UNIVERSITI PUTRA MALAYSIA

PREDICTING ONLINE SAFETY BEHAVIOR BASED ON HEALTH BELIEF MODEL WITH INTERNET LITERACY AND GENDER AS MODERATORS

ELAHEH TAHERI ABKOOH

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By

ELAHEH TAHERI ABKOOH

**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in
Fulfillment of the Requirements for the Degree of Doctor of Philosophy**

February 2016
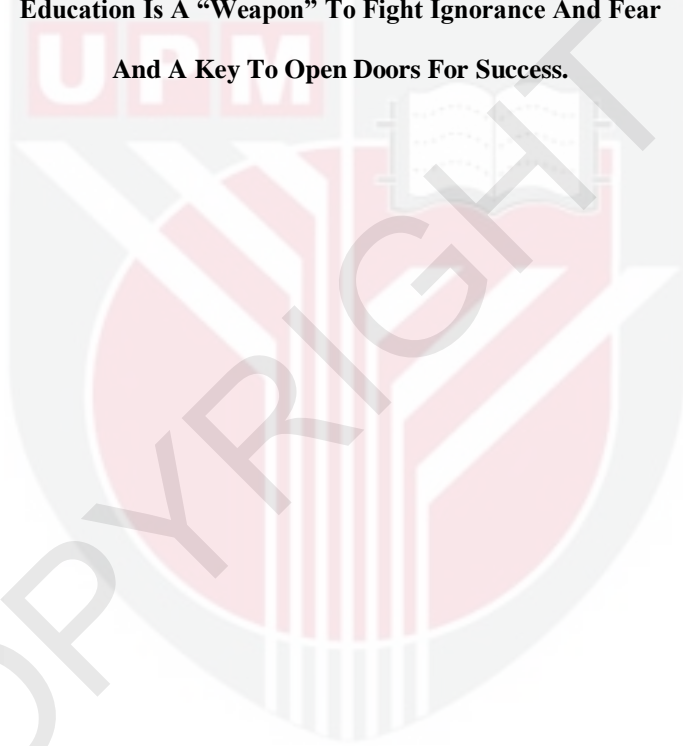
DEDICATED

To

My Beloved Parents

My Lovely Husband

And My Daughter, ELINA, With A Hope That She Would One Day Realize That

Education Is A "Weapon" To Fight Ignorance And Fear

And A Key To Open Doors For Success.

Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfillment of the requirement for the Degree of Doctor of Philosophy

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ELAHEH TAHERI ABKOOH

February 2016

Chairperson : Prof. Md Salleh Hassan, PhD
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In recent times, Internet use has become an essential part of the daily lives of people worldwide. How Internet users approach the problem of Internet safety is insufficiently studied, especially in the localized context of developing nations like Malaysia. According to Cyber Security Malaysia (CSM), Malaysia is the sixth most susceptible country in the world to cyber-risks, in the form of malware attacks via computer or smart phone (The Star, 2013). In order to encourage greater safe online behavior among Malaysian Internet users, it would be essential for researchers to conduct detailed research into the problem.

The aim of this study is to predict the online safety behavior of Malaysian adolescents based on Health Belief Model. This study also determines the moderating effect of internet literacy and gender as moderating on relationships between HBM factors with regard to Internet safety education program and online safety behavior among adolescents. This study employs a quantitative research design using survey method. Partial Least Squares Structural Equation modeling (PLS- SEM) method was used to assess relationships among variables. The survey was conducted in two districts in the state of Selangor (Gombak and Sepang) among students aged 14, 16 and 17 years that were in secondary schools. Stratified sampling was used to get the sample size of 400 students from 7852 student's population in four schools, however extra questionnaires were distributed to avoid non- response bias. The criteria which were taken into considerations when choosing the sample was that the students selected should have attended the Internet safety education program.

The results of this study revealed that perceived severity and perceived susceptibility, perceived benefits and self- efficacy had positive and significant effect on Internet safety behavior. Additionally, perceived barrier had negative and direct effect on Internet safety behavior among adolescent while it was showed that cues to action had no positive significant effect on Internet safety behavior. The study also found that Internet literacy fully moderated the relationships between perceived barriers and cues to action with online safety behavior among adolescent in comparison, Internet literacy had no moderating effects on the relationship between another HBM factors in Internet

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safety education program and online safety behavior. Moreover, gender also had no moderating effects on the relationships between HBM factors with regard to Internet safety education program and online safety behavior among adolescents.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk Ijazah Doktor Falsafah

RAMALAN PERLAKUAN KESELAMATAN ATAS TALIAN DALAM KALANGAN REMAJA DI MALAYSIA BERDASARKAN FAKTOR MODEL KEPERCAYAAN KESIHATAN DENGAN LITERASI KOMPUTER DAN JANTINA SEBAGAI FAKTOR KAWALAN

Oleh

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Februari 2016

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Kini, penggunaan Internet telah menjadi sebahagian daripada elemen penting dalam kehidupan seharian manusia di seluruh dunia. Walaubagaimana, cara menangani masalah keselamatan siber masih kurang diberi perhatian dalam kajian-kajian lepas, terutama dalam konteks negara-negara membangun seperti Malaysia. Menurut Cyber Security Malaysia (CSM), Malaysia adalah negara keenam di dunia yang paling mudah terdedah dengan risiko siber, iaitu dalam bentuk serangan "malware" melalui komputer atau telefon pintar (The Star, 2013). Bagi meningkatkan kesedaran tentang keselamatan siber di kalangan pengguna Internet, adalah amat penting bagi para penyelidik menjalankan kajian terperinci tentang permasalahan ini.

Tujuan kajian ini adalah untuk meramal perlakuan keselamatan atas talian dikalangan remaja berdasarkan Model Kepercayaan Kesihatan.. Kajian ini juga memfokus kepada faktor Literasi Internet dan jantina sebagai pembolehubah penyederhana. Ia bagi mengenalpasti bagaimana pembolehubah ini boleh menyederhanakan hubungan antara faktor Model Kepercayaan Kesihatan dan tingkah laku keselamatan Internet remaja.

Kajian ini menggunakan pendekatan kuantitatif dengan kaedah tinjauan untuk mengumpul data. Kaedah "Partial Least Squares Structural Equation Modeling" (PLS-SEM) telah digunapakai bagi menilai hubungan antara pembolehubah-pembolehubah. Kajian itu dijalankan di dua buah daerah di Selangor (Gombak dan Sepang), iaitu di kalangan pelajar-pelajar sekolah menengah berusia 14, 16 dan 17 tahun. Persampelan berstrata telah digunakan bagi mendapatkan saiz sampel sebanyak 400 pelajar daripada populasi pelajar seramai 7852 di empat buah sekolah. Kriteria yang diambilkira dalam memilih sampel ialah pelajar yang dipilih telah menghadiri Program Pendidikan Keselamatan Internet.

Hasil kajian ini mendapati "perceived severity" dan "perceived susceptibility", dan "perceived benefits" dan "self-efficacy" mempunyai kesan positif yang signifikan

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terhadap tingkah laku keselamatan Internet. Selain itu, "perceived barrier" dilihat mempunyai kesan negatif secara langsung terhadap tingkah laku keselamatan Internet di kalangan remaja, manakala "cues to action" tidak mempunyai kesan positif yang signifikan terhadap tingkah laku keselamatan Internet. Kajian ini juga mendapati bahawa "celik Internet" mempunyai kesan penyederhanaan sepenuhnya terhadap hubungan antara "perceived barrier" dan "cues to action" terhadap tingkah laku keselamatan atas talian di kalangan remaja. Kajian ini juga mendapati Literasi Internet tidak mempunyai kesan penyederhanaan terhadap hubungan dimensi lain bagi program pendidikan keselamatan Internet dan tingkah laku keselamatan atas talian. Jantina juga tidak mempunyai kesan penyederhanaan terhadap hubungan antara dimensi pendidikan keselamatan Internet dan tingkah laku keselamatan Internet remaja.

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I am also grateful to those who participated in this study for their voluntary willingness to contribute their time and effort to complete the survey. I recognize that this study never has been possible without their assistance. Therefore, I extend my appreciation to all of the survey participations.

I am indebted to my beloved parents who have always inspired and supported me to continue my education. I am deeply grateful for their understanding, strength, and unconditional love shown in countless ways without which, I would probably not have been able to endure the challenges encountered in the completion of this thesis.

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Many friends were helpful to me throughout my doctoral program. I wish to thank for their support, encouragement and friendship during my study period.

To all of you, Thank you.

I certify that a Thesis Examination Committee has met on 19 February 2016 to conduct the final examination of Elaheh Taheri Abkooh on her thesis entitled "Predicting Online Safety Behaviour Based on Health Belief Model with Internet Literacy and Gender as Moderators" in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Doctor of Philosophy.

Members of the Thesis Examination Committee were as follows:

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This Thesis was submitted to the Senate of University Putra Malaysia and has been accepted as fulfillment of the Requirement for the Degree of Doctor of Philosophy. The members of the Supervisory Committee were as follows:

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Date:

Declaration by graduate student

I hereby confirm that:

- this thesis is my original work
- quotations, illustrations and citations have been duly referenced
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Signature: _____ Date: _____

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Declaration by Members of Supervisory Committee

This is to confirm that:
- the research conducted and the writing of this thesis was under our supervision;
- supervision responsibilities as stated in the Universiti Putra Malaysia (Graduate Studies) Rules 2003 (Revision 2012-2013) were adhered to.

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of Supervisory
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Signature:
Name of Member
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CHAPTER ONE

INTRODUCTION

1.1 Overview

Introduction of the study presented in this chapter. The review is organized into 8 sections which includes Background of the Study (Section 1.2), the problem statement (section 1.3), the research questions (section 1.4) and the research objectives (section 1.5). The subsequent sections are about a discussion on the significance of the study (section 1.6) and the scope and limitation of the study (section 1.7). The definition of the study is given in section 1.8, through six subsections. Perceived severity is illustrated in subsection 1.8.1., followed by perceived susceptibility (section 1.8.2), perceived benefits (section 1.8.3), perceived barriers (section 1.8.4), self-efficacy (section 1.8.5) and cues to action (section 1.8.6).

1.2 Background of the Study

In recent times, that Internet use has become an essential part of the daily lives of people, study on a safety plays an important role for researchers. There was a general global surge in Internet usage and interest since the year 2000, and Malaysia has not been an exception to that increase. According to Christopherson (2006), in 2000, those who have access to the Internet are approximately 400 million users. In a mere two years, this number increased to 600 million (Christopherson, 2006). Based on the statistics supplied by Internet world statistics, around 3 billion of the world's households will have Internet access by the end of 2014 (Internet World Stats, 2013). Malaysia is a peaceful country in Asia and has a cross–cultural population of Malays, Chinese and Indians of almost 30 million people. The Internet penetration rate by 2013 was 67 percent in this country (Internet World Stats, 2013). Despite the fact that so many Malaysian citizens are using the Internet, this does not mean that they are using it in an informed or cautious way. According to Cyber Security Malaysia (CSM), in all the nations of the world, it is Malaysia that ranks as the sixth most susceptible country to cyber-crime, particularly in the form of malware attacks through a computer or smart phone (The Star, 2013). In order to encourage greater safe behavior among Malaysian adolescents' Internet users, it would be essential for researchers to conduct detailed research into the problem.

The Health Belief Model (HBM) was one of the first models designed to understand health behavior in terms as being a reactive process (Rosenstock, 1974). The HBM was initially developed to predict the behavioral reaction of individuals suffering from acute or chronic disease to the treatment they received (Champion & Skinner, 2008). Subsequently, the model was employed to predict more general health behaviors (Kim& Park, 2012; Ross et al., 2010; Yun & Park, 2010). Like any other health behaviors, it is possible for safe Internet use to be either a reactive or proactive process (Pandey et al., 2003). According to Health Belief Model, health behavior refers to any activities undertaken by an individual, for the purpose of promoting, protecting or

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maintaining health as well as preventing or detecting disease or risk (World Health Organization, 1998). It is possible to regard safe Internet use as a health behavior (Cotton& Gupta, 2004; Kim & Park, 2012; Yun & Park, 2010). Using the Internet safely is like conducting any other activity in a safe and sensible way: cautious behavior helps individuals surf on the Internet responsibly and promote and manage their activities safely (Harrison et al., 2007).

The basic assumption of the HBM is that a person in the absence of any symptoms will not take health or preventive activity unless that individual has psychological readiness (for example he/she feels vulnerable to a disease) (Glanz, Rimer & Viswanath, 2008). A crucial assumption or postulation of the HBM is that perceived health risk predicts why people will take action to screen or to control illness conditions. According to Rosenstock et al., (1974) the key variables of HBM are Threats and Expectations which these include susceptibility, seriousness, benefits and barriers to a behavior, cues to action, and most recently, self-efficacy (Glanz, et al., 2008). HBM dimensions are forms of communication about the dangers that also teach how to avoid or reduce threats (Milne et al., 2000). One of the core assumptions of this model is that if the information led to fear, then the individual will be motivated to reduce these unpleasant emotions (Milne et al, 2000; Weinstein, 2007). Another relevant theory designed to understand health behavior is Protection Motivation Theory (PMT).

Rogers (1975) introduced Protection Motivation Theory to explain how people can change both their health attitude and behaviors in respond to messages concerning health risk. Consequently, individuals will often take steps related to safety action in order to reduce the probability of the threat. Those people who do not see the risk warning message will be unable to respond to it. Increasingly, numerous online users are striving to keep adolescents safe from Internet risks, such as cyber-crime and online disinformation, by promoting Internet safety education. A consideration of these relevant models and theories should assist greatly in the design of good safety programs related to Internet use. These safety programs should empower some factors like children severity and susceptibility to use the Internet safely. Based on this point of view, this study attempts to test the direct and indirect effect of safety education program on online safety behavior based on HBM among adolescents in Malaysia.

1.3 Problem Statement

Children today have numerous options for devices capable of accessing the Internet, ranging from sources as diverse as video games, smartphones, and various handheld devices. Digital devices, in the perception of numerous children, have already become some of their favorite toys and indispensable tools. Even though the Internet has become the playground of choice for so many children, but it is not safe and pleasant playground for them. Correspondingly, past studies revealed that the growth of Internet safety among Malaysian adolescents is slower than the growth of online risks in cyber space (Cybersafe report, 2013). Although attempts have been made to investigate factors that influence adolescent's online safety behavior in Malaysia, most of the studies have focused on online activities and Internet usage (Gnasigamoney & Sidhu, 2013; Nielsonwire, 2011; Lee, 2000). Factors affecting adolescent's online safety

behavior on the Internet are rarely investigated in Malaysia even though the online risks has continued to increase.

Additionally, most of the past studies on online safety intention have emphasized on Internet banking and online purchasing (Ghani, & Said, 2009; Nor et al., 2013a; Zendehdel & Paim, 2012b), with only few focusing on risky situation of adolescents in Social network sites. Interestingly, while students are among the heavy users of Internet across the globe, in Malaysia studies that investigate how students use Internet safely are very few. Therefore this study was conducted among students of Malaysian secondary schools with the aim of predicting the factors that influence on online safety behavior on the Internet.

According to the Cyber Security Malaysia (2010) the number of online users has grown dramatically. The Malaysian government is particularly concerned about the negative impact of the Internet on susceptible children. Generally, children do not know how to assess the reliability of an information on the Internet, which can be a challenging process even to adult users. The possibility of severe misunderstandings and confusion is always present. Some measures being considered by the Malaysian government include censorship, filtering and Internet safety education for children and students (Ram, 2006; Digi cyber safe in schools report, 2014). Specifically, the importance of child safety awareness on the Internet had persuaded the Ministry of Education, Cyber Security Malaysia, Childline Malaysia and DiGi to establish the program of CyberSAFE in Schools. It was a smart partnership to make a secure and friendly online space for children. Governments are accountable for the way in which they work to help overcome the barriers to learning that so many children are experiencing in today's bewilderingly information-saturated world.

Given the relevance of online safety in health issues, this study has proposed a research model based on the Health Belief Model (HBM) and Protection Motivation Theory (PMT). It is predicted that factors such as perceived severity, perceived susceptibility, perceived benefits and barriers, cues to action and Self- efficacy will positively affect online safety behavior. The scholars concerned with the Health Belief Model have been conducting research regarding how this theory can potentially assist in the design of behavior change interventions. This could be in a variety of possible ways, such as by promoting an understanding of health behavior through one health issue to another. If the researcher considers the Internet safety education program as a healthcare issue, this logically means that it is appropriate for its function to be studied through this research and based on healthcare factors. Ultimately, there is little academic research published in the area of online safety behavior based on HBM among adolescents in Malaysia.

Some of researchers' make an effort to keep young children safe from Internet risks by promoting Internet safety education. But some of the info in their lectures, videos, and websites which do not reflect what researchers has learned about the important features of these threats. Through this point of view, safety programs should empower the children severity and susceptibility to use the Internet safely because according to Cyber Security Malaysia (CSM), Malaysia is the sixth most susceptible country in the

world to online risks (The Star, 2013). In addition, the penetration rate of Internet access in Malaysia is steadily growing to 60.7 percent by 2013 (Internet World Stats, 2013).In other words, there is a growing number of adolescents who use the Internet. Consequently, it is significant to empower adolescents with safety knowledge which effect on their tendency towards protective behaviors. Internet safety programs should empower the severity and susceptibility of children to use the Internet safely, but need to be guided by a continuous stream of up to date well-researched information.

In addition, the statistics collected from the report of CyberSafe in schools (2014) indicate that two – thirds of younger students exercise very low protective actions toward online safety behavior. Therefore, 70 percent of students were not worried about their safety invasion or the anonymity of the online users they interact with. The cyber risks also reported in the city of Kuala Lumpur alone, there were 99,000 cases of infected personal computers, and in Sukardi's opinion (2011), this was the highest in the entire Asia-Pacific region. Malaysia's grave weaknesses and poor defenses make the country, in general a highly desirable "honey pot" for hackers.

Another, perhaps even more disturbing situation is the fact that adolescents are shrugging off their personal responsibilities and choosing to access inappropriate sites. The practical solution is not to force children to be unable to use the Internet, but to encourage them into voluntary responsible Internet usage. Researchers should seek something that helps to move children from wanting to behave safely to actually practicing safe behavior on the Internet. Based on these points, the role of external cues (i.e. media reports, measures against people being bullied on the Internet, safety posters at school) for safety tendency of children is highlighted. Due to this reason, this study focuses on cues to action as a part of health belief model.

Online skills and Internet literacy enable children to find new online opportunities, but there are always downsides; those opportunities come with the possibility of new risks. According to CyberSafe in schools report (2014) 40 percent of students who said that online safety is very important, exercise low level of safety on the Internet. It is presented that the level of awareness and literacy does not necessarily translate to safe actions (CyberSafe report, 2014). Moreover, yet literature has revealed that Malaysian adolescents are lacking confidence in Internet literacy (Shanthi & khoo, 2006), but among these studies none have attempted to investigate the moderating role of Internet literacy on online safety behaviour. Gender differences, too, influence attitude toward safe activities on the Internet that translate to online safety behaviour. For instance predators considered girls for sexual request twice the rate of boys.

In addition boys were more likely to get hooked at the pornography online and use the Internet for gaming. Gender differences also account for different barriers to online safety. Boy and girls have different perceptions about the risks in online activities and boys were more likely than girls to report efforts to override any existing computer filters or blocking software. In sum, both gender and Internet literacy influence online safety behavior, but how these influences operate remain unclear. Hence to better understand the influential mechanism of these two factors, this study used Internet

literacy and gender as a moderator to test their moderating effects on the linkages between HBM factors in Internet safety education program and online safety behavior.

1.4 Research Questions

1. What is the level of online safety behavior among adolescents?
2. What are the level of Health Belief Model (HBM) factors in Internet safety education program among adolescents?
3. What is the relationship between perceived threats (Perceived Severity of and Perceived Susceptibility) in the HBM and online safety behavior among adolescents?
4. What is the relationship between expectations (Perceived Benefits, Perceived Barriers and Self- efficacy) in the HBM and online safety behavior among adolescents?
5. What is the relationship between Cues to Action in the HBM and online safety behavior among adolescents?
6. Is there any significant moderating effect of Internet literacy and gender on the relationship between HBM factors with regard to Internet safety education program and online safety behavior among adolescents?

1.5 Research Objectives

1.5.1 General Objective

The general objective of this study is to predict the online safety behavior of Malaysian adolescents based on Health Belief Model with test the moderating effect of Internet literacy and Gender.

1.5.2 Specific Objectives

The specific objective of this study are:

1. To determine the level of online safety behavior among adolescents.
2. To determine the level of Health Belief Model (HBM) factors in Internet safety education program among adolescents.
3. To determine the relationship between perceived threats in the HBM (Perceived Severity and Perceived Susceptibility) and online safety behavior among adolescents.
4. To determine the relationship between expectations in the HBM (Perceived Benefits, Perceived Barriers and Self- efficacy) and online safety behavior among adolescents.
5. To determine the relationship between Cues to Action as an HBM factor and online safety behavior among adolescents.

6. To determine the moderating effect of Internet literacy and gender on the relationship between HBM factors with regard to Internet safety education program and online safety behavior among adolescents.

1.6 Significance of the Study

Despite several local studies already conducted on Internet usage among Malaysian adolescents, the research situation is still lacking insufficient data and analysis (Gnasigamoney & Sidhu, 2013; Salman & Hasim, 2011; Soh, 2010). At the time of the current study, some research focusing on Internet safety-related issues involving Malaysian adolescents has already taken place. Specifically, they have sought to investigate the influence of safety-related factors on Internet usage and similar safety issues. This current research strives to fill the gap in the available body of the relevant literature regarding the online safety behavior of Malaysian adolescents. The contribution of this study is to develop a model of safety behavior that combines the influences of Internet safety education program toward online safety with a subjective assessment of psychological states of individuals. This assessment would include the perceptions of the severity of risks, susceptibility to risks, benefits and barriers of Internet safety, self-efficacy and cues to action to fully understand the mechanism that leads to Internet safety behavior among Malaysian adolescents. The HBM concept relies on the idea that health behavior is influenced or downright determined by the perceptions of the disease or danger, along with any relevant personal beliefs about it. Once this is taken into account, strategies can be devised to reduce the incidence of disease and danger (Conner & Norman, 2005; Milne, et al., 2000). This study used HBM as a psychological model in communication to explain and predict online safe behavior among adolescents in Malaysia. Therefore, it is hoped that the current study will reveal the views of Malaysian adolescents and bring a better understanding of trends in Internet safety education determinants.

This study is using Structural Equation Modeling (SEM) method to overcome a limitation of other methods of analysis most commonly used in social science studies. Structural Equation Modeling (SEM) method was used to measure the direct and indirect relationship between variables in the framework of the study (Hair, et al., 2010; Ho, 2006). Hair et al., (2010) to describe the relationships between multiple variables recommended SEM as a second-generation method (Hair, et al., 2010). First-generation techniques such as Factor Analysis (FA), Discriminant Analysis (DA), Path Analysis (PA) and Multiple Regression Analysis (MRA) was tested only single relationships while SEM can analyze and estimate casual relationships among multiple independent and dependent dimensions at the same time (Hair, et al., 2010).

SEM also allows the researcher to construct unobservable latent variables which cannot be directly measured. Latent variables, however, are responsible to determine the correlation between the manifest variables. Partial Least Square (PLS) also is used for testing structural equation models. It is also known as a soft modeling technique which does not require a normal distribution assumption (Chin, 2010). Hopefully, the knowledge gained from this research study would be helpful for safety policy makers to identify determinants of the mechanism or reasoning process that encourages

Internet safety behavior. This would enable them to develop strategies for increasing Internet safety for adolescents as well as to plan Internet-based communication regarding safety issues which both have the potential to enhance the self- efficacy of adolescents, increase perceived benefits of risk prevention, encourage safety behavior change and positively influence safety outcomes.

The findings of this study could also be beneficial for safety professionals. In order to introduce the Internet as a desirable space for online opportunities and risks, they need to identify the factors that influence Internet behavior to surf the Internet safely. As such, online safety information providers might acquire advice for cyber security awareness campaigns to enhance the adolescent perception and understanding of the severity of online threat level and acceptance rate as well as degree of compliance with available Internet safety education programs.

1.7 Scope and Limitation of the Study

The scope of this study is an Internet safety education program with six dimensions (Perceived Severity, perceived susceptibility, perceived benefit, perceived barriers, self- efficacy and cues to action) and its influence the on online behavior of Malaysian secondary students in two districts in the state of Selangor. As far as research is concerned, there would always be certain limitations. This research is limited as a survey studies which the data collected are completely self- reported. As with any survey attempting to gather data, the participants may have incorrectly reported information about themselves.

In addition, this study solely covers regular Secondary school between the ages of 14, 16 and 17 years of students. Other ages are not included in this research. Due to time and budget constraints, the study only covers the state of Selangor since it has the largest number of Internet users in Malaysia (Household Use of the Internet Survey 2011, MCMC). On top of that the study is designed to investigate a specific group of people. Thus, generalizations should be made only with regards to groups with similar characteristics.

1.8 Definition of Terms

There are certain factors influencing safe Internet use. These include factors involving education program-related Internet safety (perceived severity, perceived susceptibility, perceived benefits, perceived barriers, self- efficacy and cues to action) and safety-related behavior.

1.8.1 Perceived Severity

In the Health Belief Model, the dimension of Perceived Severity as a construct refers specifically to the personal conviction of someone concerning the seriousness or

critical importance of any given health problem. In this study, perceived severity refers to an adolescents' perceived seriousness of online incidents (Lwin, Li & Ang, 2012).

1.8.2 Perceived Susceptibility

The perceived susceptibility construct in the Health Belief Model, refers to the "subjective risks of contracting a condition" (Ng, et al., 2009, p. 99). Individuals are widely different in their perceived susceptibility. A standard situation of such individual variation of response is that two separate individuals are given the identical information about the likelihood of any negative online incidents, yet one person may believe that the probability of personal endangerment is high, while the other person may insist that such an occurrence will never befall him. In the specific context of this study, perceived susceptibility is an adolescents' perceived probability of negative online-related incident transpiring that threatens their security. Adolescents who perceive and believe in the possibility of a greater susceptibility to such online threats are likely to exhibit a higher level of online safety behavior than those who deny there is any problem.

1.8.3 Perceived Benefits

Another construct of Health Belief Model is perceived benefits which refer to people belief about the relative action effectiveness to decrease the Internet threats. It is the adolescents' beliefs about the validity and various course's effectiveness of action, not the objective realities about the benefits, which determine the health behavior of adolescents. In this study, perceived benefits, refer to adolescents' perceived effectiveness of practicing online protective behavior. Thus, higher perceived benefits are likely to lead to greater online safety behavior (Conner, 2010).

1.8.4 Perceived Barriers

It is entirely possible that although an adolescent can believe that any given action would be effective in threat reduction, that adolescents may also consider that action, however effective, to be unpleasant or inconvenient to actually do or enact. Such negative aspects can be perceived barriers to action (Rosenstock, 1974). Similar to preventive health care behavior, in general, safety behavior related to the Internet specifically often causes inconvenience due to the additional controls or time-consuming measures required.

1.8.5 Self- Efficacy

Another dimension of the Health Belief Model is Self- efficacy. It is a convenient predictor of health care behavior. According to Health Belief Model, It is individuals who possess higher levels of confidence in their abilities who show a greater possibility of starting stimulating behaviors. In the current study, self- efficacy refers to adolescents' self- confidence in their skills in practicing online safety behavior (Youn, 2009).

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1.8.6 Cues to action

The experiences that would persuade adolescents to practice online safety behavior are Cues to action (Ng et al., 2009). The example includes exposure to safety awareness programs, media cues, social influences and suggestions from professionals. This research focuses on schools, media efforts and parents' advice.

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