

Health Implications On Technology Usage Among College Students

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Abstract: This study aimed to determine the demographic profiles, general technology usage and health implications on technology usage among college students. A descriptive design was utilized to describe the demographic profiles, general technology usage and its health implications among college students. Frequency, percentile and weighted mean were used for statistical treatment. Developmental design was used for the development of Health Implication on Technology Usage Program. Findings of the study revealed that age bracket of 18-19 obtained the highest percentage of 54.44 while the lowest was the age bracket of 24-25 which obtained 3.33 percent. The gender showed that females comprised of 58.89% while males comprised only of 41.11%. In terms of course taken by the respondents, BSEd obtained the highest percentage of 21.66%, while the lowest comprised of BSCS, BSRE and BSBio with a percentage of 1.11. The data also revealed that their parent's income ranges of P 20,001-30,000 got the highest percentage of 41.66 while the lowest was the parent's income ranges of P 80,000 and above which obtained 2.78 percent. In overall result, the medium of use among college students has a weighted mean of 2.88 which is high in extent. The extent of usage for the purpose of use among college students has a weighted mean of 2.95 which is high in extent. The extent of usage for technological programs among college students has a weighted mean of 2.06 which is moderate in extent. And the extent of usage for technological applications among college students has a weighted mean of 3.56 which is very high in extent. However, the health implications among college students in the use of technology has a weighted mean of 3.16 which is moderately caused health implications. From the data analysis, conclusions were drawn that most of the respondents belongs to the age bracket of 18-19 years old and mostly are females with parent's monthly income of P 20,000-30,000 per month. The use of cellphones has highest usage among college students. College students spend class assignments, class projects and personal matters to at least 4-5 hours a day. The use technological programs of MS word have the highest use among college students. Social media, Internet, communication and multimedia paralleled in terms of highest usage among college students. And Sleep-rest pattern has the highest problem among college students. The researcher then recommends that there is a need to adapt the Short Course Program on Health Implications of Technology and the need to the college students to prevent possible health implications from over-usage of technology. There is a need to embed the Health Implications on Technology Usage Program to the Personal Growth Session and teachers of the Notre Dame of Dadiangas University may utilize other technology applications to create virtual leaning and enhance teaching learning process to students. Lastly, future researchers may evaluate the implementation of the Short Course Program on Health Implications of Technology and conduct similar studies on the areas of technology addiction and academic performance among college students.

Keywords: Health Implications, Technology, College Students

1. Introduction

The use of technology is the energy that acts as the driving force to drive or to run our lives. It is nothing but the results of the innovations and creativity of human beings. It converts the natural resources into consumer goods which are used by the society and human beings. It has brought the automation level into such a height that human effort and his time has been saved to a great extent. Due to this, the access to information has now become easier and the distant locations are getting closer especially if it is used by the college students and serve its [12]. But today's college students are proficient with technology, using it daily in and out of the classroom. However, heavy reliance on technology can lead to negative implications on the health of many students, and especially those in college education. College courses demand greater length of studying and use technology such as phones, laptops and applications. Research showed that a mental health disorders and increased risk of developing chronic diseases are just some of the potential effects of overuse use of today's technology [11]. Excessive use of technology devices such as cellphone use affects home and family life activities [16]. These are evident because some parents of these students may consider the situation as misbehavior because they observe that their children who are frequently used these technologies are often associated with negative impact their health and academic endeavor particularly on their sleeping habits, missed in eating together, shallow family interactions and communication

and difficulty focusing on their lessons. Based on actual observations on college students in the Notre Dame of Dadiangas University, these student's takes too much screen time which resulted to fatigue and unable to focus during the class hours. Sometimes, screen time is often used as a substitute for real-life human to human interaction. Upon initial interviews, some of them spend for hours just watching movies and Korean dramas, sitting for prolonged periods of time which caused them muscle strain and backache. They spend many hours a day in front of the laptop and sitting with their cellphones and other devices in sending texts, playing games and use of several social media. Some of them already experienced difficulty sleeping and deprived from rest. With my experience in teaching psychiatric nursing just this summer, these students may develop obsessive-compulsive behaviors because of repeatedly checking for their phones for new messages and updates. Overuse of technology particularly increased screen time, may affect health implications and has been associated with an increase in the development of metabolic syndrome, a precursor of chronic health problems including diabetes, higher blood pressure, higher glucose levels, and obesity are also related to spending long periods of time sitting in front of a screen [6]. Further, there is a number of research work related to this study area conducted basically in western countries and the countries having a developed society. Comparatively fewer studies are being conducted in the developing countries like the Philippines [12]. This is the

main reason why the researcher will conduct a study that would focus on how the technology is used in terms of usage and the health implications it will cause among the college students. Furthermore, an intervention program will be made to combat negative effects, reduce mental stress and prevent fatigue and headaches resulting from overuse on using technological devices and services.

1.2 Objectives of the Study

This study aims to determine the health implications on technology usage among college students. Specifically, this study seeks to answer the following questions:

1. What is the demographic profile among health sciences students in terms of:
 - 1.1 age;
 - 1.2 sex;
 - 1.3 course and;
 - 1.4 parent income?
2. What is the extent of technology usage among college students in terms of:
 - 2.1 medium;
 - 2.2 purpose;
 - 2.3 programs and;
 - 2.5 applications?
3. What are the health implications of technology use to college students in terms of:
 - 3.1 activities;
 - 3.2 cognitive;
 - 3.3 roles-relationships;
 - 3.4 self-concept and;
 - 3.5 sleep and rest?
4. Based on the findings, what intervention program can be proposed?

2. METHODOLOGY

This chapter contains the research design and the research procedures used in conducting the study. It includes the research design, sampling plan, instrumentation, statistical tool and treatment of data.

2.1 Research Design

The study followed the descriptive type of research. It described the demographic profile of the respondents, their extent on technological usage and its health implications. Basically, data that were obtained was through a questionnaire and statistically treated using frequency, percentages and mean. Further, based on the findings, an intervention program was made to address the health concerns of the respondents.

2.2 Locale of the Study

The study was conducted at the Notre Dame of Dadiangas University, particularly the five colleges of the university. NDDU is a catholic, Filipino institution of academic excellence established by the Marist Brothers. It is committed for the formation of persons in all levels of learning that will actively participate in building a peaceful and progressive nation. It offers different programs in the undergraduate, graduate, alternative learning, and technical vocational courses.

2.3 Respondents of the study

The study was primarily concerned with the health implications on technological usage among the currently

enrolled college students in the summer of 2018. The specific respondents of the study were from the Colleges of Health Sciences, Engineering and Technology, Education and Arts and Sciences. The respondents were 290 college students enrolled in summer classes of school year 2017-2018.

2.4 Sampling Techniques

In this study, convenient sampling was used. Students enrolled in summer classes and readily available during the data gathering process were utilized. In addition, to determine the sample size of the population, Sloven's formula using Raosoft program was employed. The total sample was drawn from the 1,093 college students enrolled for summer classes for SY 2017-2018. The sample was 290 students.

2.5 Research Instrumentation

The instruments used in this study were demographic profile questionnaire, general technology usage questionnaire and health implications questionnaire. The first part of the questionnaire requested the information on the demographic profile of the respondents in terms of age, sex, course, and parent income. The second part of the questionnaire was a four point rating scale that asked the extent of respondents' technological usage in terms of medium of use, purpose, technological programs and applications. The third part of the questionnaire was a five point rating scale that asked the respondents' health implications of the use of technology on their activities, cognitive, role-relationship, self-concept and sleep and rest.

2.6 Statistical Tool

The statistical tools used in this study were frequency and percentage which is used to determine the demographic profile of the respondents. To assess their extent of technology usage regarding medium, purpose, technological programs and applications, frequency, percentage and weighted mean were utilized. To assess their health implications on technology usage on activity, cognitive, role-relationships, self-concept and sleep-rest, similarly, frequency, percentage and weighted mean were utilized.

3. Results

The demographic profile of the college students in terms of age at the time of survey revealed that the age bracket of 18-19 obtained the highest percentage of 54.44 while the lowest was the age bracket of 24-25 which obtained 3.33 percent. The gender showed that females comprised of 58.89% while males comprised only of 41.11%. In terms of course taken by the respondents, BSEd obtained the highest percentage of 21.66%, while the lowest comprised of BSCS, BSRE and BSBio with a percentage of 1.11. The data also revealed that their parent's income ranges of P 20,001-30,000 got the highest percentage of 41.66 while the lowest was the parent's income ranges of P 80,000 and above which obtained 2.78 percent. The use of Laptops among college students has a weighted mean of 2.68 which is high in extent. The use of cellphones among college students has a weighted mean of 3.69 which is very high in extent. The use of earphones among college students has weighted mean of 2.27 which is moderate in extent. In overall result, the medium of use among college students has a weighted mean of 2.88 which is high in extent. The use of technology for class assignments

among college students has a weighted mean of 2.84 which is high in extent. The use of technology for class projects among college students has a weighted mean of 3.12 which is high in extent. The use of technology for personal matters among college students has weighted mean of 2.90 which is high in extent. In overall result, the extent of usage for the purpose of use among college students has a weighted mean of 2.95 which is high in extent. The use technological programs of MS word among college students have a weighted mean of 2.45 which is high in extent. The use of technological program of MS excel among college students has a weighted mean of 1.73 which is low in extent. The use of technological program of MS PowerPoint among college students has weighted mean of 2.01 which is moderate in extent. In overall result, the extent of usage for technological programs among college students has a weighted mean of 2.06 which is moderate in extent. The use technological applications of Internet among college students have a weighted mean of 3.51 which is very high in extent. The use of technological application of social media among college students has a weighted mean of 3.62 which is very high in extent. The use of technological application of communication among college students has weighted mean of 3.58 which is very high in extent. In overall result, the extent of usage for technological applications among college students has a weighted mean of 3.56 which is very high in extent. The health implications to the activity among college students in the use of technology have a weighted mean of 3.38 which is highly caused health implications. The health implications to the cognitive among college students in the use of technology have a weighted mean of 2.95 which is moderately caused health implications. The health implications to the role-relationships among college students in the use of technology has weighted mean of 2.97 which is moderately cause a health implications. The health implications to the sleep-rest patterns among college students in the use of technology have a weighted mean of 3.75 which is highly cause a health implications. In overall result, the health implications among college students in the use of technology has a weighted mean of 3.16 which is moderately caused health implications.

4. Conclusions

Based on the findings of the study, the researcher drawn the conclusions that:

1. Most of the respondents belongs to the age bracket of 18-19 years old and mostly are females with parent's monthly income of P 20,000-30,000 per month.
2. The use of cellphones has highest usage among college students followed by the use of laptops and earphones.
3. College students spend class assignments, class projects and personal matters to at least 4-5 hours a day.
4. The use technological programs of MS word have the highest use followed by MS PowerPoint and MS excel among college students.
5. Social media, Internet, communication and multimedia were paralleled in terms of highest usage among college students.
6. Sleep-rest pattern has the highest problem followed by activity-exercise pattern among college students.

5. Recommendation

Based on the findings and conclusions of the study, the following are the recommendation:

1. There is a need to adapt the Short Course Program on Health Implications of Technology among college students of the university.
2. There is a need to implement the Short Course Program on Health Implications of Technology to the college students to prevent possible health implications from over-usage of technology.
3. There is a need to enhance and embed the Short Course Program on Health Implications of Technology to the Personal Growth Session among college students especially the first year students.
4. The teachers of the Notre Dame of Dadiangas University may utilize other technology applications to create virtual leaning and enhance teaching learning process to students.
5. Future researchers may evaluate the implementation of the Short Course Program on Health Implications of Technology and conduct similar studies on the areas of technology addiction and academic performance among college students.

References

- [1]. Alamgir, K. (2017). Effect of Gender and Physical Activity on Internet Addiction in Medical Students. *Pak J Med Science*. Retrieved on May 8, 2018 from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5368307/>
- [2]. Acharya, J. & Waghrey, D. (2012). Common Health Effects of Cell-Phones amongst College Students. Department of Community Medicine. India. Retrieved on April 15, 2018 from <https://www.omicsonline.org/a-study-on-some-of-the-common-health-effects-of-cell-phones-amongst-college-students-2161-0711.1000214.php?aid=14036>
- [3]. Beck, J. (2018). Technology. How it become Normal to ignore text and emails. Retrieved on June 10, 2018 from <https://www.theatlantic.com/technology/archive/2018/01/ignoring-each-other-in-the-age-of-instant-communication/550325/>
- [4]. Bruff, D. (2018). Teaching Forum. CFT Newsletter. Retrieved on May 8, 2018 from <https://cft.vanderbilt.edu/articles-and-essays/the-teaching-forum/from-the-students-view-laptops-in-and-outside-the-classroom/>
- [5]. Cash, H. (2012). Internet Addiction: A Brief Summary of Research and Practice. *Current Psychiatry*. PMC. Retrieved on June 17, 2018 from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3480687/>
- [6]. Caswell, W. (2011). Modern Health Talk. Healthcare Policy, Future Directions, and Technologies for Independent Living. USA. Retrieved from <http://www.mhealthtalk.com/technology-and-student-health/>

- [7]. Commission on High Education, (2018). Retrieved on May 20, 2018 from <http://ched.gov.ph/>
- [8]. Gemmil, E. & Peterson, M. (2011). Technology Use Among College Students: Implications for Student Affairs. Professionals. Retrieved on April 15, 2018 from <https://www.tandfonline.com/doi/abs/10.2202/1949-6605.1640>
- [9]. Hosler, H. (2015) Pro's and con's of studying with music. Campus. Retrieve on May 8, 2018 from <http://byuiscroll.org/pros-and-cons-of-studying-with-music/>
- [10]. Meckles, J. (2012). Sleep affected by late night cell phone, technology use. Retrieved on April 15, 2018 from <https://www.omicsonline.org/a-study-on-some-of-the-common-health-effects-of-cell-phones-amongst-college-students-2161-0711.1000214.php?aid=14036>
- [11]. Magher, M. (2018). Benefits of Laptops for students. World Education. Seattle PI. USA. Retrieve on May 8, 2018 from <http://education.seattlepi.com/benefits-laptops-students-3053.html>
- [12]. Muduli, J. (2014). Addiction to Technological Gadgets and Its Implications on Health and Lifestyle. Elsevier Pub. Retrieved from <https://scholar.google.com.ph/scholar?um=1&ie=UTF&lr&cites=1145348173212>
- [13]. National Statistics Coordination Board (2018). Philippine Statistics Authority. Retrieved on June 17, 2018 from <http://www.nap.psa.gov.ph/stattables/>
- [14]. PEW Research Center, (2018). Numbers, Facts and Trends Shaping Your World. Retrieved on June 17, 2018 from <http://www.pewresearch.org/topics/technology-adoption/>
- [15]. Philippine Statistics Association (2015) Retrieve on May 8, 2018 from <https://psa.gov.ph/content/average-family-income-2015-estimated-22-thousand-pesos-monthly-results-2015-family-income>
- [16]. Ramey, K. (2012). The pros and cons of cell phones in schools. Techucation. Retrieve on May 8, 2018 from <https://www.useoftechnology.com/pros-cons-cell-phones-schools/>
- [17]. Stanford University (2018). Stanford, California. Retrieve on May 8, 2018 from <https://tomprof.stanford.edu/posting/727>
- [18]. Sharma, V. (2017). MS Word in Education. Retrieve on May 8, 2018 from <http://www.klientsolutech.com/importance-of-ms-word-in-education/>
- [19]. Soffar, L. (2016). Extrinsic and Intrinsic Motivation to Use Computers in the Workplace. Journal of Applied Social Psychology. University of Michigan. Retrieved on June 17, 2018 from <https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1559-1816.1992.tb00945.x>
- [20]. Stanford Medicine (2018). Stanford Medicine 25. Promoting the Culture of Bedside Medicine. Retrieved on June 17, 2018 from <https://stanfordmedicine25.stanford.edu/blog/archive/2014.html>
- [21]. Surendran, P. (2012). Lecturer. Technology Acceptance Model: A Survey of Literature AMA International University, Bahrain. Retrieved on June 17, 2018 from <https://www.thejournalofbusiness.org/index.php/site/article>
- [22]. Thomas, L. (2011). Students' perceptions of teaching technologies, application of technologies, and academic performance. Elsevier. Retrieve on May 8, 2018 from <https://www.sciencedirect.com/science/article/pii/S0360131509001547>

Author Profile

Aaron Carlo C. Decendario, RN, MAN, MIC received the B.S. and M.A. degrees in Nursing from Ateneo de Davao University and Notre Dame of Dadiangas University in 2006 and 2013, respectively. During 2017, he also earned his Masters' Degree in Chemistry at Notre Dame of Marbel University. At the present, he is one of the faculties of the College of Health Sciences at the Notre Dame of Dadiangas University and currently pursuing his Doctoral degree in Nursing at San Pedro College, Davao City, Philippines.