participant response were negative indicating that desire to be like what they play or see is a form of or is what can lead to behavioral disorder in children and young people as a result of the playing of games and usage of mobile phones. Furthermore, in Variable 3 (V 3) talking about the desire for independence from parents to have more time to themselves and their devices, 99 (66%) of the participants' responses were positive, 20(13.3%) were undecided while 31(20.7%), of the participant response, were negative indicating that independence from parents to have more time to themselves and their device is a form of or is what can lead to behavioral disorder in children and young people as a result of the playing of games and usage of mobile phones. Also in Variable 4 (V 4) which is about games and mobile phones being better companions than humans, 76 (46.7%) of the participants' responses were positive, 21(14%) were undecided, while 53(35.3%) of the participant response were negative indicating that game and mobile phone are better companions than human is a form of behavioral or is what can lead to disorder in children and young people as a result of the playing of games and usage of mobile phones. Furthermore, in Variable 5 (V 5) which is talking preference for playing games and using their mobile phone to do school work, 79 (52.7%) of the participants' responses were positive, 32(21.3%) were undecided while 39(26%), of the participant response, were negative indicating that preference of playing game and using their mobile phone to doing school work is a form of or what can lead to behavioral disorder in children and young people as a result of the playing of games and usage of mobile phones. And finally, in Variable 6 (V 6) which is about the fact that games and the use of mobile phones have opened them to many things in the world, 104 (69.3%) of the participants' responses were positive, 12(8%) were undecided while 34(22.7%), of the participant response, were negative indicating the fact that games and use of mobile phone have opened them to many things in the world is something that can lead to behavioral disorder in children and young people as a result of the playing of games and usage of mobile phones.

The above thus indicated that all the hypothesis variables were ascertained to be true about the impact of games and mobile phones on behavioral disorders in children and young people which have been noticed and assessed by the children and young people.

Conclusion

Based on the obtained report, the study has been able to establish that there is a very high level of impact and correlation between the playing of games and the use of mobile phones on behavioural disorders in children and young persons. The parents/guardians respondents ascertained various hypothetical variables with the claim that the playing of games and use of mobile phones has affected their children and young persons in the following; display of mental stress, anxiety, and depression, bad personal hygiene, low attention span, sleepless night and lesser productivity during the day, bad socialization skills, acting like the characters they come across while gaming or using their mobile phones, wasting of resources, avoiding errands, access to information that can adversely their growth. Also, the children/young persons also gave their views which were pointers to what are and develop to become behavioural disorders in children. The variables they attested positively include that they; are disturbed by their parent/guardian while using their device, desire to be like what they play or see while using their devices, and desire independence from their parents/guardians to have more time to themselves and their device, enjoy the company of their mobile phone more than that of humans, prefer to play game and use their mobile phone than do school work and have been opened to many things in the world through the use of their game devices and mobile phones. All these variables

attested positive by the children and young people respondents are pointers to what are or later develop to become behavioural disorders in them.

Even though the usage of mobile phones and gaming devices has entered even the educational system and child upbringing process and it does have many advantages when used for learning, i.e. when it is implemented for learning, recreational as good purposes, there is the other side of the coin which shows that the increasing frequency to use it for gaming, searching information whether relevant or not on the Internet, frequent downloading of numerous games application and similar, spending more than four hours a day at games, mobile phones and/or tablet/computer, could point to possible signs of addiction eventually leading to behavioral disorders. Considering the amount of time, energy, and resources young people spend interacting with their devices including time during classes and breaks, free time, and time before going to bed, in other words, most of their time, there will always be an aftermath of every activity one involves in and such is a behavioural disorder

Recommendation

We cannot change the progress of the world or the fact that the new generations, called digital natives (Prenski, 2001 cited by Maja and Andrea 2015), possess a different perspective on technologies in general, and we cannot stop that. On the other hand, we must remember always that the human being and our body are designed and built physiologically for movement. Risks come with the significant shift in our habits brought on by the addictive use of technology.

First and foremost, parents, guardians, and teachers of all grade levels in schools need to understand these risks. Technology is a tool that may be utilized in a variety of ways, but more importantly, we must be conscious that the decision is frequently made for us. In the same manner that we try our best as individuals and as a society to prevent our kids from accessing information and content that could lead to behavioral problems, everyone must make an effort to instruct kids on how to use gaming consoles, mobile phones, and ICT equipment in the right way.

It is crucial to continuously educate parents, guardians, kids, and everyone else involved in the upbringing and education process, especially instructors, about the dangers of gaming and mobile phone addiction, and other behavioral disorders. This is specifically because of the reasons mentioned above. When a child shows an interest in using computers, smartphones, and other gadgets, it is advised to start them in school as soon as possible, both at home and in kindergarten. One of the prerequisites for a healthy growing up while using modern gaming devices, mobile phones, and other technical equipment is early preventive and effective instruction.

Reference:

1. Gaetan, S., Bonnet, A., Pedinielli, J.L. (2012). Self-perception and life satisfaction in video game addiction in young adolescents (11-14 years old). *Encephale-Revue De Psychiatrie Clinique Biologique Et Therapeutiqu*, 38 (6), 512-518.
2. Hellström, C., Nilsson, K.W., Leppert, J., Lslund, C. (2012). Influences of motives to play and time spent gaming on the negative consequences of adolescent online computer gaming. 1379-1387.
3. Kraut R, Patterson M, Lundmark V, Kiesler S., (1998). W. Internet paradox: A social technology that reduces social involvement and psychological well-being? *American Psychologist* 53, 1015-1026.
4. MACRO. (2022, January 9). *A report on the study of mobile phone usage*. Retrieved from ITU: <https://www.itu.int/osg/spu/ni/futuremobile/socialaspects/I>
5. Nikken, P.; Jansz, J. (2013). Developing scales to measure parental mediation of young children's internet use. *Learn. Media Technol.* 39, 255-260.

6. OFCOM. (2019). Children and Parents: Media Use and Attitudes Report.
7. Twenge JM, Joiner TE, Rogers ML, Martin GN. (2018). Increases in Depressive symptoms, suicide-related outcomes, and suicide rates among US adolescents after 2010 and linked to increased new media screen time. *Clinical Psychological Science* 6, 3-14.
8. Universities, A. o. (2018, July 17). *Smartphone Use Linked to Behavioral Problems in Kids*. Retrieved from Association of American Universities: <https://www.aau.edu/research-scholarship/featured-research-topics/smartphone-use-linked-behavioral-problems-kids>
9. Vandana Goswami, Dr. Divya Rani Singh . (2016; 2(1)). Impact of mobile phone addiction on adolescent's life: *International Journal of Home Science*, 69-74.

UTICAJ IGRICA I MOBITELA NA POREMEĆAJE U PONAŠANJU DJECE I MLADIH

Sažetak: Vrlo važan alat/uređaj za komunikaciju, prikupljanje informacija i rekreaciju su mobilni telefoni i igrice. U našem suvremenom društvu ne postoji dobna granica koja je uspješno potkrijepljena zakonom za posjedovanje ili korištenje ovih uređaja kao takvih, ponekad postoji velika tendencija da ti uređaji dospiju u pogrešne ruke ili još bolje u nezrele ruke u stvarima koje ljudi ne razumiju i ne mogu se nositi s nanošenjem posljedica i štete takvim korisnicima. Mnogi su zagovarali da su igranje igrice i korištenje mobilnih telefona bili vrlo ključni u psihološkom i intelektualnom razvoju djece i mladih. Međutim, neki drugi su također pretpostavili da je korištenje ovih tehnoloških uređaja uzrokovalo neki oblik poremećaja u ponašanju kod te djece i mladih. Stoga ova studija nastoji istražiti utjecaj igrice i mobilnih telefona na poremećaje u ponašanju kod djece i mladih.

Ključne riječi: igrice, mobilni telefoni, poremećaj ponašanja, djeca, roditelji.