



Impact of excessive video games usage on teenage academic performance in Lagos state, Nigeria

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Abstract

Many factors affect the academic performance of students, empirical studies report that access to information can influence the academic performance of students. However, studies on impact of excessive playing of video games among teenage in relation to leisure and academic performance are limited in Lagos State, Nigeria. This study employed two hundred and fifty (250) teenage students aged between 10 and 16. Two research questions and two hypotheses were raised to guide the study. A Questionnaire on Impact of Students excessive Video Game Usage adapted from Rubijesmin, (2017). The instrument was validated through face and construct validity while the Cronbach alpha reliability method was used to obtain a reliability correlation co-efficient of 0.72. The instrument was administered on 250 teenagers purposively selected from two primary schools and two secondary schools in Lagos state, Nigeria. The study employed descriptive survey research design. Hypothesis one was retained while hypothesis two was rejected this implied that there is no significant relationship between teenagers' excessive usage of video games on improved academic performance and there is a significant relationship between teenagers' excessive usage of video games and after school leisure. The study consequently recommends relative orientation on when and how to curb excessive usage of video games among teenagers. Effort should be made to discourage non-academic usage of video games in and outside the classroom. Indicating that students should endeavour to constructively use more of their time in reading their books rather than playing video games. Finally, stakeholders in the education sector should intensify campaign on curbing the adverse effect of excessive usage of video games among teenagers.

Keywords: excessive usage, video games, academic performance. after school leisure

Introduction

Students tend to use the Internet for the non-beneficial purpose and waste a lot of time, engaging excessively on Internet usage at the expense of study time, resulting in significant drop in academic results, and missed many classes and being placed on probation. (Young, 2004) [26] Students Internet activities related to academic such as educational information searches or academic research decreased and the performance of Internet activities related to entertainment such as chatting, downloading, online gaming, sexual content and listening to music increased as the Online Cognition Scale score increased (Ozcan & Buzlu, 2007) [16]. Pathological video gaming has been found to be prevalent among adolescents and teenagers with some of its attendant negative effects ranging from: "lower social competence" to "lower school performance" (Gentile, Choo, Liau, Sim, Li, Fung & Khoo, 2011) [6]. Some of the reasons why young people are motivated to play video games include for: (i) entertainment (ii) escapism and (iii) virtual friendship" (Beranuy, Carbonell & Griffiths, 2013) [2]. As indicated by indicated Olatokun (2008) [14] most students believed the internet appears better and convenient than their school libraries. Internet is perceived as a source for general knowledge, and hence it has helped them improve their reading habits and their academic performance. The internet is sometimes used as a supplementary learning material and has led to an improvement in students' academic performance (Siraj, 2015) [20]. Taking into account access and usage of internet by secondary school students in Nigeria. (Yesilyurt, 2014) [25] argued that access to a handheld computer and internet connection contributes to students'

academic performance as well as self-learning skills. This finding underscores the need to investigate the presence of Educational, or serious, games are designed to support the learning process by integrating cognitive techniques for learning, such as self-testing mechanisms, with play and gaming elements (Gee, 2007; Landers & Callan, 2011; Squire, 2013) [5]. Game elements may include a storyline, goals, rules, penalties, achievements, intellectual challenges, scoring systems, and leaderboards (Westwood & Griffiths, 2010) [23]. These game design elements have potential to increase a student's willingness to participate in meaningful and intellectual play, thereby enhancing his or her understanding of target content and concepts (Gee, 2007; Squire, 2011) [5]. The challenge with videogame addiction is that, videogame playing shares many similarities with gambling (Griffiths & Wood, 2000, p.199) [7]. In fact, Fisher (1994) [4] had earlier reported that video game playing may lead to a behavioural pattern akin to gambling addiction. Salguero and Moran (2002) believe that problems arising with excessive video game use tend to look like dependence syndromes. Interestingly, the similarity between video game addiction and other addictive behaviour has been reported to be stronger than had been previously thought (Gentile, 2011) [6].

Literature Review

Excessive use is the spending of long time online to the length of losing sleep due to internet use at nights, which causes the user to neglect important activity/ activities rather than not spending more time online, and accompanied by an attempt to hide extent

of internet use and mood modification when user is offline. Excessive usage of video games by teenage indicates five observable characteristics. The preoccupation with thoughts of the video game to the extent that life's disturbing thoughts are blocked with soothing thoughts of video games users to prefer spending time playing rather than socializing with others which continually instills the fear that without playing video games, life will go sour and if disturbed by others when playing, user becomes upset. (Mythily, Qiu, & Winslow (2008) ^[12] & Liu 2010) ^[9]. Teenage who are excessive internet users are not internet addicts, stressing that they simply use the internet to stimulate behavioural addictions. Here internet is only a medium used by teenager to freely manifest their addictive behaviours. some people may be spending excessive time on playing video games, at the expense of their study time or keeping online social affair with someone far away, and also pinpoints that the internet's capabilities of allowing users to hide their identities online and its unrestrictive nature encourages addicts to use it as a medium (Widyanto & Griffiths 2006) ^[24]. In a related study, irritating and anxious feelings to be symptoms exhibited by excessive users as a result of spending lengthy time on the video games, indicating that moody conditions also relates to excessive video games usage (Munoz-Rivas, 2010) ^[11]. Excessive video game usage is significantly related to poor academic outcome is reflected in neglect of academic work and study activities which result to low academic performance due to length of time devoted video game usage. Teenagers who are excessive video game users as reported by Young (2007) admitted that their scores and class assignments nearly declined all the time due to excessive playing of video game. The possible reason for poor academic performance is seen in whose Teenagers due to video game use exhibited inadequate study habits, could not meet up with lectures, or lose concentration owing to sleep deprivation. Thus, with the findings, came to conclusion that problematic video games activities correlates negatively with students' grades low academic performance. Therefore, poor academic scores are a predictor variable for excessive video games usage (Liu, 2010) ^[9].

Tella and Akande (2007) ^[21] argued that teenage students nowadays are more materialistic and create little or no time to go through books, newspapers and magazines. Students' wrong priority is to earn money, at the detriment of knowledge acquisition. There are, other factors like compressed work schedules, lack of interest in reading printed materials, invasion of insensible electronic gadgets, high rate of books proliferation, and other non-academic outdoor activities comprising biking, chatting on the internet, attending parties, playing of video games or even other immoral practices of watching pornographic scenes on-line. These have contributed to learning difficulty together with its attendant negative impacts on the minds of teenage students (Yusuf, 2007). These negative habits have resulted in slow and gradual decline in student positive learning habits (Olajide, 2008) ^[13]. This finding underscores the need to investigate the presence of excessive video games usage among Nigerian in order to examine its prevalence in various homes. Teenagers in primary and secondary uses their parents phones even subscribe online to play video games. Since they are not allowed the usage of phones in schools, teenage now outwit their

parents by borrowing money to play online video games. Most time drains their parents phone battery due to excessive playing of video games. This digital reality which outwits the analogue experience of parents calls for concerns since its taking its toll negatively on teenage students academic performance.

Theoretical Framework

Theoretically this study is anchored Systems theory Payne (2005) ^[17]. Systems theory is about how the different parts put up a whole and within the whole they interact with each other. It emphasizes on connections between individuals, environment and effective functioning. The theory emphasize the connection between teenage excessive use of video game which can influence the person to start playing games and later to get addicted to it at the detriment of other activities. Research carried out by the center for Internet Addiction Recovery (Young, 2010, p.357) revealed that some of the younger hardcore video gamers suffered from emotional disorders that prevent them from properly socializing with others and they thus turned to video games to experiment with various aspects of their personality, or it can simply be influenced by the environment that gamer is in. One of the commonly stated factors in that psychologists blame for excessive video game use is the rapid development of technology. Young (2010) states that the evolution of the video game from a single player game to an interactive multi-player world induces the players to has the ability to control and alter the universe where they are in and via their character they transform these games into "self-contained, three dimensional societies. Taking a clue from system theory, this research focuses on the relationship between gamers and their families, the health of the persons as well as the individuals' achievements in school. The process, connecting with how relationships and interactions occur, what they consist of and how they turn out, is an important view of system theories. It's also interesting to understand how these systems interact with each other and effect together. There are three major systems around an individual from these perspectives, in which the individual and its closest connections on micro-level, authorities and institutions are regarded on macro-level, and the community and local environment are being seen on the meso-level (Healy, 2005) ^[8].

Research Questions

1. Is there any significant relationship between teenage excessive usage of video games and after school leisure?
2. Is there any significant relationship between teenage excessive usage of video games and improved academic performance?

Research Hypotheses

1. There is no significant relationship between teenage excessive usage of video games and after school leisure.
2. There is no significant relationship between teenage excessive usage of video games and improved academic performance.

Methodology

The research design is a descriptive survey. The moderately large number of the respondents involved in the study of which

information were to be gathered information about a phenomenon was the basis for adopting this research design. The sample population for the study consisted of 250 teenage students purposively selected from two primary schools and two secondary schools from Ojo Local Government Area of Lagos State, Nigeria. The selection was based on their versatility of video game usage. The sample consist of Primary Five and Six pupils of Adeniran Ogunsanya Staff School Otto/ijanikin Lagos, Nigeria and Anglican Primary School Otto/ijanikin Lagos, Nigeria. Coupled with teenage students in the junior secondary

school level of Ajangbadi High School Afromedia Ojo Lagos and Federal Government Secondary School Ijanikin Lagos, Nigeria. A Questionnaire on Excessive Video Game usage and Teenage Academic performance was used to collect the data. The instrument was validated through face and construct validity while the Cronbach alpha reliability method was used to obtain a reliability correlation co-efficient of 0.70. The table below presents the distribution of the sample on the basis of state-owned tertiary institutions Lagos Nigeria.

Table 1: Distribution of Sample on Excessive Usage of Video Games

Schools	Adeniran Ogunsanya Staff School	Anglican Primary School	Ajangbadi High School	Federal Government Secondary School	Total
Teenage Students (male)	35	37	32	39	143
(Female)	28	25	30	24	107
Total	63	62	62	64	250

The data were analysed using descriptive statistics (Percentages) and Pearson Product Moment Correlation (PPMC) to test for the significant relationship between teenage students’ excessive usage of video games for leisure and academic purposes.

Results

Ho₁: There is no significant relationship between teenagers’ excessive usage of video games and after school leisure.

Table 2: Correlation statistical table showing relationship between teenagers’ excessive usage of video games and after school leisure

Variables	N	Mean	SD	DF	P	r-cal	r-tab.	Decision
Teenagers’ excessive usage of video games	100	56.14	57.4	98	0.05	0.037	0.164	Retain Ho ₁
Behav After school leisure	100	39.91	49.1					

***Source: Research Outcome, 2019

From table 3 above, it shows that the mean and standard deviation values for teenagers excessive usage of video games to be 56.14 and 57.4; while mean and standard deviation values for after school leisure to be 39.91 and 49.1 respectively; With P-value at 0.05, the r-cal value was 0.037 and r-tab. value stood at 0.164; Since the r-cal. value (0.037) < r-tab. value (0.164), the null hypotheses is retained and the alternative hypotheses which states

that there is a significant relationship between teenagers’ excessive usage of video games and after school leisure is rejected.

Ho₃: There is no significant relationship between teenagers’ excessive usage of video games and improved academic performance.

Table 3: Correlation statistical table showing relationship between teenagers’ excessive usage of video games on improved academic performance

Variables	N	Mean	SD	DF	P	r-cal	r-tab.	Decision
Teenagers’ excessive usage of video games	100	56.14	57.4	98	0.05	0.794	0.164	Reject Ho ₂
Behav Improved academic Performance	100	38.2	33.7					

***Source: Research Outcome, 2019

From table 4 above, it shows that the mean and standard deviation values for teenagers excessive usage of video games to be 56.14 and 57.4; while mean and standard deviation values for improved academic performance to be 38.2 and 33.7 respectively; With P-value at 0.05, the r-cal value was 0.794 and r-tab. value stood at 0.164; Since the r-cal. value (0.794) > r-tab. value (0.164), the null hypotheses is rejected and the alternative hypotheses which states that there is a significant relationship between teenagers’ excessive usage of video games on improved academic performance is retained.

that are identified by this study ranging from impaired academic performance to health problems, and social dysfunction. Considering the relationship between video game usage alongside students after school leisure time and academic performance. The findings of this study corroborated Robert, Michael and John (2001) [18] asserting that excessive internet usage impaired students academic performance as it kept them up late, felt tired and are redundant in classroom teaching and learning. Rubijesmin (2017) reported that video games could effect on student’s studying time. The enormous time spend on playing video games alleviate the time for students to do their assignments, preparing for test and classes and any activity related to academic. Asserting that negative consequences of excessive usage of video game takes its toll on students study-

Discussion of findings

No doubt that internet has become an integral part of our society brings benefits to the users. However there are negative impacts

time and academic achievement. An adverse effect of excessive videogame usage was reported by Chiu, Lee and Huang (2004)^[3] who reported a negative association between excessive videogame usage and academic achievement among Taiwanese adolescents. The findings of this study was supported Anand (2007)^[1] who reported a negative correlation between the time students invest into playing videogame and their academic performance. In concurrence with our study, Weis and Cerankosky (2010)^[22] also found a negative impact of excessive videogame usage on academic performance. Wood, Griffiths and Parke (2007) found that young people tend to lose the time they are supposed to use doing other things while playing video games.

On the contrary, Ming & Wei (2009)^[10] refuted that excessive usage of video game is not a significant factor of poor academic performance. However it is obvious, that students having less time for their education might cause their academic performance to be affected indirectly prompting negative impacts on students resulting from poor time management for studying. Considering the positive impact of video game and internet, Safdar (2010)^[19] reported that it is useful to update knowledge, communication, completing assignment and entertainment. In Nigeria, Ogede (2012)^[15] reported a positive usage for better for academic preparation reflected in improvement in academic grades.

Conclusion

The focus of this was on the negative impact of excessive video games usage on teenage Academic Performance. The study postulated that teenagers spend more time on playing video games at the expense of their study time. This dynamics of excessive usage of video games is an issue in most Nigerian families which parents finds difficult to curb due to teenage internet and digital versatility. Two research questions and two hypotheses were raised to guide the study. The two hypotheses were rejected which states that there is a significant relationship between teenagers' excessive usage of video games on improved academic performance and after school leisure. Inevitably since video game appears as a vital component of the daily life of teenage, the study, accordingly, concludes that video game teenagers drive be geared towards positive and academic usage of video game not solely for leisure but reasonably as a vital information source and conducting academic activities. Time spent on the social video game should be channeled to enable students to improve teenage academics since it consequently has the potential to enhance teenage general academic performance.

Recommendations

The prime nature of this study recommends that parents and teachers should positively redirect the drive of teenagers as regards video game usage. It is an accepted phenomena that in most homes, teenagers have uncontrolled access to video games. Most Nigerian parents and teacher due to digital gaps could not control or curb this excessive usage. This study recommends that effort should be made to discourage non-academic and excessive usage of video games in and outside the classroom. Again, students must endeavour to use more of their time in reading their books than playing video games. Genuinely, educational videos, educational games and puzzle should be used to demonstrate,

clarify and exemplify the ideas and problems which under the teacher's direction, the class becomes actively exploring for better academic performance.

Education stakeholders and government should not shy away from this video game digital reality by supporting this course because videos educational games has the ability of producing situation which appears real and vital to every detail in pedagogical acceptable sequence. Finally, orientation and re-orientation should be intensified on the adverse impact of excessive usage of video games to inform teenage students in Lagos, Nigeria about the negative impact on academic performance and consequently their future academic development and career.

Reference

1. Anand V. Study of Time Management: The Correlation between Video Game Usage and Academic Performance Markers. *CyberPsychology & Behavior*. 2007; 10(4):552-559.
2. Beranuy M, Carbonell X, Griffiths MD. A Qualitative analysis of online gaming addicts in treatment. *International journal of mental health addiction*. 2013; 11:149-161.
3. Chiu SI, Lee JZ, Huang DH. Video Game Addiction in Children and Teenagers in Taiwan. *CyberPsychology & Behavior*. 2004; 7(5):571-581.
4. Fisher S. Identifying video game addiction in children and adolescents. *Addictive behaviours*. 1994; 19(5):545-553.
5. Gee JP. What video games have to teach us about learning and literacy (2nd ed.). New York, New York, USA: Palgrave MacMillan, 2007.
6. Gentile DA, Choo H, Liau A, Sim T, Li D, Fung D, *et al.* Pathological video game use among youths: A TwoYear Longitudinal Study. *Pediatrics*. 2011; 127(2):e319-e329. Retrieved from: https://www.sfu.ca/cmns/courses/2011/325/class/13zachary/3_final_project/Misc_files/Pathological%20Game%20Use.pdf
7. Griffiths M, Wood RTA. Risk Factors in Adolescence: The Case of Gambling, Videogame Playing, and the Internet. *Journal of gambling studies*. 2000; 16(2):199-225.
8. Healy K. *Social Work Theories in Context: Creating Frameworks for Practice*. Palgrave Macmillan: Hampshire, 2005.
9. Liu X, Bao Z, Wang Z. Internet use and Internet addiction disorder among medical students: A case from China. *Asian Social Science*. 2010; 6(1):28-34.
10. Ming L, Wei P. Cognitive and Psychological Predictors of The Negative Outcomes Associated, Computers in Human Behavior. 2009; 25(6):1306-1311.
11. Munoz-Rivas MJ, Fernandez L, Gamez-Guadix M. Analysis of the indicators of pathological Internet use in Spanish university students. *The Spanish Journal of Psychology*. 2010; 13(2):697-707.
12. Mythily S, Qiu S, Winslow M. Prevalence and correlates of excessive Internet use among youth in Singapore. *Annals Academy of Medicine Singapore*. 2008; 37(1):9-14.
13. Olajide N, Edet I. Towards enhancing Information and Communication Technology (ICT) compliance of the

- primary school teachers for effective teaching. *MSTA Journal*. 2008; 2008:35-39.
14. Olatokun WM. Internet access and usage by secondary school students in a Nigerian Municipality. *SAJnl Libs & Info Sci*, 2008, 138-148.
 15. Ogedebe PM. Internet Usage and Students' Academic Performance in Nigeria Tertiary Institutions: A Case Study of University Of Maiduguri. *Academic Research International*. 2012; 2(3):334-343. www.savap.org.pk. www.journals.savap.org.pk.
 16. Ozlan NK, Buzlu S. Internet Use and its Relation with The Psychosocial Situation for Sample of University Students, *Cyberpsychology and Behavior*. 2007; 10(6):767-772.
 17. Payne M. *Modern Social Work Theory* (3rd ed) Palgrave Macmillan: Hampshire, 2005.
 18. Robert WK, Michael JL, John RB. Internet Use and Collegiate Academic Performance Decrements: Early Findings. *J Communic*, 2001, 366-382.
 19. Safdar M, Mahmood K, Qutab S. Internet Use Behavior and Attitude of College Students: a Survey of Leadership Colleges' Network. *Library Philosophy and Practice* (e-journal), 2010, 366.
 20. Siraj HH, Salam AB, Hasan NA, Jin TH, Roslan RB, Othman MN. *Internet Usage and Academic Performance: A Study in a Malaysian Public University*. Japan Health Sciences University & Japan International Cultural Exchange Foundation, 2015.
 21. Tella A, Akande S. *Children are reading habits and availability of book*. London: Macmillan Press, 2007.
 22. Weis R, Cerankosky BC. Effects of video-game ownership on young boys' academic and behavioral functioning: a randomized, controlled study. *Psychological sciences*. 2010; 21(4):463-470.
 23. Westwood D, Griffiths MD. The Role of Structural Characteristics in Video-Game, 2010, 13(5).
 24. Widyanto L, Griffiths M. 'Internet addiction': A critical review. *International Journal of Mental Health and Addiction*. 2006; 4:31-51.
 25. Yesilyurt E, Basturk R, Yesilyurt and Kara I. The Effect of Technological Devices on Student's Academic Success: Evidence from Denizli. *Journal of Internet and Application Management*. 2014; 5(1):39-47.
 26. Young KS. Internet addiction; A new clinical phenomenon and its consequences. *American Behavioral Scientist*. 2004; 48(4):402-415.
 27. Yusuf LA. Women empowerment in Nigeria: Problems, prospects and implications for Counselling. *The Counsellors*. 2008; 17(1):132-137.