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Research Article

Students' addiction to smart phones and its influence on Academic performance

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Abstract

Keywords

Students,
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Smart phones have become increasingly popular in recent years, especially highly among college students'. Although these are convenient and useful, students' are becoming more and more dependent on them. This study was designed to determine the students' addiction to smart phone and its influence on academic performance identify the reasons behind smart phone addiction among undergraduate students, and to proffer solutions to the problem of addiction to smart phone usage among undergraduates. A descriptive study was conducted on a total of 270 undergraduate students in college of Applied food science and Tourism, Michael Okpara University of Agriculture, Umudike. They were requested to fill the questionnaire that comprised details of their frequency and patterns of using mobile phones and its influence on their psychological health, behavioral issues, Relationship and academic performance. The data collected were statistically analyzed. Among the 270 students' all of them agreed that their major purpose of using the phone was for communication, easy information access, coordination of activities, and in emergency situations. A significant number of students' accepted that addiction to smart phone influences their academic performance negatively through classroom distraction, reduction in cognitive ability, encourages pornography, poor writing skills, emotional stress, damaged relationships and others. However significant number of students agreed to the identified reasons behind smart phone addiction which include loneliness, chatting on social media, impulsivity, peer pressure, surfing the internet, for seeing movies and others. Finally a significant number of students' agreed to the strategies proffered for managing addiction to smart phone. Besides the positive role of smart phones in our daily lives, its overuse presents negative influence on psychological health, behavioral issues, relationship and academic performances.

Introduction

The 21st century has witnessed ever-increasing technological advances leaving an imprint on all aspects of life. One of these advances is the smartphone and its numerous applications offering quick access to the internet and social media through various applications such as what Sapp, Facebook, instagram, snap chat, twitter and Skype. The smartphone has also facilitated the transmission of SMSs and fax, and navigating the internet. Furthermore, the smartphone includes entertainment such as games, the camera, video, Bluetooth, multimedia, radio, YouTube, movies, GPS,and other applications (Abojedi, 2014). One of the most important advantages of the smartphone is easy wireless access to electronic mail, instant messages and multimedia, and the possibility of using office

applications after downloading additional apps from the site of the smartphone producer or from play store. It also has a complete keyboard that enables users to write e-mails easily.

Good effects of technology are providing such convenient daily life towards human beings. However, it also gives the people and society bad effects such as technology addiction. Smartphone addiction is one of the severe technology addictions which had become serious problems these days especially to teenager (Park *et al.,* 2014). Smartphone addiction drives people to check their smartphone frequently and compulsively, no matter the situation, for,example meetings, walking or even during eating (Davis, 2012). Smartphone addiction can be defined as a state of being locked up to smartphone and its facility (Davis,2012). Smartphone addiction is closely related to internet addiction (kwon *et al.,* 2013). Internet and mobile phone addicts both have an unhealthy lifestyle and similar personalities (Chiu *et al.,* 2013). The terms "Smartphone addiction" has been used to define a phenomenon, which an individual is engrossed in smartphone use to the degree that they neglect the other life's important areas (Al-Barashdi *et al.,* 2014). It is a situation where a person would over rely on his or her smartphone for all the numerous day to day activities and not aware or concentrating on anyone else who is near to him or her. The person who is involving in smartphone addiction can be predicted by the amount of phone bills and violent behaviors he exhibits in case his or her phone is missing or stolen(Bhardwaj & Ashokj ,2015).

Smartphone devices have become an essential part of daily life and a valuable means of information dissemination since its evolution in the late 1990s' in Nigeria and in most developing countries.

Purpose of the study

The main purpose of this study is to determine the student's addiction to smart phones and its influence on academic performance.

Materials and Methods

This chapter deals with the methodology employed in carrying out this research work and it was organized under the following sub-headings:- Research design, Area of study, Population for the study, sample and sampling technique, instrument for data collection, validation of instrument, Reliability of instrument,

Data collection techniques, Data collection techniques and Data analysis techniques.

Research Design

Descriptive survey design will be adopted in this work. Descriptive research will be used to identify the students' addiction to smart phones and its influence on academic performance of undergraduate students of Michael Okpara University of Agriculture, Umudike and to describe characteristics of population or phenomenon being studied.

Area of the study

The geographical location of this research work is Abia State.

Population for the study

The population for the study comprised of 1087 undergraduate students in the college of Applied Food Science and Tourism, Michael Okpara University of Agriculture, Umudike. The population for the study is 1087 students (office of the dean, college of Applied food Science and Tourism for 2016/2017 Academic session).

Determination of sample size

The sample size for this study was 295 (two hundred and ninety five students. This was arrived at through a scientific method where Taro Yamen's formula was adopted. This is mathematically represented thus;

$$n = \frac{N}{1+N(e)^2}$$

Where n = sample population
I = constant
N = population = 1087
e = degree of error = 0.05

By substitution and computation, this implies;

$$\frac{1087}{1+1087(0.05)^2}$$

$$\frac{1087}{1+1087(0.0025)}$$

= 294.4 ~= ≈ =295

Sample and Sampling Technique

According to Hughes and Hans (2001) sampling is concerned with the selection of a subset of individuals from within a statistical population to estimate characteristics of the whole population. Two advantages of sampling population are that the cost is lower and data collection is faster than measuring the entire population. Each observation measures one or more properties (such as weight, location, color) of observable bodies distinguished as independent objects or individuals. In survey sampling, weights can be applied to the data to adjust for the sample design, particularly stratified sampling. Results from probability theory and statistical theory are employed to guide the practice. In business and medical research, sampling is widely used to determine if a production lot of material meets the governing specifications. This research work adopted convenient and purposive sampling techniques.

Instrument for data collection

Structured questionnaire was used for data collection. The questionnaire was categorized in six (6) sections; A, B, C, D, E, F.

Section A: Bio data of Respondents

Section B: The influence of smartphone addiction on students' Academic performance, based on hours spent on the phones compared to focus on studies among undergraduate students.

Section C: The reasons behind smartphone addiction among undergraduate students.

Section D: Strategies for managing addiction to smartphone usage among undergraduate students.
Section E: The reasons behind smartphone addiction among undergraduate students.

Section F: Solutions to the problem of addiction to smart phone usage among undergraduate students.
A four point rating scale was used for rating. Thus, Strongly Agreed [SA], Agreed [A], Strongly Disagreed [SD], Disagreed [D] with values 4,3,2 and 1 assigned respectively.

Reliability of the instrument

Reliability is how genuine, guaranteed, and reliable the instrument used is, for the purpose of the research work. Test-retest reliability test method was used in

this study. The test-retest method assesses the external consistency of a test. This refers to the degree to which different raters give consistent estimates of the same behavior. Inter-rater reliability can be used for interviews (Hughes and Hans, 2001). This method can otherwise be called inter-observer reliability when referring to observational research. Here, the researcher will observe the same behavior independently (to avoid bias) and compare their data. If the data is similar then it is reliable. In the period, ten (10) copies of the questionnaire was sampled to ten (10) students from college of Applied Food Science and Tourism (CAFST), this was used as sample collection. The coefficient reliability is 0.94, thus the questionnaire was judged reliable for data collection.

Data Analysis Techniques

The statistical tool used for data analysis were frequency, mean and simple percentages (%) frequency was used to organize the data collected. Percentages (%) was used to organize the demographic data of the students while mean was used to analyze the responses to research questions. The mean was calculated by assigning nominal values to the response categories. Strongly agree (SA); Agree (A); strongly disagree (SD); Disagree (D) with values 4, 3, 2 and 1 assigned respectively.

Strongly Agree   4
Agree   3
Strongly Disagree   2
Disagree   1

Hence, the mean was computed as follows;

$$X = \frac{\sum x}{n}$$

Which is

$$= \frac{\frac{4+3+2+1}{4}}{4}$$

$$= 2.5$$

To this extent, the cut-off become 2.5, any value below 2.5 is regarded as disagree while above 2.5 will be regarded as agreed.

Results

TABLE 1: Socio-Demographic characteristics of the Respondents

Variables	Frequency	Percentage
Male 70 Female 25.9%		
	200	74.1%
Total	270	100
Level of study		
100 level	41	18.2%
200 level	52	19.3%
300 level	39	14.4%
400 level	80	29.6%
500 level	58	21.5%
Total	270	100

Source: Field survey, 2017

TABLE 2: The influence of smartphone addiction on students' Academic performance, based on hours spent on the phones compared to focus on studies among undergraduate students.

S/N	Variables	SA (f)	A (f)	SD (f)	D (f)	X	Decision
1	Classroom Distraction	105	90	25	50	2.95	Accept
2	Examination malpractice	20	30	130	90	1.93	Reject
3	Reducdd cognitive ability	70	120	35	45	2.80	Accept
4	Cyber Bullying	123	111	15	21	3.24	Accept
5	Poor Academic Performance	35	70	100	65	2.28	Accept
6	Encourages Pornography	127	93	20	30	3.17	Accept
7	Health Hazard	15	46	92	117	1.85	Reject
8	It causes numb fingers	61	100	39	90	2.64	Accept
9	Leads to wrist problem	25	44	86	115	1.92	Reject
10	It causes vision lost	90	94	26	60	2.79	Accept
11	Poor writing skills	77	114	35	44	2.83	Accept
12	Emotional stress	110	62	38	60	2.82	Accept
13	Damaged Relationship	80	82	65	43	2.74	Accept
14	Irritated when not with Smartphone	100	120	12	38	3.04	Accept

Source: Field Survey, 2017

Where:

F = frequency, $\overline{X}$ = mean, SA = strongly agree, A = Agree, SD = strongly disagree, D = disagree.

Table 3: The positive influence of smart phone usage among undergraduate students

SIN	Variables	SA (0	A (f)	SD (f)	D (f)	$\overline{X}$	Decision
1	Easy access to information	135	115	5	15	3.37	Accept
2		136	124	6	4	3.45	Accept
3	Helps them to regularly keep in touch with families and friends using social media platforms e.g. What Sapp, Facebook Easy dissemination of information	150	105	6	9	3.47	Accept
4	Enhances mobile learning	122	83	15	50	3.03	Accept
5	Serves as teaching tool	120	80	20	50	3.00	Accept

Source: Field Survey, 2017

Where:
F = frequency, $\overline{X}$ = mean, SA = strongly agree, A = Agree, SD = strongly disagree, D = disagree.

Table 4: The reasons behind smartphone addiction among undergraduate students

S/N	Variables	SA (f)	A(f)	SD (f)	D (f)	$\overline{X}$	Decision
1	Social anxiety	95	115	40	20	3.06	Accept
2	Depression	40	99	31	100	2.29	Reject
3	Loneliness	105	125	13	27	3.14	Accept
4	Impulsivity	90	98	30	52	2.84	Accept
5	Peer pressure	70	105	40	55	2.70	Accept
7	For surfing the internet	125	85	20	40	3.09	Accept
8	For doing assignments	101	130	18	21	3.15	Accept
9	For video calls	50	87	53	80	2.40	Reject
10	For snapping pictures	170	81	8	11	3.52	Accept
11	For seeing movies and news	83	91	31	65	2.71	Accept
12	Chatting on social networks	92	127	12	39	3.01	Accept

Source: Field survey, 2017 Where,
F = Frequency, $\overline{X}$= mean, SA = strongly agreed, A = Agree, SD = strongly disagree, D = disagree.

Table 5: the strategies for managing addiction to smartphone usage among undergraduate students'

1	Cognitive behavioral approach	85	35	42	2.87	Accept
2	Motivational interviewing	70	46	65	2.61	Accept
3	Mindfulness behavioral cognitive treatment	77	39	54	2.74	Accept
4	Creation of awareness of the Negative influences of Smartphone addiction	159	6	25	3.38	Accept
5	Increase recreational activities	10	4	16	3.27	Accept
6	Delete the programme addicted to	95	25	40	2.96	Accept
7	Performance of some positive self- Fulfilling activities	83	10	50	2.90	Accept
8	Increase social networking	20	80	108	1.70	Accept
9	Ask a friend for help	93	38	35	2.94	Accept
10	Ask specialist for treatment of addiction	63	20	78	2.58	Accept
11	Find alternatives to the use of Smartphone as entertainment	69	30	60	2.70	Accept
12	Reduce the use of smartphone Gradually	66	21	50	2.80	Accept

Where: F = Frequency, $\overline{X}$ = Mean, SA = strongly agreed, A = Agree, SD = strongly disagree, D = disagree.

Discussion

Table 1 Showed above, the socio-demographic characteristics of the respondents studied.

The questionnaire was distributed to 295 students' in college of Applied of Applied food science and Tourism; the responses consisted of two hundred and seventy (270) students (91.53%) who completed the entire survey. The study revealed that the majority of the students (74.1%) were female students while the minorities (25.9%) were male. This could be attributed to the fact that departments in college of Applied food science and Tourism are generally perceived as feminine courses, and there are also differences between males and females in smartphone usage. While males tend to use the smartphone for more process- oriented gratifications, women use the device more for socially-oriented gratifications. Women use phones more than men to 'gossip' or maintain social relationships and have a stronger relationship with their smart phones. Therefore, social media are most appealing to women. Men use their smartphones more for game applications and are generally mope into (mobile) gambling. Finally, the majority (29.6%) of the respondents were 400 level students of Home science/Hospitality management, Human Nutrition and dietetics department followed by 500 level students of Hospitality management, food science and technology department and then 200 level students of Home science/ Hospitality management, Human Nutrition and dietetics, Food science and technology department while the minority (14.4%) of the respondents were 300 level students of Home science/ Hospitality management, Human Nutrition and Dietetics department, Food science and technology department. This result could be attributed to the fact that as at the time of this study, the 300 level students of Home science and Human Nutrition department were on six months compulsory industrial training outside the university premises likewise the 400 level students of Hospitality management and Food science and technology department. It was only the few of them that were doing it around the university campus that responded to the questionnaire while other levels were still in school.

Table 2 above shows that out of fourteen (14) item, statement on the influence of smartphone addiction based on hours spent on the phones compared to focus on studies among undergraduates in college of Applied food science and tourism, respondents with a mean score of 2.93 agreed that classroom distraction is one of the influence of addiction to smartphone, respondent with a mean score of 2.80 accepted that smartphone addiction reduce their cognitiveability, respondents with a mean score of 3.24 agreed that cyber bullying is one of the influence of smartphone addiction, respondents with a mean score of 2.82 agreed that smartphone causes emotional stress.Respondents with a mean score of 3.17 agreed that smartphone addictionencourages pornography, respondents with a mean score of 2.64 agreed that smartphone addiction causes numb fingers, respondents with a mean score of 2.79 agreed that smartphone addiction leads to vision lost. Respondents with a mean score of 3.04 agreed that they get irritated when not with smart phone, Respondents with a mean score of 2.74 agreed that smartphone addiction damages relationship, respondents with a mean score of 2.83 agreed that smartphone addiction causes poor writing skills.

Respondents with a mean score of 1.85 disagreed that smartphone causes Health hazard, respondents with a mean score of 1.92 disagreed that smartphone addiction causes wrist problem, respondents with a mean score of 1.93 disagreed that examination malpractice is one of the influence of smartphone addiction, and finally respondent with a mean score of 2.28 disagreed that smartphone addiction influences their academic performance. From the findings above, it is evident that ten out of the fourteen items were accepted while four items were rejected as the influence of smartphone addiction on academic performance of students based on hours spent on phone compared to focus on studies.

However, the finding of this study, revealed that excessive smart phone usage significantly influence academic performance among male and female students.

Table 3 above reveals that out of five (5) item statement on the positive influence of smart phone usage among undergraduate students' in college of Applied food science and Tourism, all the respondents showed a total agreement, because the mean scores achieved on the item listed as the positive influence of smart phone usage among undergraduate students in college of Applied food science is above 2.50 which is the criterion mean score for this research. Furthermore the mean score ranges from 3.00 to 3.47.

Table 4 above reveals that out of twelve (12) item statements listed as the reasons behind smart phone addiction among undergraduate students' in college of Applied food science and Tourism, respondents showed a total agreement except item number two and number nine with a mean score of 2.29 and 2.40 respectively which was rejected as the reason behind smart phone addiction among undergraduate students' in college of Applied food Science and Tourism, because its mean scores were below 2.50 which is the criterion mean score for this research. The mean score ranges from 2.29 to 3.52.

Respondents with a mean score of 3.06 agreed that social anxiety is the reason behind addiction to smart phone, respondents with a mean score of 2.29 disagreed that depression is the reason behind smart phone addiction, respondents with a mean score of 3.14 agreed that addiction to smartphone is because of loneliness. Respondents with a mean score of 2.84 disagreed that impulsivity could be a reason of addiction to smart phone, respondents with a mean score of 2.70 disagreed that peer pressure is a cause of smart phone addiction, respondents with a mean score of 3.08 agreed that reason to smart phone addiction is to identify with a social class. Respondents with a mean score of 3.09 agreed that surfing the internet is a reason of smart phone addiction, respondents with a mean score of 3.15 accepted that the reason behind smart phone addiction is for doing assignment, respondents with a mean score of 2.40 disagreed that the reason behind smart phone addiction is video calls,

respondents with a mean score of 3.52 agreed that snapping pictures and uploading is the reason behind smart phone, respondents with a mean score of 2.71 agreed that seeing movies and news is the reason behind smart phone addiction and finally, respondents with a mean score of 3.01 agreed that chatting on social networks like what Sapp, Facebook, snap chat is the reason behind smart phone addiction among undergraduates in college of Applied food science and Tourism.

Finally, table 5 above reveals that out of the fourteen (14) item statement listed as strategies for managing smart phone addiction among students in college of Applied food science and Tourism, all the Respondents showed a total agreement except item number eight with a mean score of 1.70 which was rejected as a strategy for managing smart phone addiction among undergraduate students' in college of Applied food science and Tourism, because its mean score is below 2.50 which is the criterion mean score for this research. Furthermore the mean score ranges from 1.70 to 3.58. This finding agrees with Chien (2009) who stated that family and outdoor activities along with participative and supportive parental monitoring reduce the tendencies. Parental monitoring is inhibitors of adolescents' internet addiction. Thus adolescent should be supervised and monitored in their daily routines and encouraged to participate in family and outdoor activities. Further, adolescents should develop a positive attitude toward leisure and the skills to deter overdependence on online relationship.

Conclusion

The study has revealed that despite the benefits that come with the usage of smart phone by students, it could impact negatively on their academic performance if not used properly. A lot of benefits abound in the use of smart phone such as doing assignment, unlimited access to information, sharing information and ideas, improving reading skills, social networking etc. Despite the benefits that comes with the usage of smart phone by students, excessive smart phone use can lead to many problems such as low academic achievement, interpersonal distress and maladjustment of school life, sleeping disturbance, depression, psychological distress and Smartphone addiction. People with Smartphone addiction may encounter difficulties with interpersonal adjustments

and experience greater difficult with face-to-face communication. Conclusively this study was able to identify Psychological factors such as impulsivity, depression, loneliness, self-efficacy, self-control, self-esteem, stress to be significantly associated with smart phone addiction. However,the strategies for managing addiction to smart phone usage among undergraduate students should be followed judiciously to attain the goal of producing competent graduates.

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