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Knowledge of The Physical Health Conditions Associated with Excessive Screen-Time Leisure Activities Among Undergraduate Students of University of Nigeria, Nsukka

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Abstract

The study assessed knowledge of physical health conditions associated with excessive screen time leisure activities among undergraduate students in University of Nigeria, Nsukka. The descriptive research design was adopted for the study. The population for the study consisted of 19,973 undergraduate students of University of Nigeria, Nsukka campus. A sample size of 392 students obtained using the Taro Yamane formula for a finite population. The instrument for data collection was designed by the researchers. It was validated by three experts from the Department of Human Kinetics and Health Education, University of Nigeria, Nsukka, and has a reliability coefficient of 0.73. Frequency and percentages were used to answer the research questions, while chi square statistics was used to test the hypotheses at 0.05 level of significance. Level of knowledge was determined using the Ashur (1997) scale for describing level of knowledge. Results indicated that undergraduate students of University of Nigeria, Nsukka, possess low (49%) level of knowledge of active lifestyle problems associated with excessive screen time leisure activities. The study also revealed that undergraduate students of University of Nigeria, Nsukka possess very high (80%) level of knowledge of vision related problems and high (68%) level of knowledge of musculoskeletal disorders associated with excessive screen time leisure activities. There was no significant difference in level of knowledge of physical health conditions associated with excessive screen time leisure activities among undergraduate students based on gender ($p > 0.05$) and year of study ($p > 0.05$). It was recommended that the authority of the University of Nigeria, Nsukka should organize public health awareness programme where students should be educated on the health implications of excessive screen time use.

Key words: Screen time, Knowledge, Leisure

Introduction

Excessive screen viewing is a serious health problem of concern in recent years. The use of electronic screen media such as the internet, computers, video game consoles, mobile phones, smart phones and other electronic devices has been on the increase over the last decades in all parts of the world. Screen time is defined as minutes spent in front of a screen of some sort like televisions, video-game consoles, computers and cinema screens (Olds, Ridley & Dollman, 2006). In their own conceptualization, Busch, Manders, and de Leeuw, (2013) stated that television viewing; internet use and video game playing are collectively called screen time. It is

therefore, the totality of time spent using any electronic media with screen. These include hand-held electronic devices with screen, lap tops, computers, television, video game consoles, etc.

Educational institutions have witnessed an astronomical increase in the use of electronic screen media by students in recent times. These media are used by students for various tasks which may include voice calls, sending text messages and e-mail, to download and listen to music, to access social media sites, to access websites for entertainment or concert, for academic purposes or information, and for movie viewing amongst others. Electronic screen media has created new leisure time activities especially among students.

The benefits associated with screen time leisure activities are no doubt enormous. According to Dugan (2017) the benefits of screen time to children includes building modern skills to be prepared for college and careers in their future; becoming digital citizens, using information from technology in order to be active and engaged members of their communities and society; becoming positively exposed to new ideas and knowledge; learning and creating and acquiring hard and soft skills learned about or through digital media, including creativity and personal expression. Other benefits as listed by Dugan are playing video games and thereby improving motor skills and coordination; delivering educational value and school-related homework and research; offering internet tools, texting, video conferencing, and shared video games— easy and fun ways to socialize, communicate with others, build community engagement and collaborate and encouraging joint engagement across family members and educators to further learning. Other scholars (Servon, 2002; Ger, et al., 2002), have noted that the new media have in no small measure, expanded the scope of social interactions, friendships and relationships among people; they make it easy to stay in touch with people. In like manner, Adum, Ekwugha, Ojiakor and Ebeze (2016) stated that the discovery and emergence of the new media have facilitated the creation of the different platforms for social interaction. According to the World Health Organization (WHO, 2015) the benefits of the screen media include doing more in less time and hence having more time for family and friends, provision of information and facilitation of pro-social activities. These, WHO further stated, may directly promote public health with respect to provision of information, facilitation of pro-social activities and other factors. According to the World Health Organization (WHO, 2015), the screen media has become integrated into the occupational, social, recreational and leisure parts of most people's lives.

Leisure is usually located after the day's work. Leisure is discretionary time, which is the time left over from work and other life maintenance activities with the individual freely choosing a leisure activity (Voss, 2001). This implies that freedom of choice of activities an individual pursues during his or her discretionary time is the basis of leisure. Most screen time activities occur during leisure. On average, children and teens spend 6 to 8 hours per day watching TV, playing video games, and using computers, mobile phones, lap tops, smart phone and tablets (Lou, 2014). In other words, young people are spending an excessive amount of time on screen-based activities. It has been suggested that screen time displaces more 'worthwhile' activities, including physical activity.

Despite the benefits associated with screen time leisure activities, there are adverse effects associated with the use of screen media if it is not checked. The debate about how much screen time is healthy has been going on since the dawn of television in the 1950s (Dugan, 2017). According to Dugan, the debate continues to this day as more and more young people interact with screen-based technology, and that children around the world are growing up immersed in digital media and interactive technologies, from tablets to smart phones and other screen media devices**.** The evidence increases that excessive and/or compulsive screen time behaviour holds the potential to be harmful to one's health (Meerkerk, 2007; Van Roiji, 2011). The rising popularity and use of the screen media like the internet and other electronic devices has also seen an increasing clinical, research and media focus on health problems associated with excessive use (WHO, 2015).

Physical health conditions associated with excessive screen time leisure activities includes increase in sedentary lifestyle, visual symptoms, musculoskeletal disorders, hearing, injuries and accidents and infections (WHO, 2015). Longitudinal studies have shown that sedentary screen time, especially TV viewing, increases the risk of children being overweight and obese (Kimbro, Brooks-Gunn & McLanahan, 2011). Though the risk may not be significant during childhood, Hancox, Milne and Poulton (2004) stated that childhood screen time is a risk factor for adult obesity. According to Shuval, Gabriel and Leonard (2013), increased TV viewing among adults is positively associated with overweight and obesity, cardiovascular disease, and Type 2 diabetes. Several mechanisms by which sedentary screen time may contribute to obesity are displaced physical activity, increased consumption of calories while engaging in screen time, increased exposure to advertisements promoting unhealthy foods, and disturbed sleep patterns (McKetta, & Rich, 2011). According to WHO (2015), electronic screen devices with audio entertainment functions can typically generate harmful levels of sound, which can be linked to permanent hearing damage; while mobile electronic devices, such as smart phones, are commonly used while doing other tasks. This may make the user more prone to injuries and accidents as a result of lack of concentration on what the user is doing.

Another factor is that of the possibility of spreading infections. Insufficient hygiene precautions and sharing of mobile devices such as smart phones may enable the spread of pathogens and infectious diseases. Also, prolonged use of electronic screen products may potentially lead to eye and visual symptoms like ocular discomfort, eyestrain, dry eye, headache, blurred vision and even double vision (WHO, 2015).

Another common physical health condition is musculoskeletal disorders. Musculoskeletal disorders (MSDs) according to Kozarsky (2017) are conditions that can affect your muscles, bones, and joints. They include conditions such as: tendinitis, carpal tunnel syndrome, osteoarthritis, and rheumatoid arthritis, fibromyalgia, and bone fractures. Another medical issue caused by the use of screens especially the computer is back and posture problems. These problems relate to musculoskeletal disorders which according to Andersen et. al, (2008) are caused by the need for the user to be crouched and hunched towards the monitors and computer components due to the design and positioning of these particular computer peripherals. This hunching forward of the user causes posture and back problems but is also the cause of severe and acute pain in the upper back, particularly pain in the neck and or shoulders.

In view of the above stated physical health conditions associated with excessive screen time, the American Academy of Pediatrics recommends no TV or other screen-based entertainment for children less than two years, and 2 hours/day with entertainment media for children that are from two years and above (American Academy of Pediatrics, 2001). Despite these recommendations, in 2009, U.S. children aged 8-18 years reported 7.2 hours with screen media (4.5 hours watching TV, 1.5 hours using the computer recreation-ally, and 1.2 hours playing video games); this does not include screen media for school work or cell phone use (Rideout, Foehr, Roberts & Generation, 2010). According to Buchanan et al (2016) although there are no recommendations for adults, in 2013, watching TV was the leisure activity that occupied the most time for adults, about half of their leisure time, or 2.8 hours of TV daily. Screen time guidelines were established when television was the only form of technology that most young children consumed, and the guidelines were intended to limit the passive, sedentary patterns of use that typically accompany television viewing (Daugherty, Dossani, Johnson & Wright, 2014). The level of exposure to screen based activities are very high now especially with the emergency of hand-held electronic screen media. In a study among undergraduates in South East Nigeria for example, Adum, Ekwugha, Ojiakor and Ebeze (2016) reported that all the respondents claimed to have access to screen-based devices. This according to Adum, Ekwugha, Ojiakor and Ebeze indicates a very high prevalence and accessibility of screen-based devices among the undergraduate students, which may invariably suggest the high level of usage and exposure to the possible health hazards associated with such exposure. This warrants consideration by public health educators, towards reducing screen time leisure activities. According to Buchanan et al (2016), behavioural interventions aimed at reducing recreational sedentary screen time may work by changing youth screen time-related knowledge.

Knowledge is critical in the life of human beings. This is because everything we do depends on our level of knowledge of that which we want to do. It becomes necessary therefore that we possess adequate knowledge of the adverse physical health effects of engaging in excessive screen-time leisure activities in other to avert them. According to Denning (2000) knowledge is defined as facts, information and skills acquired by a person through experience, association or education. In the view of Atherton (2013), knowledge is related to the capacity of acknowledgement in human beings. It involves perceiving, reasoning and learning. In this study, knowledge is viewed as the perceiving, reasoning and learning of facts about physical health conditions associated with excessive screen time leisure activities by undergraduates.

Undergraduates are students in a university who have not received a bachelor's degree. They are mostly adolescents and young adults. Being students who are always surfing the net for information and academic materials, it is expected that they should have adequate knowledge of the health implications of excessive screen time use. Knowledge about the recommended hours on screen time has existed for years. This notwithstanding, students and youths have engaged in excessive screen time leisure activities. This probably may be because of lack of knowledge of physical health conditions associated with excessive screen time leisure activities. The Knowledge of physical health conditions associated with excessive screen-time leisure activities among undergraduate students can be influenced by certain socio-demographic variables. Such variables are age, gender and year of study. There is dearth of studies and reliable data on knowledge of physical health conditions associated with excessive screen time leisure activities among undergraduates of University of Nigeria, Nsukka, Enugu State. Hence the problem of this study is: what is the level of knowledge of physical health conditions associated with excessive screen time leisure activities among undergraduate students of University of Nigeria, Nsukka? Ascertaining the undergraduates' level of knowledge of physical health conditions associated with excessive screen time leisure activities is crucial to promoting healthy lifestyle among undergraduate students.

Purpose of the Study

The main purpose of the study was to determine the knowledge of physical health conditions associated with excessive screen time leisure activities among undergraduate students in University of Nigeria, Nsukka. Specifically, the study sought to determine the:

1. the level of knowledge of active lifestyle problems associated with excessive screen time leisure activities among undergraduate students of University of Nigeria, Nsukka
2. the level of knowledge of vision related problems associated with excessive screen time leisure activities among undergraduate students of University of Nigeria, Nsukka
3. the level of knowledge of musculoskeletal disorders associated with excessive screen time leisure activities among undergraduate students of University of Nigeria, Nsukka

Research Questions

The following research questions guided the study:

1. What is the level of knowledge of active lifestyle problems associated with excessive screen time leisure activities among undergraduate students of University of Nigeria, Nsukka?
2. What is the level of knowledge of vision related problems associated with excessive screen time leisure activities among undergraduate students of University of Nigeria, Nsukka?
3. What is the level of knowledge of musculoskeletal disorders associated with excessive screen-time leisure activities among undergraduate students of University of Nigeria, Nsukka?

Hypothesis

The following null hypotheses were formulated and tested at 0.05 level of significance:

1. There is no significant difference in the level of knowledge of physical health conditions associated with excessive screen time leisure activities among undergraduates in UNN based on gender.
2. There is no significant difference in the level of knowledge of physical health conditions associated with excessive screen time leisure activities among undergraduate students of UNN based on year of study.

Method

The cross-sectional descriptive research design was used for the study. The population for the study comprised all undergraduate students of University of Nigeria, Nsukka campus. There are ten faculties in the Nsukka campus of the University of Nigeria, with nineteen thousand, nine hundred and seventy-three undergraduate students (10,153 male and 9,820 female) as at 2016/2017 academic session (UNN Academic Planning Unit, 2017). A sample size of 392 students arrived at using the Taro Yamane formula for a finite population, was used for the study. This is in line with Uzoagulu (2011), who stated that when the population of a study is known, the sample size can be statistically determined, using the Taro Yamane formula. The multistage sampling technique was employed in reaching at the respondents. The instrument for data collection was the researcher structured questionnaire. The validity of the instrument was established by three experts in the Department of Human Kinetics and Health Education, University of Nigeria, Nsukka. The reliability of the instrument was also established using the split half method. The reliability coefficient of 0.73 was obtained. The instrument was therefore deemed reliable for the study. Course representatives assisted the researchers in administering the questionnaire. The completed copies of the questionnaire were collected on the spot. The completed questionnaires were collated, sorted and checked for completeness. 380 copies of the questionnaire were dully completed and used for analysis. Frequency and percentages were used to answer the research questions while chi square statistics was used to test the null hypotheses, at 0.05 level of significance. The level of knowledge of physical health conditions associated with excessive screen time leisure activities were determined using the Ashur's (1997) criteria. In this regard, scores less than 40 percent were considered very low, 40 – 49 percent were considered low, 50 – 59 percent as average, 60-79 were considered as high, while 80 percent and above were regarded as very high.

Results

The results of the study are as presented in tables 1-5 below.

Research question 1

What is the level of knowledge of active lifestyle problems associated with excessive screen time leisure activities among undergraduate students of University of Nigeria, Nsukka?

Data answering research question 1 are presented in table 1.

Table 1: Frequency and Percentage of knowledge of active lifestyle related problems associated with excessive screen time leisure activities among undergraduates in University of Nigeria, Nsukka (n= 380)

S/N	Items	True		False	
		f	%	f	%
1	Excessive screen time decreased sleep time	251	66	129	34
2	Excessive screen time leads to insufficient physical fitness	152	40	228	60
3	Excessive screen time leads to snacking/poor diet	162	43	218	57
4	Excessive screen time leads to sedentary lifestyle	186	49	194	51
5	Excessive screen time increases risk of being obese and overweight	147	39	233	61
6	Excessive screen time increases exposure to advertisements promoting unhealthy foods	211	56	169	44
	Average %		**49**		**51**

Table 1 above, showed that the respondents possess low (49%) level of knowledge of active lifestyle related problems associated with excessive screen time leisure activities. As is shown above, the average percentage of incorrect responses is higher (51%) than the correct responses (49%). The table further revealed that 66% of the undergraduate students indicated that excessive screen time decreased sleep time. 56% of the undergraduates confirmed that excessive screen time increases exposure to advertisements promoting unhealthy foods. Furthermore, results in the table showed that 61% of the undergraduates are not aware that excessive screen time leisure activities increase risk of being obese and overweight. Also, 60% of the undergraduates are not aware that excessive screen time leads to insufficient physical fitness.

Research question 2

What is the level of knowledge of vision related problems associated with excessive screen time leisure activities among undergraduate students of University of Nigeria, Nsukka?

Data answering research question 2 are presented in table 2.

Table 2: Frequency and Percentage of knowledge of vision related problems associated with excessive screen time leisure activities among undergraduate students of University of Nigeria, Nsukka (n= 380)

S/N	Items	True		False	
		f	%	f	%
7	Excessive screen time leads to eye and visual symptoms like ocular discomfort	265	70	115	30
8	Excessive screen time causes eyestrain	354	93	26	7
9	Excessive screen time leads to dry eye	323	85	57	15
10	Excessive screen time causes blurred vision/double vision	287	76	93	24
11	Excessive screen time causes headache	298	78	82	22
	Average %		**80**		**20**

Data in Table 2 above showed that undergraduate students of University of Nigeria, Nsukka possess very high (80%) level of knowledge of vision related problems associated with excessive screen time leisure activities. The study revealed that the average percentage of correct responses is higher than incorrect responses (20%). From the table, it is revealed that (93%) of undergraduate students affirmed that excessive screen time causes eyestrain, 85% affirmed that excessive screen time leads to dry eye.

Research question 3

What is the level of knowledge of musculoskeletal disorders associated with excessive screen-time leisure activities among undergraduate students of University of Nigeria, Nsukka?

Data answering research question 3 are presented in table 3

Table 3: Frequency and Percentage of knowledge of musculoskeletal disorders associated with excessive screen time leisure activities on among undergraduate students of University of Nigeria, Nsukka (n= 380)

S/N	Items	True		False	
		f	%	f	%
12	staying in the same position at a screen every day, can cause musculoskeletal disorder	203	53	177	47
13	Excessive screen time can cause postural defects	218	57	162	43
14	Use of mobile screen devices while doing other tasks makes the user more prone to injuries and accidents.	362	95	18	5
	Average %		**68**		**32**

Table 3 showed that undergraduate students of University of Nigeria, Nsukka possess high (68%) level of knowledge of musculoskeletal disorders associated with excessive screen time leisure activities. This is glaring as the average percentage of correct responses are higher (68%) than the average percentage of incorrect responses (32%). The table further revealed that 95% of the undergraduate students affirmed that use of mobile phone devices while doing other tasks makes the user more prone to injuries and accidents, 57% affirmed that excessive screen time can cause postural defects.

Hypothesis 1

There is no significant difference in the level of knowledge of physical health conditions associated with excessive screen time leisure activities among undergraduates in UNN based on gender.

The results of hypothesis 1 are presented in table 4.

Table 4: Summary of Chi Square statistic of no significant difference on the level of knowledge of physical health conditions associated with excessive screen time leisure activities among undergraduates in UNN based on gender.

Variable	N	χ^2 Value	P-Value	df	Decision
gender	**380**	**1.339**	0.43	1	**Ho_1 accepted**

Result in Table 4 showed that the calculated p-value of 0.43 is greater than the confidence level of 0.05 at 1 degree of freedom. This means that the null hypothesis of no significant difference on the level of knowledge of physical health conditions associated with excessive screen time leisure activities among undergraduate students based on gender is accepted.

Hypothesis 2

There is no significant difference in the level of knowledge of physical health conditions associated with excessive screen time leisure activities among undergraduate students of UNN based on year of study.

The results of hypothesis 2 are presented in table 5.

Table 5: Summary of Chi Square statistic no significant difference on the level of knowledge of physical health conditions associated with excessive screen time leisure activities among undergraduate students of UNN based on year of study.

Variable	N	χ^2 Value	P-Value	df	Decision
Year of Study	**380**	**3.297**	0.62	4	**Ho_2 accepted**

Table 5 showed that the calculated p-value of .62 is greater than the confidence level of 0.05 at 4 degrees of freedom. This means that the null hypothesis of no significant difference on the level of knowledge of physical

health conditions associated with excessive screen time leisure activities among undergraduate students based on year of study is accepted.

Discussion

On the level of knowledge of active lifestyle problems associated with excessive screen time leisure activities, the findings of the study revealed that undergraduate students of University of Nigeria, Nsukka, possess low level of knowledge of active lifestyle problems associated with excessive screen time leisure activities. This finding was surprising. This is because one would expect these students to have a high knowledge of the physical health problems associated with excessive screen time leisure activities. However, this finding agrees with Ogbonna (2001) who found out in a study of secondary school students that they possess low level of knowledge of the impact of face book and the social media. This low level of knowledge may be due to the kind of content of screen activities that these students engaged in.

The findings in Table 2 indicated that undergraduate students of University of Nigeria, Nsukka possess very high (80%) level of knowledge of vision related problems associated with excessive screen time leisure activities. This is not surprising but expected. This is because they may have been experiencing some of these effects during screen time activities. This is in line with the findings of Eze (2002) who reported that bankers were well aware of some of the effects of computer screen use on their vision.

The result in Table 3 revealed that there was a high level of knowledge of musculoskeletal disorders associated with excessive screen time leisure activities among undergraduate students of University of Nigeria, Nsukka. This is expected because these students may have experienced one or two of these disorders after an excessive use of screen media. This finding is in line with Eze (2002) who stated that bankers reported high awareness of the effects of prolonged use of computer on their muscles.

The hypotheses testing revealed that there was no significant difference on the level of knowledge of physical health conditions associated with excessive screen time leisure activities among undergraduate students based on gender. This is surprising and unexpected because various scholars had reported gender differences in screen based activities. This disagrees with the findings of Thanuskodi (2013) who reported gender differences in internet illiteracy among students in India.

Also, the hypothesis testing on the significant differences on the level of knowledge of physical health conditions associated with excessive screen time leisure activities among undergraduate students based on year of study was accepted. This implies that all the students possess the same level of knowledge of the physical health problems associated with excessive screen time leisure activities. This is in line with the findings of Ogbonna (2001) who found no differences in the level of knowledge of the impact of face book and social media among secondary school students, based on their year of study.

Conclusions

Based on literature reviewed and the major findings of the study, it was concluded that knowledge of physical health problems associated with excessive screen time leisure activities among undergraduate students of University of Nigeria Nsukka, is high. Secondly, undergraduate students exhibited high level of knowledge of vision related problems and musculoskeletal disorders associated with excessive screen time leisure activities. Finally, undergraduate students of University of Nigeria, Nsukka indicated low level of knowledge of active lifestyle problems associated with excessive screen time leisure activities.

Recommendations

On the basis of the findings of this study, the discussion and conclusions, the researchers recommend that the authority of the University of Nigeria, Nsukka should organize public health awareness programme where students should be educated on the physical health implications of excessive screen time use.

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