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The Uses of the Internet: Improving Health Conditions

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RESEARCH PROPOSAL

The Uses of the Internet: Improving Health Conditions

Presented to

Professor Martin W. Sivula

In Partial Fulfilment of

The Requirements of RSCH5700

Johnson and Wales University

By

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Abstract

The purpose of this research proposal is to determine three uses of the Internet in enhancing health conditions among a sample of 670 educated people who are divided into two groups—a student group and an employee group. The method of this research is a cross-sectional study. Six hundred and seventy subjects need to complete two questionnaires that relate to data storing habits and health information seeking habits, and answer one interview about how they feel if they use the Internet to memorize, and look for health information. The research concludes that the more the subjects spend time on using the Internet to record their routine, work, study, or additional personal things, and search for health information, the less health pressure and anxiety they incur. As a result, the functions of the Internet can improve people's health conditions by— (1) lessening the pressure on brain to memorize; (2) providing health opportunities; (3) reducing health anxiety levels. The research aims to further advice that people should adjust Internet habits and behaviors to gain advantages from using the Internet.

Keywords: Uses of the Internet, Internet usage, people's health, health conditions, health opportunities, health pressure, health anxiety levels.

The Uses of the Internet: Improving Health Conditions

Nowadays, the Internet plays an important role in people's lives because of its many uses. The Internet brings more convenience to people when doing business, communicating with others, broadening knowledge, and especially it is useful in improving health conditions. To be specific, there are many functions of the Internet that support people in their hobbies, social interactions, and business enterprises. For example, Facebook's messenger, Google plus, Apple's Facetime bring digital connectivity to people. People can interact with friends, family, or potential customers via these applications. They also can discuss or demonstrate their viewpoints in groups by Zoom Cloud instead of meeting in person. That helps to save time and reduces distance among people in different areas and countries in the world. In addition, Google AdWords, Facebook, Amazon, etc. are efficient tools for enterprises to advertise their products and services. These channels have become a vital part of many successful online businesses. Furthermore, the Internet offers information within reach, updates the newest information possible, and creates a storage space for the vast array of information that anyone may need. By having necessary information at their fingertips, people can overcome the hardest situations and answer the trickiest questions in any field via the Internet (e.g., Yahoo search, Google search). Not only is information easy to acquire, but branching out from one search also mean broadening people's knowledge on the topic at hand.

More importantly, at the present, the Internet has been used in the health care aspect to support people's health. For instance, people can reduce the pressure to memorize every piece of information by taking notes using online applications, having a healthy lifestyle and lessening health anxiety levels via searching online health information. Therefore, this research intends to conduct a deeper investigation into how the uses of the Internet help people in enhancing their health conditions.

Purpose of the study

This study aims at determining three uses of the Internet in the health care aspect: (1) lessening the pressure on brain to memorize; (2) providing health opportunities; (3) reducing health anxiety levels. This will be done by examining the outcomes of two groups—a student group and an employee group that come from three different universities in Rhode Island, U.S.A. The research will include a problem statement, research questions, theoretical framework, hypotheses, methodology—research design, instrumentation and sampling, data collection, findings—, discussion and conclusion, references as well as appendixes of the study. In the end, the study’s result is used as a reference that advises people to adjust Internet habits and behaviors to gain advantages from using the Internet.

Literature Review

Lessen the burden of memorization on the brain

The first use of the Internet is in helping people to reduce the pressure to memorize every piece of information.

In the article, “How Google is changing your brain” (Wegner and Ward, 2013), the authors pointed out that “the Internet, in another sense, is also unlike a human transitive memory partner; it knows more and can produce this information more quickly.” Their study concluded the effectiveness and convenience of the Internet has allowed people to save a lot of time, and get access to any information that they need instead of searching for a notebook or asking for a friend’s knowledge. The Internet, for instance, Google is “a new partner” and “an all-knowing friend” of people, Wegner and Ward mentioned. It supports people’s brains in reducing the burden of memorization (Wegner & Ward, 2013).

Moreover, the Internet’s functions allow people to perform intended actions which otherwise would be forgotten. Regarding “Google Calendar: A new memory aid to compensate for prospective memory deficits following acquired brain injury” (McDonald et

al., 2011), the study showed the effectiveness of Google Calendar in the rehabilitation of people with acquired brain injuries. People using Google Calendar performed 40.6% better in completing their prospective intentions than those who used standard diaries (McDonald et al., 2011).

In addition, concerning “Use of Google Street View to assess environmental contributions to pedestrian injury” (Mooney et al., 2016) as a sample of the Internet, Google Maps alongside with Google Street View has provided people with a readily available map with a clear street view, which can be very useful to people with mental impairments to find the right way. It offers them a chance to first look at the place they want to go with views from varying perspectives, and gives them thorough instructions on the way. People do not need to memorize streets’ names, or think of how to get there while they walk or drive. That helps to minimize injuries caused to pedestrians (Mooney et al., 2016).

To sum up, there are many things which people must remember, but the Internet can assist humans in decreasing the memory pressure and “can bring together the creativity of the individual human mind with the Internet's breadth of knowledge to create a better world and fix some of the set of messes we have made so far” (Wegner & Ward, 2013).

Provide health opportunities

The second use of the Internet is providing people with health opportunities by changing the way people relate to physicians.

With reference to “Positive psychology and the Internet: A mental health opportunity” (Mitchell, Brodrick, & Klein, 2010), the authors studied “the potential of online positive psychology interventions (OPPIs) as an effective and sustainable health promotion tool within a comprehensive approach to mental health care.” The authors pointed out some important points related between the Internet and health care:

(1) The Internet offers the chance to support in indicating “the large and unmet need for

mental health services” (Mitchell, Brodrick, & Klein, 2010).

(2) The Internet has ability to “provide a sustainable means of mental health delivery”

(Mitchell, Brodrick, & Klein, 2010).

(3) The Internet can be more highly interactive than many health websites.

(4) “Internet intervention research for mental health treatment can be effective” (Mitchell, Brodrick, & Klein, 2010).

As the study’s outcome, the authors concluded that the Internet offers additional benefits, especially accessibility and sustainability as a complement that supports mental health (Mitchell, Brodrick, & Klein, 2010).

Moreover, in regards to “Will the Internet of things transform healthcare?” (Terry, 2017), “the result of Internet of health things (IoHT) has great promise,” Terry concluded. In other words, IoHT can be an effective health provider, and do things that no conventional health providers either can not do or do them faster and cheaper (Terry, 2017). To explain that idea, the author pointed out three main reasons:

(1) The IoHT is always available for searching information, and smart in filtering information.

(2) People can do IoHT by any type of smart devices (e.g., smartphones, tablets, laptops).

(3) The IoHT is a giant information hub and digital connectivity, so people can search for any health information they need, and interact with any one who they want to ask about their health situations.

In short, the Internet is likely a digital health provider. By using the Internet, people will have more opportunities to gain more health information, and know how to stay healthy.

Reduce health anxiety levels

The third use of the Internet is helping not only healthy people, but also people who are patients to reduce health anxiety levels.

As “Is Internet use associated with anxiety in patients with and at risk for cardiomyopathy?” (Minto et al., 2015) reported, both groups of patients—48 with cardiomyopathy and 56 at risk of developing it— answered three various questionnaires about Internet usage, quality of life, and anxiety levels. As a result, both groups suffered less from anxiety after seeking online information about the disease. In conclusion, the authors of this study summarized two main points. First, there was a trend toward reducing anxiety levels in patients with or at risk for cardiomyopathy when they used the Internet as a source of health information. Second, Internet technology could be a useful instrument because of “its informational power and its potentially therapeutic value” (Minto et al., 2015).

Next, according to “Online health anxiety and consultation satisfaction: A quantitative exploratory study on their relations” (Tanis, Hartmann, & Te Poel, 2016), the authors measured the extent to which people were satisfied by doctor consultation if they used the Internet in searching health information, and the role health anxiety plays in their satisfaction. The findings of their study showed that:

- (1) “Health anxiety is positively related to seeking online health information and that health anxious people are less satisfied with the doctor consultation” (Tanis, Hartmann, & Te Poel, 2016).
- (2) The Internet provided health information to people to prepare themselves prior to the doctor consultation.

Finally, the authors noted that online health information seeking may affect the people’s satisfaction with the health consultation, especially for health anxious individuals (Tanis, Hartmann, & Te Poel, 2016).

What is more, regarding “Use of online forums for perinatal mental illness, stigma, and disclosure: An exploratory model” (Moore, Drey, & Ayers, 2017), the authors tested the relationship between online forums’ use of 422 women and their disclosure of affective

symptoms to health care providers. These women were older than 18 years, were pregnant or had a child younger than 5 years, were a UK resident, considered themselves to be experiencing psychological distress, and had used perinatal mental illness forums (Moore, Drey, & Ayers, 2017). This study concluded that using online forums may provide valuable social support, and encourage women to open their emotions with health care providers through enabling expression of their internal stigma.

Overall, people can use the Internet to seek online health information as the primary source before they visit health providers or clinicians. Also, when people understand and know more information about their health situations, they can control their anxiety.

The Study

Problem Statement

Research Problem in the Study. The study has three main research problems: (1) It does not measure the disadvantages of Internet that negatively effect people's health; (2) It does not point out credible names and types of health websites that people should visit to search for health information; (3) It focuses only on an educated population.

The Importance of this Study. The result of this study is only advice for people to take advantages from the Internet to improve their health conditions in memorizing, gaining more health knowledge, and controlling health anxiety.

Justification of this Study. The major matter of previous studies was to separate the benefits of the Internet in the health care field, and they only focused on examining people who were with or at risk for disease. Therefore, this study aims to expand the type of sample— an educated population, and bring the whole picture of the Internet to apply it to the health care aspects for everyone.

Research Questions

Two questionnaires. (1) Data storing habits questionnaire that investigates the way people take notes on their routine, including work-study-life schedules in two ways— online note taking and handwriting; (2) Health information seeking habits questionnaire that measures how much people care about their health situations, and what tools they use to search for health information.

One interview. Six hundred and seventy subjects answer the question how people feel when they use the Internet in memorizing and looking for health information instead of using traditional forms and/or sources.

Theoretical Framework

The conceptual framework for the study is adopted from three empirical studies:

- (1) The positive effects of the Internet on people's brains (Wegner & Ward, 2013);
- (2) The Internet can bring mental health opportunities to people (Mitchell, Vella-Brodrick, & Klein, 2010);
- (3) The relation between online health information seeking and anxiety levels (Minto et al., 2015).

This research shows the whole picture of health-related uses of the Internet.

Hypotheses

Along with research questions, the following hypotheses has been developed:

H0. Using the Internet to record and search for health information is more supportive, convenient, and faster than using traditional forms and/or sources.

H1. The Internet is one of the solutions that can enhance people's health.

Methodology

To conduct the research, study design, instrumentation, sampling, and data collection are set up in order below.

Design. The research is a cross-sectional study, being examined at three universities in Rhode Island, U.S.A— Johnson and Wales, Brown University, and University Heights during three months, from the beginning of March to the end of May in 2018. To demonstrate the research's hypotheses, two self-administrative questionnaires and one interview will be distributed among the 670 subjects.

Instrumentation. The instrumentation used will be the following:

- Overall information about the subjects (see appendix A)
- Data storing habits questionnaire (see appendix B)
- Health information seeking habits questionnaire (see appendix B)
- Interview (see appendix C)
- Form of questionnaires' distribution: e-mail
- Form of interview: by phone and/or e-mail
- Statistical tools to summarize analyze collected data (Microsoft Excels, Column and Pie charts)

Sampling. The sample is investigated in Rhode Island, and consist of 170 students and 35 employees of Johnson and Wales University, 200 students and 70 employees of Brown University, 160 students and 35 employees of University Heights.

The 670 subjects are 18 to 65 years of age, are students and/or employees, and/or have habits to take notes of their routines, and/or make personal schedules, and/or care about health information. These subjects are divided into two groups: a student group and an employee group. Both groups contain subjects who use handwriting and/or the Internet's functions to take notes, and use offline sources— library, books, newspaper, magazine and/or the Internet's search tools to look for health information.

Data collections. Researcher cooperates with administration departments of three universities to conduct the research by the following steps:

- (1) Two questionnaires are distributed into a student group and an employment group via e-mail by the cooperatives— administration departments of three universities.
- (2) After receiving the answers of two questionnaires, the researcher arranges an interview by phone and/or e-mail with both groups.
- (3) Then, the researcher filters the answers by age, gender, and major by Microsoft Excel to measure how much the subjects care about their health conditions.
- (4) The researcher uses Column and Pie charts to indicate the care of 670 subjects about health-related Internet habits and behavior.

To do research among 670 subjects, the researcher estimates that the sample error is approximately $\pm 5\%$.

Findings

There are some findings that are expected in this study:

- (1) The quantity of subjects using the Internet to take notes, make schedules and look for health information is more than that of subjects using the traditional forms and/or sources.
- (2) The subjects who use the Internet as a memorization tool and information source feel more confident, and relaxed than the subjects who use traditional forms and/or sources to make schedules and look for health information. There are a few percentages of subjects who do not care about the ways to take notes and search for health information.
- (3) The younger subjects are, the more times they use the Internet.

On the whole, the more the subjects spend time on using the Internet to record their routine, work, study or additional personal things, and search for health information, the less health pressure and anxiety they incur.

Discussion

The study shows that the Internet contains many helpful functions and applications that support people's health, such as:

- (1) People can lessen the burden of memorization on their brains by taking notes related to their schedules, etc., so they can let their brains take a rest, or they can save more room in their brains to memorize other things that are more important.

(2) The Internet is like a health provider or a clinician who is always available 24/7 and provide any kind of information that people need. That brings people a chance to have a healthy lifestyle.

(3) People can control their health situations by seeking online health information to understand more about their cases. Then, they can reduce health anxiety levels.

The outcomes of this study are restated considering the initial hypotheses, and as a suggestion for health providers to help their customers.

However, three limitations of the current research are identified, along with suggestions for how future research can build upon the findings of the current study.

(1) The study does not measure the downsides of the Internet that negatively impact people's health. If the future research can do this, people can know the whole picture of the Internet usage. With awareness of two sides of the Internet, people can pick which way is the best for them to gain as many advantages from the Internet as possible.

(2) The present study does not clarify what names and types of health websites are credible that the 670 subjects visit. Therefore, the future research should improve the second limitation to gain more credibility for the search.

(3) This study only focuses on an educated population who are students and employees instead of a general population. That may make the research's results not able to be applied in general cases. Thus, the future research should expand to examine a specific population.

Conclusion

To summarize, the functions and search tools of the Internet can support people in enhancing their health conditions by: (1) lessening the pressure on brain to memorize; (2) providing health opportunities; (3) reducing health anxiety levels.

However, the research has not focused on comparing the advantages and disadvantages of the Internet usage yet, and the study only examines an educated population instead of the general population. Therefore, the outcome of this research aims to further advice that people should adjust Internet habits and behaviors to gain advantages from using the Internet.

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Appendix A

Please place a check on the line that most closely fits your experience.

Overall information about the participants

- (1) What is your occupation?

Student:___ Employee:___

- (2) At which university are you studying or working?

Johnson and Wales:___ Brown Univeristy:___ University Heights:___

- (3) Which year were you born? _____

- (4) What is your gender?

Male:___ Female:___ Other:___ Rather not say:___

- (5) What is your major? _____

- (6) Do you use the Internet?

Yes:___ (skip question #7) No:___

- (7) If you have not used the Internet yet, do you want to try it?

Yes:___ (skip question #8) No:___ (skip question #8,9) (explain)_____

Do not care:___ (skip question #8, #9) (explain)_____

- (8) How often do you use the Internet?

Throughtout the whole day:___ Many times a day:___

Sometimes a day:___ Other:___

- (9) For what purpose(s) do you use the Internet? (you can chose one or more than one option)

Work:___ Study:___ Communication:___ Entertainment:___

Other:___ (particular purpose)_____

Appendix B

Please place a check on the line that most closely fits your experience.

Data storing habits questionnaire

- (1) How often do you take notes of your information?

Always:___ Often:___ Sometimes:___ Rarely:___

- (2) How many times a day do you take notes and/or make personal schedule?

One time:___ Two times:___ Three times:___ Other:___

- (3) For what kinds of information do you take notes?

Work:___ Study:___ Routine:___ Other:___

- (4) Have you ever felt stressful because you have to memorize a lot of things?

Yes:___ No:___

- (5) How often are you stressed due to the need of memorizing a lot of things?

Always:___ Often:___ Sometimes:___ Rarely:___

- (6) Do you think that taking notes is helpful for your memorization?

Yes:___ No:___ (explain)_____

- (7) How do you take notes for your information?

Online way (by smart devices):___ Traditional way (by handwriting):___

- (8) Which way do you prefer to use for taking notes?

Online way (by smart devices): ___(explain)_____

Traditional way (by handwriting): ___ (explain)_____

- (9) Do you want to change the way you take notes?

Yes: :___ (explain)_____ No:___ (explain)_____

Do not care:___ (explain)_____

Health information seeking habits questionnaire

(10) How is your overall health situation?

Excellent:___ Good:___ So-so:___ Other:___

(11) How important is health information to you?

Very important:___ Important:___

So-so: ___ (explain)_____

Not important: ___ (explain)_____

(12) How often do you search for health information?

Always:___ Often:___ Sometimes:___ Rarely:___

(13) What kinds of health information do you look for?

Diet:___ Exercise:___ Beauty:___

Disease:___ (specific kind of disease)_____

(14) Which sources do you prefer when looking for health information?

Online: ___ (explain)_____

Traditional way (health providers, clinicians): ___ (explain)_____

(15) How confident do you feel about the available sources you can use to search for health information?

Definitely:___ Not sure:___ Just for reference:___ Other: ___

(16) Do you care about the sources that you can use to search for health information?

Yes: :___ (explain)_____ No:___ (explain)_____

Do not care: :___ (explain)_____

(17) Do you want to change the source to search for health information that you are using?

Yes: :___ (explain)_____ No:___ (explain)_____

Do not care: :___ (explain)_____

Appendix C

Please place a check on the line what form you prefer to take an interview.

By e-mail: ____ (Please limit your response to 300-500 words)

By phone call: ____ (The phone call will be recorded to make sure any idea of your response is exact and full. Please let us know if you are uncomfortable about the record.)

Interview Question

How do you feel when you use the Internet to memorize and look for health information instead of using traditional ways? (Explain).