THE RELATIONSHIP BETWEEN TECHNOSTRESS, PSYCHOLOGICAL HEALTH AND PHYSICAL HEALTH AMONG TECHNOLOGY USERS

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THE RELATIONSHIP BETWEEN TECHNOSTRESS, PSYCHOLOGICAL
HEALTH AND PHYSICAL HEALTH AMONG TECHNOLOGY USERS

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A dissertation submitted in partial fulfilment of the
requirements for the award of the degree of
Master of Science (Human Resource Development)

Faculty of Management
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SEPTEMBER 2014
I declare that this thesis entitled “The Relationship between Technostress, Psychological Health and Physical Health among Technology Users” is the result of my own research except as cited in the references. The dissertation has not been accepted for any degree and is not concurrently submitted in candidature of any other degree

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To my beloved father, mother, siblings and friends
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This study intends to examine the relationship between technostress and psychological health (psychological distress, cognitive symptoms and sleep disturbance) and physical health (musculoskeletal discomforts and eyestrain) among technology users at UiTM Jengka Branch. In order to achieve these objectives, a set of questionnaire consisted of instruments by Goldberg (1997), Copenhagen Psychological Questionnaire, Karolinska Sleep Questionnaire, Kuorinka (1987) and Watt (2003) was used. Questionnaire was given to representatives of the organization to be distributed to respective respondents. Out of 300 distributed questionnaires, only 219 (73%) questionnaires were return. Descriptive analysis results showed that the level of technostress, psychological health and physical health among technology users was at a moderate level. Results from Pearson correlation and multiple regression analysis showed that, technology insecurity significantly correlated and is the most influential variable that has an effect on psychological health. However, there is no significant effect between technostress and physical health.
ABSTRAK

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CHAPTER 1

INTRODUCTION

1.1 Introduction

This chapter will explain the background of the study and problem of statement of the study conducted. In addition, this chapter will explain the research objectives and the significance of the research to be acquired as a result of this study. Furthermore, the conceptual and operational definitions also will be explained further. There are several limitations inherent in this study will be a useful guide to researchers in the future.
1.2 Background of the Study

Nowadays the uses of technology in doing work have increased, not restricted to computer only but also gadgets such as Smartphones (iPhone, Blackberry, and so on), PC’s tablet (iPad, Galaxy tab and so on), laptops and the Internet. Apart from that, the technology nowadays can be used to install PC-like operating system (OS) together with various applications (applied program) and it also can be use to surf the Internet and makes the users’ life becoming comfortable and make their work easier (Choi, et. al, 2011).

According to Internet World Statistics (2012) the technology users in Malaysia were around 17.7 million in 2012 compared with 3.7 million in 2000. The statistic shows the importance of technology has grown in our lives and has affected society positively by giving them new options and had been helped in changing their ways and reasons of works (Heissen, 1987; Hulbert, 1998). Furthermore, technology has become a compulsory thing in the daily activities of their users. The technology such as e-mail, internet and fax have been adjusted in accordance with their work so that, the users can perform their official duties faster (Cohn, 2000).

Thus, the effects of improved technology were also clearly visible by its users. As we known, technology has widely spread and it had been used by technology users everywhere throughout the modern society (Shami, 2008). Even though, they seem to be necessary, however it was impossible for most people to accomplish their workplace tasks without this technology (Frances & Simeon, 2011). They like it or not they need to adapt with the rapid changes in the technology (Sami & Pangganaiah, 2006).
Consequently, if the technology users cannot adapt with technological changes, the technology users will face the high workload, need to be more productive and need to work overtime compare with the one that can adapt it easily (Riedl, et. al, 2011). Besides, the employers can easily contact the employees using the technology such as e-mail, Short Messaging Service (SMS), Instant Messenger (IM), Blackberry Messenger (BBM) and other technology form and assign them with more work (Tiemo and Ofua, 2010).

Furthermore, technology users also will have the anxious feeling towards their colleagues with a better technological understanding (Brillhart, 2004). They also worried that other people will replace them if they cannot adapt to the new technology trend that keeps on changing and more complex day by day. They also will feel that their skills are not good enough and they will spend time and effort to learn the technology which is good for the organization. As the result, the technology users’ uncertainty on psychological health and physical health will be increased (Tu, et. al, 2005).

However, working with technology can sometimes be stressful. Selye (1956) states that stress in unavoidable in life and no individual will spare from stress. Much of our stress in life comes from conflicts and interpersonal difficulties we encounter with other people. The stress that cause by the technology was called as technostress and it is also known as technophobia, cyber phobia, computer-anxiety and also computer stress (Caro & Sethi, 1985). The concept of technostress was introduced by Brod (1984). He defined technostress as a modern disease of variation caused by an inability to handle the new technology in a healthy manner. There are many types of technology related conflicts and stress could arise at any of these conflicts (Ibrahim, et. al, 2007).
Thomée et al (2011) mentioned that there is the relationship between technostress and psychological health. She indicated that, the amount of time devoted to the used of technological devices was the central problems. Regarding those most at risk among the technology users, Thomee wrote that the intensive used of technology will lead them to time pressure, neglect of other activities, personal needs, bad ergonomics and also mental overload. Kosker (2013) supported that intensive used of technology can dramatically increase the risk of psychological health such as depression and insomnia. Chiba University of Japan investigated that the effects of hazards of technology, especially computers in the workplace has concluded that it can damage psychological health. Besides, Ekman et al (2000) found that technology use also associated with psychological and physical health. Denial, confusion, panic, conflict, anger and fatigue were the example of psychological health caused by technology (Britton, et. al 2000). While, according Brillhart (2004) neck pain, back pain and eyestrain is a physical health problem that technology user faced.

In this research, the researcher was focused on the relationship between technostress on the psychological health (psychological distress, cognitive symptoms and sleep disturbance) and physical health (musculoskeletal discomforts and eyestrain) among technology users. Technology users in this research refer to the lecturers. The lecturers have been choose because the education system in our country has grown with the use of technology as a teaching tool to replace the traditional teach-centered system (Idris and Atan, 2008). The technology was created to have the smart teaching and learning process (Rohini, 2004). Besides the technology used not only limited in the class, but students also used the technology as a tool to communicate with their lecturers after class session (Matkin, 2007).
1.3  Problem Statement

Technostress is becoming a hot topic recently. According to Britton et al (2000) the negative impact of technostress have been documented on librarians and library users, executive, manager and patrons. Technostress also documented on teachers and lecturer (Riley, 2010). He also emphasizes that technology causing education to improve over time and the technology users need to catch up with the trend of educational technology. Over the last few years technology teaching and learning methods have been introduced and the technology usages in this education field have been growing rapidly (Maad, 2009) and it becomes importance in the education institution especially in teaching and learning process.

Nowadays, in Malaysia, teaching and learning in was very different compared with the systems adopted for the last few decades (Besah, 2004). Today, technology has been used in the learning and teaching in all subjects, at the university, college, high school or elementary school level gradually (Wahab et al, 2006). Educators at all levels are trying their best to use technology in teaching and learning process to provide best input to their students. Teaching and learning in Malaysian education system currently is undergoing a very rapid change (Maad, 2009).

Various methods have been introduced and used for educator to be more effective and the learning become easier and fun (Matkin, 2007). Research done by Andin and Ali (2011) proves that the use of technology among educators is high especially in the teaching and learning process. However, not all educators can accept and followed the changes in technology makes by the organization (Hakimi, 2010). Consequently, some of them faced difficulty to accepted new technology in their environment. Moreover, research done by Irshad and Muhammad (2008) 58% of the technology users feel fear phobia and anxious when they cannot adapt with the
technology. This kind of feeling was the negative impact of technology on their psychological and physical health (Rosen and Weil, 1997).

The statistic of psychological health problem in Malaysia documented that the psychological health problem among Malaysian was increased by 15.6% or 400,227 peoples (Ministry of Health, 2012). According to Kadir (2011), the statistic shows that psychological health problem in Malaysian shows the serious problems because it indicated that six people in this country have the mental illness and this will be increased year by year. Furthermore, technostress also have been documented to have psychological health issues such as panic attacked, pressures, cognitive symptoms, distress and also sleep disturbance (Tuettemann and Punch, 2007).

According to Sellgren (2014), more than 38% of educators have seen a rise in psychological health issues in the past two years and 55% of them mentioned that their job had a negative impact on their psychological condition. The statistics also shows that 80% of them were stressed and believed that their job had a negative impact on their psychology. While, 70% believed that they feel exhausted by their work and 65% of them agreed that technology disturbed their sleep at night. In addition, the research done by Honeybourne (2013) shows that psychological health issues involves educator as a high pressured profession. Bousted (2014) emphasize that education professionals do more unpaid overtime than any other group and are put under constant intense pressure to meet targets, with excessive observation and changes in the technology. The technostress not only affected the psychological health of the technology users. A study done by shows that 67% of the technology users also faced the physical health problems Wahab, 2006) due to intensive used of technology.
According to the latest report from consumer research firm Nielsens (2013) the technology used in Malaysia is the third highest in the Asia Pacific and it surpass the developed country like the United States and Europe. Malaysia also recorded a rate of 80% of Smartphone penetration after Hong Kong and Singapore (87%) followed by Australia (75%) and China (71%). The number of technology users keeps on increasing in Asia Pacific especially in Malaysia. The statistic shows that an estimated of 25% to 93% of technology users suffered related to the intensive use of technology such as eyestrain, dry eyes, headache, back pain and neck pain (Cail and Aptel, 2005).

Blix et. al (2004) reported that high job stress was found to be correlated with poor physical health conditions in education area. In addition, according to Odabasi and Eristi (2012), lack of knowledge about healthy technology use and ergonomics cause the physical health problems. Moreover, discomfort associated with high technology use among lecturers is well documented, with increasing concerns about the physical health due to the use of technology (Schulz and Sherwood, 2008). In addition, the research done by The National Health Interview Survey (2009) shows that 49% of the educator in United State of America experiences musculoskeletal discomfort especially neck pain and lower back when they used the technology due to the work. Besides, the statistic also shows that 41% of them experienced eyestrain due to the intensive used of technology.
1.4 Research Questions

1.4.1 What is the level of technostress (technology overload, technology invasion, technology complexity, technology insecurity, and technology uncertainty) among technology users?

1.4.2 What is the level of psychological health (psychological distress, cognitive symptoms and sleep disturbance) among technology users?

1.4.3 What is the level of physical health (musculoskeletal discomforts and eyestrain) among technology users?

1.4.4 What is the relationship between technostress and psychological health among technology users?

1.4.5 What is the relationship between technostress and physical health among technology users?

1.4.6 What are the most dominant technostress dimensions that influence psychological health among technology users?

1.4.7 What are the most dominant technostress dimensions that influence physical health among technology users?
1.5 Research Purpose

The main purpose of this study is to identify the relationship between technostress (technology overload, technology invasion, technology complexity, technology insecurity, and technology uncertainty), psychological (psychological distress, cognitive symptoms, sleep disturbance) and physical health (musculoskeletal discomforts and eyestrain) among technology users.

1.6 Research Objectives

1.6.1 To identify the level of technostress (technology overload, technology invasion, technology complexity, technology insecurity, and technology uncertainty) among technology users.

1.6.2 To identify the level of psychological health (psychological distress, cognitive symptoms and sleep disturbance) among technology users.

1.6.3 To identify the level of physical health (musculoskeletal discomforts and eyestrain) among the technology users.

1.6.4 To identify the relationship between technostress and psychological health among technology users.

1.6.5 To identify the relationship between technostress and physical health among technology users.

1.6.6 To identify the most dominant technostress dimensions that influence psychological health among technology users.
1.6.7 To identify the most dominant technostress dimensions that influence physical health among technology users.

1.7 Research Hypothesis

1.7.1 Psychological Health

H₁: There is a significant relationship between technostress and psychological distress.

H₂: There is a significant relationship between technostress and cognitive symptoms.

H₃: There is a significant relationship between technostress and sleep disturbance.

1.7.2 Physical Health

H₄: There is a significant relationship between technostress and musculoskeletal discomforts.

H₅: There is a significant relationship between technostress and eyestrain.

1.8 Scope of Study

In this study, technology refers to computer, gadgets such as Smartphone, tablets, computers, laptops and also internet. The scope of the study is on the relationship between technostress (technology overload, technology invasion, technology complexity, technology insecurity, and techno-uncertainty), psychological health (psychological distress, cognitive symptoms, sleep disturbance) and physical health.
(musculoskeletal discomforts and eyestrain) among technology users. The technology users refer to the lecturers at Universiti Teknologi MARA (UiTM) Jengka Branch. This researcher chooses this respondents because currently, in universities, the lecturers are exposed to new technology, especially computers and also internet (Hassan & Edje, 2009).

1.9 Research Significance

The significance of the study can contribute to the organizations, employees and also to future researchers. Future explanations will explain below:

1.9.1 Organization

This study is important to the organization as a guide to determine the relationship between technostress on psychological and physical health. Besides, it will give the overall ideas to the organization about the importance of knowing the relationship of technostress and the health of workers especially on psychological and physical health. In addition, this study also will provide guidance and awareness to the management at Universiti Teknologi MARA (UiTM) to overcome technostress on their psychological and physical health of their employees.

1.9.2 Employees

The organization and the technology users can use the information given in this research to identify the relationship between technostress psychological health and physical health. The organization also can use this research as a prevention and
intervention in their organization. An organization can do the intervention program such as an awareness campaign to create awareness about the effects of technostress. The employees can repeatedly stand up, stretching muscles and exercising when they are using technology for excessive time. Furthermore, the employees will alert with their health and use the technology effectively.

1.9.3 Future Researchers

This study will be used as a source for academic purposes that are useful to all parties. It is also can be used as a source of distribution of information to students, technology users and academic purposes to enhance their understanding of technostress, psychological health and physical health. Furthermore, this study is expected to be the value-added to the existing literature and can be leveraged by other researchers to develop and use it as reference and guide.

1.10 Research Limitations

The technology users are from the various kinds of generation not only the lecturers. In this study, the respondents only focused on the lecturers in Universiti Teknologi MARA, Jengka Branch. Besides, this study also only focused on certain dimensions of psychological and physical health. Furthermore, the findings from this study cannot be used in another organization because the information is different and only can be use in the organization that has been chosen.
1.11 Conceptual and Operational Definition

1.11.1 Technostress

The original terms are from Brod (1984), who describe technostress as a “modern disease” of adaption caused by not being able to cope with new technologies in a health manner.

The definition of technostress in this research refers to personal stress generated by the use of technology devices. In this study, the five dimension introduced by Tarafdar, et al (2011) which are technology overload, technology invasion, technology complexity, technology uncertainty and technology insecurity was used to measured technostress.

1.11.2 Psychological Health

According to World Health Organization (WHO) (2005) psychological health refers to mental health that describe a state of psychological well-being in which the individual realizes his or her own abilities can cope with normal stresses of life.

In this research psychological health refers to emotional and mental well being when used the technology devices. Psychological distress, cognitive symptoms and sleep disturbance was used to measured psychological health. Psychological distress refers to the level of happiness, experience of depressive and anxiety symptoms. Cognitive symptoms refer to the concentration problems, indecisive and feeling distracted. Lastly, sleep disturbance refers to interference in the technology users’ sleep. It happens when
they need to wake up in certain hours to check their mobile while sleeping due to the intensive technology use.

1.11.3 Physical Health

According to Coker et al (2000) physical health refers to an essential part of someone’s overall health which includes everything ranging from physical fitness to overall wellness.

In this research, physical health refer to body discomforts that faced by technology users when used technology devices. In this research, musculoskeletal discomforts and also eyestrain was used to measure physical health. Musculoskeletal discomforts refer to the body discomfort that focus on the neck, shoulder, back and also finger discomfort. Eyestrain refers to the stress to the eye due to long hours of focusing on the gadget and laptop screen.

1.12 Conclusion

This chapter highlights the background of the study, problem statement, research questions, research objectives, significance of this study and the limitations. Based on the above discussion, researcher shall explore the relationship between technostress, psychological health and physical health among technology users to answer the research questions and address the problems that underlie this study. The following chapters shall look into the literature review and methodological approach in answering the research questions.
References


