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The Mental and Physical Health Consequences of Heavy Electronic Device

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AbstractHumanity benefits from the use of electrical technologies. But there are health concerns associated with these gadgets' continual usage, and this is especially true for young people owing to their increased inactivity. So, this descriptive-quantitative study uses a self-made questionnaire to examine the effects of electronic device use on the health and nutritional condition of college students at SDSSU in Surigao del Sur. Females made up the majority of the respondents (67%), with 56% being between the ages of 19 and 20, 50% having a normal body mass index (BMI), and 47% mostly engaged in home tasks. Cell phones accounted for 43% of all electronic gadgets, with television coming in at 33% and laptops at 20%. About 74% of people like eating while watching TV, and the most popular programming were news(29%) and cinema (24%). Bread comes in at 20%, with junk food coming in at 17%. Nearly all respondents (98%) use some kind of electronic device (TV, laptop, mobile phone, tablet, etc.) between one and five hours each day. Cell phone usage ranks high among electronic gadgets; 20% of respondents spend 6–10 hours on the device daily, while around 5% use it for 15 hours straight. Among health-related characteristics, headache was the most common at 44%, followed by bodily weakness at 25%. The continued usage of electronic gadgets among college students may have an impact on their diet and overall health.**Keywords:** Technology, Wellness, Diet, and Learners

1. Introduction

The daily habits, social life, and leisure pursuits of countless individuals have been impacted by the pervasiveness of mass and social media. The evolution of several electronic gadgets, including TVs, mobile phones, computers, and gaming consoles, has provided people with access to these forms of media. Throughout this century, people's everyday lives revolved on the usage of technological equipment. Nearly every family and individual on Earth own at least one piece of electronic equipment. Most individuals find it entertaining in addition to making their lives easier. Nonetheless, it's harmful to people's health.

Because of the limitless chances for sociability made possible by contemporary technology, people's lifestyles have evolved to include more time spent in virtual environments. But technology may change the way people talk to one other and how profound their talks become. Smith et al. (2011) found that 84% of college students possess an iPod or mp3 player, while Zickuhr (2011) found that around 96% of college students had a mobile phone. On top of that, research by Smith (2012) and Kennedy et al. (2008) indicates that over half of all internet users between the ages of 18 and 29 used their cell phones to access the internet, and that this demographic accounted for the vast majority of mobile web browsers. According to Shusuki (2015), students' capacity to study and sleep is negatively impacted by excessive use of mobile devices, while Harris (2015) found that teens' brains may be damaged by too much internet usage. The World Health Organization (2011) states that mobile phone radiation may cause cancer. In order to reduce radiation exposure to the brain, a recent research by Reardon (2011) recommended talking on mobile phones for no more than six minutes at a time or utilizing a headset.

Among young individuals, 58% said they watch TV daily or more often, and 90% said they use the internet to watch TV online (Madden, 2009). The average American kid consumes 20 hours of television

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per week. Salaway et al. (2008) found that young adults spend about 18 hours a week on the internet. Studies on the subject of television and the consequences of children's screen time have shown negative outcomes in terms of both health and behavior (Mc Anally et al. 2014). While it's great to have access to and use technology, sedentary behaviors may cause health issues (Rosenthal et al., 2010). Accordingly, the purpose of this research is to determine how prevalent the use of electronic devices is among SDSSU Cantilan undergraduates.

2. Methodology

The research method employed was a descriptive- quantitative method. It was done at Surigao del Sur State University-Cantilan Campus. A validated semi- questionnaire and an interview were conducted to each student in a face to face manner for data collection. Respondents were selected through simple random sampling with the total number of participants to be determined using Sloven's formula.

The parameters included in the questionnaire were as follows: demographic profile, activities done, body mass index (BMI), type of food consumed and electronic devices used, mode of using the devices in terms of hours exposed to certain gadgets. The collected data wastabulated and analysed in accordance with the statistical and scientific method.Results and Discussion

The respondents were 105 students enrolled in SDSSU.The total adjusted response rate was 70.0% (105/150). To protect against non-response bias, IBM Corporation (2010)stated that the acceptable total usable questionnaire is based on 50%-60%; the present study has a total usedquestionnaire of 70%. Table 1 shows the obtained data. Results showed that majority of the participants were female (n=70, 67%) between ages 19-20 (n=59, 56%). TheBMI scores were calculated from self-reported height and weight. The classification ranged from underweight to obese. Fifty percent (n=37) were within normal BMI, followed by 33% (n=24) overweight, 15% (n=11) underweight and 2% (n=2) obese, respectively. Doing household chores (n=100, 47%). This was followed bywatching television (n=66, 28%), texting (n=41, 17%) and physical fitness (n=31, 13%).

Household chores involves cleaning, cooking, home maintenance, laundry and bill pay which could be performed by any person. According to Reader's Digest (2017), sweeping or mopping is a very good workout it can burn out about 240 calories per hour. Furthermore, gardening can also help burn calories. Results showed that students mostly perform household chores, a very good indication of their awareness on their health as shown in their normal BMI.

Twenty-eight percent (28%) of students were recorded to prefer watching television most of their time. Gomez et al. (2017) stated, however, that watching television has been consistently associated with higher risk of adverse health outcomes since it is one of the sedentary activities.

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Table 1: Summary of demographic profile, BMI and type of activity among SDSSU students

Demographic Variables	N	(%)
Sex (n=105)		
Male	35	(33)
Female	70	(67)
Age (n=105)		
17-18	20	(19)
19-20	59	(56)
21-22	11	(10)
23-24	5	(4)
25-26	3	(3)
27-28	3	(3)
29-30	2	(2)
31-32	1	(1)
33-34	1	(1)
35-36	1	(1)
BMI (n=74)		
Underweight	11	(15)
Normal	37	(50)
Overweight	24	(33)
Obese	2	(2)
Activities (n=238)		
Physical fitness	31	(13)
Watching TV	66	(28)
Household chores	100	(42)
Texting	41	(17)

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Physical fitness is the least performed activity by college students based on the result. Eime et al. (2016) stated that physical activity decreases during the adolescent years which is true for this study since most of the respondents were on their late adolescent years (19-20 years old). Likewise, such decrease in physical activity leads to increase in sedentary behaviours as stated in the reports of Bauer et al. (2012) and Leatherdale (2010).\The study also affirms that there is an increase in sedentarybehaviours among students because 43% of the students in SDSSU have cell phones, 33% have televisions and 20% have laptops. Lepp (2013) also confirms that college students who used their cell phones frequently are more likely to engaged in sedentary behaviour rather than participating in physical activity.

Table 2: Summary of electronic devices used, preferred television programs, activity done during watching tv and health conditions of students in SDSSU

Variables	N	(%)
Electronic Devices		
Television	81	(33)
Laptop	50	(20)
Cell phone	104	(43)
Tablet	9	(3)
PSP	1	(1)
Television Programmes		
Cartoons	44	(16)
Educational show	59	(20)
News	80	(29)
Film shows	66	(24)
Social shows	35	(11)
Eat watching Television		
Yes	67	(74)
No	24	(26)
Food consumed (n=345)		
Junk foods	58	(17)
Fruits	56	(16)
Coffee	37	(11)
Soda	24	(7)
Burger	25	(7)
Bread	66	(20)
Root crops	29	(8)
Cakes	8	(2)
Milk	25	(7)
Sugary beverages	17	(5)

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Electronic devices have various functions or uses which is important in most people nowadays. With various utilities, it gives satisfaction in various angles to users. Table 2 showed different types electronic devices used by college students in SDSSU. Among the electronic devices, cellphone was the most frequently used (43%) electronic device. This is followed by television (33%) and laptop (20%), respectively. These results confirmed the study of Smith et al. (2013) that about 96% of the college students own portable technology like cell phones and 84% owns an iPod or mp3 player.

As shown in the results, news (29%) was the most-liked television program followed by film shows (24%), educational shows (20%), cartoons (16%) and social shows (11%), respectively. This indicates that college students are concerned about the happenings of our currentsociety. Students much preferred watching film shows thaneducational shows as shown in the results since movies or film shows are sources of entertainment (Verma 2017). This indicates that students are not only concerned of the situation of the society but also they need entertainment.

As shown in Table 2, about 74% of the students likes toeat while watching television. Among the food identifiedin the self-made questionnaire, bread (20%) is the most preferred food while watching T.V. followed by junk foods (17%). It is stated in the health line (Roland, 2017) that bread has high carbohydrates which could cause arapid increase in blood sugar and insulin level. Additionally, junk foods are bad for health as it leads to obesity, bad cholesterol, gastrointestinal problems, blood pressure, heart disease, etc. However, in the present study, 33% were overweight and only 2% of the respondentswere identified as obese.

According to Smith (2012) and Kennedy et al. (2013), almost half (45%) of 18 to 29 years old have access to internet on their cell phones and majority of these individuals do their online browsing through a mobile device. Additionally, in relation to traditional television viewing, about 58% of young adults is reported to watch television almost every day (Madden, 2013). Based on the data from the US Department of Labors (2018), the American Time Use Survey (ATUS) suggested thatteenagers will watch television for 2.2 hours per day.

However, in the present study, almost 98% of the respondents are watching television approximately 5 hoursa day, which is beyond the level suggested by ATUS.Aside from television, 95% use laptops, 75% use cell phones and 86% use tablets within the range of 1-5 hours. Likewise, figure 1 shows that cell phone is the most used device. There is about 20% of the respondents exposed to the same device which range from 6 to 10 hours and approximately 5% lasted for 15 hours a day. In the studyof Salaway et. al (2008), it showed that students average spending time online is 18 hours per week. Inversely, in

the present study, approximately 35 hours per week is the average spending time online indicating that students in SDSSU are more exposed to electronic devices particularly to cell phones. According to Belanger (2011),adolescents who were classified as heavy internet users (>2 hours a day) have a higher risk for becoming overweight.

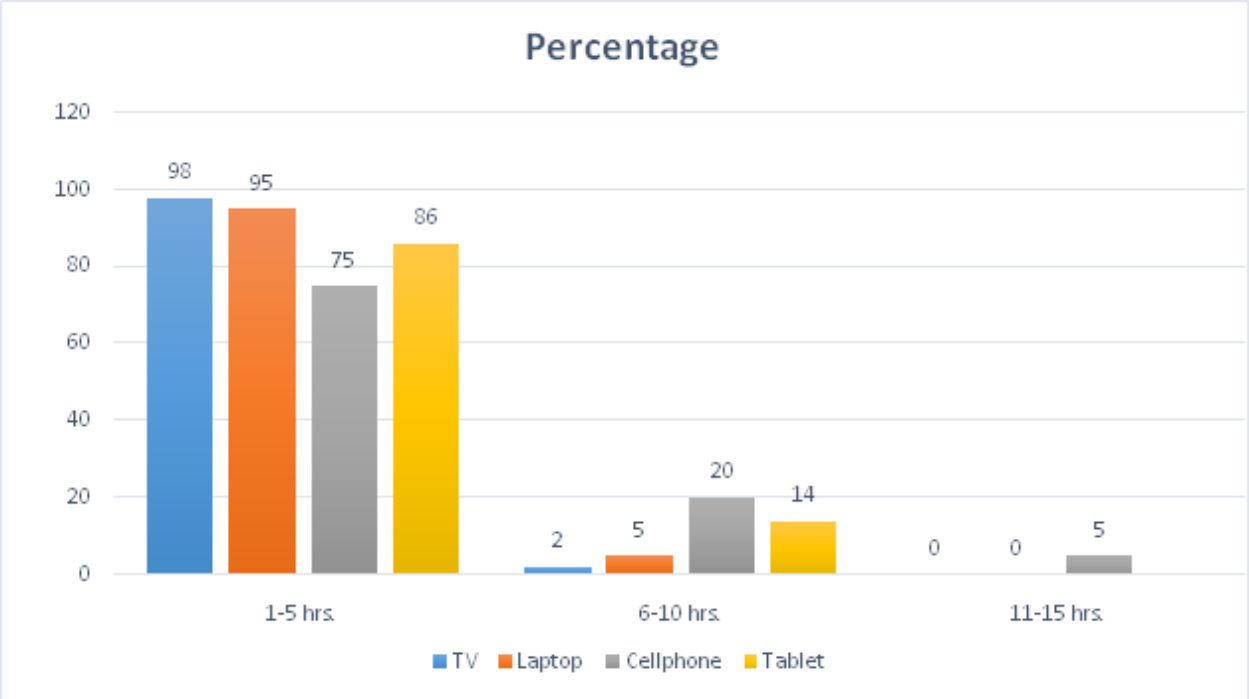

Figure 1: Number of hours exposed to electronic devices

Table 3: Identified Health-related variables

Health-related Variables	Percentage (%)
Headache	44%
Hand numbness	12%
Body weakening	25%

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Nausea and vomiting	4%
Dizziness	15%

The use of electronic devices such as laptops, e-readers, computer tablets, and cell phones is integral to everyday life for most individuals (Goswami et.al, 2016). However, almost all electronic devices have radiation, either high or low. The radiation will affect the brain, nerves, eyes and ears (Selvarajah et. al. 2017). According to the American Optometric Association (AOA) (2016), computer vision syndrome results from prolonged use of laptops, tablets, e- readers, and cell phones. Users may experience headaches,eye pain or watering, double vision, dry eye, loss of focus, and neck and shoulder pain. In the present study, as shown in figure 2, headache (44%) prevailed the frequent health concern among students followed by body weakening (25%) confirming the statement of AOA.

3. Conclusion

Use of electronic devices has a beneficial role to mankind. However, due to the constant use of these devices, health risks arise among people-particularly young people because of increasing idleness among the young. In the present study result showed that there is less impact of using electronic devices on the health and nutritional statusamong college students in Surigao del Sur. However, as the use of electronic devices continues among collegestudents their health and nutritional standing might be affected. Further investigations are essential to improve understanding on the impact of technology use on health condition of the college students.

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