



**UNIVERSITI PUTRA MALAYSIA**

***INFLUENCE OF PERSONALITY, RELIGIOSITY, RISK-TAKING, AND  
COUNSELING ATTITUDES ON CYBERSEX ENGAGEMENT  
AMONG POSTGRADUATE STUDENTS IN THE  
KLANG VALLEY, MALAYSIA***

**SOUDABEH GHOROGHI**

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KLANG VALLEY, MALAYSIA**

By

**SODABEH GHOROGHI**

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

**October 2016**

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## DEDICATION

I'd dedicate this thesis to:

My late father, Loving mother,

Supportive siblings, and

My beloved husband



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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**SOUDABEH GHOROGHI**

**October 2016**

**Chairman : Siti Aishah Hassan, PhD**  
**Faculty : Educational Studies**

With the popularity and reach of the Internet, accessing it for sexual purposes (cybersex) has been a growing concern. Since university students use the Internet as their main communication medium, their tendency to engage in cybersex-related activities ending in addiction is the major concern of this study. There is a dearth of academic models to fully explain the underlying factors involved in the development of cybersex addiction. So, this study developed a predictive model to enhance the understanding of cybersex by: (1) discussing and assessing hypotheses on the relationships between personality traits, religiosity and cybersex engagement; (2) examining the possible mediating role of risk taking and moderating effects of counseling attitudes and gender among the constructs; and (3) strengthening the internal validity of the causal model, control variables (time spent online, time spent for cybersex, and relationship status) included in the study. Utilizing a multistage proportional sampling, 256 postgraduate students who completed an online survey sent to their email addresses were randomly selected from five Malaysian universities. Gender was relatively evenly distributed, and education-wise, 50.4% of them were master and 49.6% PhD students aged 22-51 years. Empirical testing of the collected data was done using Partial Least Squares-Structural Equation Modeling (PLS-SEM), smart-PLS software version 3.0, which provided strong support for the proposed theoretical model by explaining 67% of variance in endogenous variables (47% of the variance in cybersex engagement and about 20% in risk taking). Statistically significant relationships were found to exist between personality traits (except agreeableness and conscientiousness) and religiosity with cybersex. Personality traits (except extraversion and neuroticism) and religiosity also showed statistically significant relationships with risk taking. There was a significant positive association between risk taking and cybersex engagement.

Further, the influence of personality traits and religiosity on cybersex engagement was almost partially mediated by risk taking. Moreover, only agreeableness confirmed the moderating effect of counseling attitudes on the relationship between personality traits and cybersex engagement. Gender had no moderating effect on this relationship. Finally, the following were used as control variables in order to remove other possible explanations for the relationship between variables: time spent online, time spent online for cybersex, and relationship status. Only time spent online for cybersex had significant contribution to the cybersex engagement. Collectively, results of the study substantiated the notion that risk taking mediated several paths between personality traits and cybersex engagement. The results also supported some personality traits as predictor and the contention that religiosity provides a buffer against risk taking and cybersex engagement. University counselors would do well to be aware, and address the topic of cybersex and the probability of it becoming an addiction with serious life consequences for students.

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

**PENGARUH PERSONALITI, KEAGAMAAN, SIKAP MENGAMBIL RISIKO,  
DAN SIKAP TERHADAP KAUNSELING TERHADAP PENGLIBATAN  
DALAM SEKS ATAS TALIAN DI KALANGAN PELAJAR  
PASCASISWAZAH DI LEMBAH KLANG, MALAYSIA**

Oleh

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Dengan populariti dan capaian internet, akses kepada internet bagi tujuan siberseks telah meningkatkan kebimbangan. Memandangkan pelajar universiti menggunakan Internet sebagai medium komunikasi utama, kecenderungan mereka untuk terlibat dalam aktiviti berkaitan siber berakhir dengan ketagihan merupakan satu kebimbangan dalam kajian ini. Terdapat kekurangan model akademik untuk menjelaskan sepenuhnya faktor-faktor yang terlibat dalam pembangunan ketagihan siber. Justeru, kajian ini membangunkan model peramal untuk meningkatkan pemahaman siberseks oleh (1) membincang dan menilai hipotesis berkaitan hubungan antara tret personaliti, keagamaan dan penglibatan siber; (2) memeriksa kemungkinan peranan perantara pengambilan risiko dan kesan moderasi sikap kaunseling dan jantina antara konstruk; (3) menguatkan kesahan dalaman model kasual, pemboleh ubah kawalan (tempoh masa atas talian, masa dihabiskan untuk siberseks dan status hubungan) yang terkandung dalam kajian. Dengan menggunakan persampelan berkadaran pelbagai aras, 256 pelajar pasca siswazah dipilih secara rawak daripada lima buah universiti telah mengisi soal selidik secara atas talian yang dihantar melalui email. Bilangan responden mengikut jantina agak sama rata dan taburan pengajian dengan 50.4% daripada mereka mengikuti program master dan 49.6% pelajar PhD yang berumur antara 22-51 tahun. Ujian empirikal ke atas data dikumpulkan dilakukan menggunakan analisis Partial Least Squares-Structural Equation Modeling (PLS-SEM). Analisis ini dilakukan menggunakan perisian smart-PLS versi 3.0 yang menyediakan sokongan kuat kepada model yang dicadangkan oleh model teoritikal dengan menerangkan 67% varians dalam pemboleh ubah dalaman (47% merupakan pemboleh ubah dalam keterlibatan siberseks dan 20% dalam pengambilan risiko. Terdapat hubungan signifikan wujud di antara tret personaliti (kecuali *agreeableness* dan sifat berhati-hati)

dan keagamaan dengan siberseks. Tret personaliti (kecuali extraversion dan stres kerja) dan keagamaan juga menunjukkan hubungan signifikan dengan pengambilan risiko. Terdapat hubungan signifikan yang positif di antara pengambilan risiko dan keterlibatan siberseks. Seterusnya, pengaruh tret personaliti dan keagamaan terhadap keterlibatan siber hampir sebahagiannya perantara kepada pengambilan risiko. Selain itu, hanya agreeableness disahkan mempunyai kesan moderasi sikap terhadap kaunseling kepada hubungan antara tret personaliti dan keterlibatan siberseks. Gender tidak mempunyai kesan moderasi dalam hubungan ini. Akhir sekali, yang berikut digunakan sebagai pembolehubah kawalan dalam usaha untuk mengeluarkan penjelasan lain berkemungkinan terhadap hubungan antara pembolehubah: masa diperuntukan atas talian, masa diperuntukan atas talian untuk siberseks dan status hubungan. Hanya masa yang dihabiskan dalam talian untuk siberseks mempunyai sumbangan besar terhadap keterlibatan siberseks. Secara kolektif, hasil kajian itu mempunyai tanggapan berasas bahawa pengambilan berisiko merupakan perantara kepada beberapa laluan diantara tret personaliti dan keterlibatan siberseks. Dapatan kajian menyokong beberapa tret personaliti sebagai peramal dan perhujahan bahawa keagamaan sebagai penampan terhadap pengambilan risiko dan keterlibatan siberseks. kaunselor universiti perlu menyedari dan menangani aktiviti siberseks dan kebarangkalian ia menjadi ketagihan dengan memberi kesa serius dalam kehidupan pelajar.



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I certify that a Thesis Examination Committee has met on 11 October 2016 to conduct the final examination of Soudabeh Ghoroghi on her thesis entitled "Influence of Personality, Religiosity, Risk-Taking and Counseling Attitudes on Cybersex Engagement among Postgraduate Students in the Klang Valley, Malaysia" 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.

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# CHAPTER ONE

## INTRODUCTION

### 1.1 Overview of the Chapter

The chapter begins with the background of the study on the rapid growth of Internet use, and its alarming adverse consequences of cybersexual activities especially for university students. The idea of conducting this study is to focus on the research gaps as identified in the problem statement. Thereafter, the objectives of the study, research hypotheses, and the conceptual framework of the research are presented and discussed. Next, the significance of the study, and definitions of terms are noted. The chapter ends with a discussion and the scope and limitations of the study.

### 1.2 Background of the Study

The World Wide Web (WWW) has become an ever-growing open medium of communication that provides millions of people around the globe with access to vast amounts of information in cyberspace. Internet use has become increasingly integral over the past two decades, having developed at a rapid pace to become a mass medium of diverse applications affecting individuals and whole societies (Lee & Stapinski, 2012). Technological progress of the Internet has led to the emergence and rapid growth of adult entertainment such as the delivery of sexual materials ranging from text, stories, to pictures, and videos. As an integral part of modern sexuality, viewing, and rating sexuality content on the Internet have become an important element of Internet activity (Serquina-Ramiro, 2014).

Research has identified many factors which accelerate online sexuality and make it a conducive venue for sexual pursuits. "Triple A Engine" (accessibility, affordability, and anonymity) has made cybersex an influential medium (Cooper, 1998). It is a safe place to act out one's fantasies, and a filter that compensates for a lack of social skills for making a romantic relationship in the real world (Cooper, Delmonico, Griffin-Shelley, & Mathy, 2004; Schneider, 2000). The participants in online sexual activities are able to wear masks to hide their true self and identity (Rimington, 2008). However, considering the negative side of the online sexual activity, Internet can be considered as a pitfall of human behavior including - and especially - difficulties in the dark side of human sexuality (Ferree, 2003).

In briefly reviewing the literature, it can be shown that two strands warn of the adverse consequences of cybersexual activities. Feminism and post-feminist perspectives call the post-sexual objectification of girls and women in the media, as normalized and legitimate forms of female labor (e.g., Baker &

College, 2013; Magnet, 2007). Sex-positive feminists disagree with the radical feminists' perspective that ignores the notion of women being in control of their own sexuality and are competent to make decisions regarding the way in which it is utilized (Bleakley, 2014). Another strand of researchers is clinically biased, and relates pornography to risk and harm (e.g., Moffitt et al., 2014; Rimington, 2008; Træen & Daneback, 2013).

Cybersex involvement often damages real-life relationships, at times leaving the family members of users feeling used, betrayed, or depressed (Schneider, 2003). According to clinicians, a cybersex engagement is a considerable problem (Hertlein & Cravens, 2014). Researchers have associated fantasy, depression, social isolation, loss of boundaries and dissociation with Internet pathology and related to a range of activities such as chat rooms, and other online sexual activities (Rimington, 2008). The rapid growth in development, accessibility and use of the Internet has made specialists concerned about its adverse consequences. New terminologies such as "Cyber-disorder" and some other aspects of multidisciplinary field of research have emerged over the past two decades (Young, Pistner, O'MARA, & Buchanan, 1999).

However, this does not necessarily mean that Internet pornography use is always associated with negative consequences. Despite its potential negativity, cybersex use could be positively beneficial to some degree. Casual use appears to be related to such things as greater openness to experience and less sexual guilt (Hald & Malamuth, 2008; Weinberg, Williams, Kleiner, & Irizarry, 2010). On an individual basis, the majority see a positive effect of cybersex, in that it enriches real-life sexual liaisons as a result of greater sexual openness (Groo, Gillespie, Royce, & Lever, 2011), as well as the experience of improved sexual arousal of their sex life, acquiring sexual knowledge, an attitudinal transformation with regard to sex and life in general (Hald & Malamuth, 2008; Shaughnessy, Byers, & Thornton, 2011).

No one can deny the fact that the Internet is playing an important role in our life. It is a major channel for education, creativity, opportunities and self-expression. Wok, Iddid, and Mismar (2012) state that people aged 17- 40 years always (five to seven days per week) use social media to share information, particularly personal information in Malaysia. However, when use escalates beyond casual recreational activity problems are a likely consequence.

In 2014, TopTenReviews, Inc. estimated that every second a sum of \$3,075.64 (US dollars) is being spent on pornography, with 28,258 Internet users worldwide logged in to and viewing pornography sites. Simultaneously, 372 Internet users are in the process of searching for sexual proposes has not only become the prevalent quantitative subject, but is also the main concern, as there is a substantial divergence between the forms of sexuality usage on the Internet and in other contexts. As Döring (2009) states, the Internet has enabled new ways of producing, distrusting, and receiving sexual material.

The standard notions of the interpersonal sexual encounter have been also widened to include what has been labeled online sex or cybersex (Döring, 2009; Orsal, Orsal, Unsal, & Ozalp, 2013). Carnes, Green, and Carnes (2010) warn of the dangers of online sexually explicit interactions. This is because such liaisons are deemed to be more risky than real life liaisons that are encountered in a bar, store or work (Carnes et al., 2010).

Internet usage has become more prevalent among adults, especially for its sexual saturation (Shaughnessy, 2013). Today's university students constantly use the computer and are thus being exposed to this saturation more frequently (for review, see Dendy, 2008; Rhea, 2013; Weinstein & Lejoyeux, 2010). Dendy (2008) believes that today's university students are considered as updated students who utilize the Internet as the particular medium for communication, leading to spending more and more time online. Similarly, Widyanto and Griffiths (2006) identified students as at risk populations because of their natural inclination toward the online world. As such, they have a tendency to commit engage in high- risk sexual behaviors and addictive oriented habits (Dendy, 2008; Leung & Lee, 2012).

For new college students, moving away from home is associated with newly-found personal freedom, a lack of adult supervision and generally a period of new social encounters and relationships. With this novel autonomy, students run the risk of being involved in substance abuse, and often engage in unprotected sex even with multiple partners. Female students sometimes become pregnant, and put themselves at risk of acquiring sexually transmitted diseases (Dendy, 2008). Most studies show the impact of compulsive and addictive sexual behavior on adults even though their compulsive behaviors often began when they were teenagers or college students (Freeman-longo, 2000; Rhea, 2013; Schneider, 2000).

Many studies point to an increased willingness by a greater number of students than before to seek psychological counseling (Watkins, Hunt, & Eisenberg, 2012), and university counselors are in a unique position to assist students (Pheko, Chilisa, Balogun, & Kgathi, 2013). Psychologists and counselors are just beginning to address the challenge of the effects that the Internet is currently having on our society. In light of this situation, there is an urgent need for more research in the field of counseling to address how the Internet influences people's psychological well-being (Dendy, 2008). Yet, on a yearly basis, two thirds of those who are mentally ill do not go for professional help (Bathje & Pryor, 2011).

Malaysia is strongly committed to being globally competitive in the field of higher education with the aim of becoming a recognized regional education hub. The country has explicitly declared its intention to draw more students from other countries to study in Malaysia and at the same time offer a wider range of educational options for its own people (Cheng, Mahmood, & Yeap,

2013; Knight & Morshidi, 2011; Mok, 2011; Morshidi, 2005). All these have resulted in a substantial rise in the number of foreign students in Malaysia. Consequently it has brought greater attention to the counseling needs of students and there is a call to ensure the psychological well-being of these students (Ghoroghi, Hassan, Baba, & Kalantarkousheh, 2012).

Researchers have recently begun to examine the psychological effect of individual's use of technology platforms (Moore & McElroy, 2012). However, people's use of this communication medium has alerted the mental health sector which has paid much attention to the problem of Internet addiction and in particular, cybersex addiction. In this regard, the studies show that engagement in cybersex is varied based on several predictor variables such as personality traits and religiosity. A number of studies focusing on different populations have also investigated the association of several demographic variables such as gender, age, relationship status, and sexual orientation, with the degree of engagement in cybersex (Beaussart & Kaufman, 2013; Bridges et al., 2010; Bridges, Wosnitzer, Scharrer, Sun, & Liberman, 2010; Döring, 2010; Rhea, 2013). Besides, time spent online directly correlates to dependence and loss of control (Rimington, 2008). As a factor, time spent online separates problematic from non-problematic Internet use (Caplan, 2002; Thatcher, Wretschko, & Fridjhon, 2008).

Focusing on one element of personal characteristics, some studies have shown a connection between Internet user personality and how the user behaves online (e.g., Amichai-Hamburger & Vinitzky, 2010; Moore & McElroy, 2012; Ross et al., 2009). Amichai-Hamburger and Vinitzky (2010) state that personality is key to understanding the reasons for people's Internet behavior. The nature of the Internet is such that human interaction powers it and as such, understanding how it works is impossible without being aware of the personalities of its users (Amichai-Hamburger & Vinitzky, 2010).

Another significant factor is religion, which has an impact on various societal consumption patterns. A large number of empirical studies have examined the effect of religion on users' subjective perceptions of media credibility (Brown, 2007; Campbell, 2013; Hackney & Sanders, 2003; Hesapçı Sanaktekin et al., 2012)

As a cultural system, religion requires an essential consideration in the context of technology adoption and Internet consumption habits, since it can easily be overlooked by researchers for being an obvious variable that penetrates almost all domains of life with its related practices (Hesapçı Sanaktekin, Aslanbay, & Gorgulu, 2012).

Furthermore, risk taking could act to mediate Internet behavior and this could be the explanation for the relationship between personality and cybersex

engagement. Studies demonstrate a connection between adolescent risk taking behavior and online sexual activities (Greene, Krmar, Walters, Rubin, & Hale, 2000). This current study utilizes Zuckerman and Kuhlman's (2000) model to conceptualize the proposed relationships. There have been several investigations focused on the risk taking behavior of university students and it has been found that those with profiles on social networking websites are more likely to have higher risk taking attitudes compared to those who do not (Fogel & Nehmad, 2009).

This study considers the counseling attitudes as a possible influence on the relationships between personality traits, religiosity and cybersex engagement. Those with a help-seeking attitude are individuals who tend to look for support from available help or support services from the university or college counseling unit (Slone, Meir, & Tarrasch, 2013). Given the negative impacts of cybersex engagement on psychological well-being, it is necessary to explore students' attitude toward help-seeking and their search for assistance. Therefore, it is important to have a single model to recognize and address the underlying causes that develop and maintain addictive behavior in using the Internet, especially for sexual purposes.

Moreover, among many theories and approaches of online sexuality, Flow Theory as espoused by Csikszentmihalyi (1977) seems to be the most prominent and relevant theory to help explain students' cybersex engagement. Flow, as a state of being fully absorbed in a pleasurable activity, can initiate a willingness to invest time and effort (Delle Fave, Massimini, & Bassi, 2011). With the university students' effortless absorption in cyberspace, they may attain a state where their mind and action merge and their physical world fades away as they engage in the activity and this condition may then be transformed into an addictive behavior (Dendy, 2008).

As a significant role in personality development, this study is guided by Freud's (1856- 1939) psychosexual theory that considers sexual urge as a basic motive and explains five stages of psychosexual development of the personality characteristics. The study also guided by the Theory of Planned Behavior (TPB) developed by Ajzen (2005). TPB assumes that the best predictor of a certain behavior is an individual's subjective intention to engage in a specific behavior. This model includes three determinants of the intent to perform a certain behavior including, attitudes toward the behavior, subjective normative notions about performing the behavior, and perception of behavioral control to perform the behavior.

### **1.3 Statement of the Problem**

With cybersex use increasing among university students, some university mental health services have considered counseling programs to address



cybersex engagement (Dendy, 2008). While there has been a rise in the number of individuals seeing counselors for problems associated with online sexual behaviors (Rimington, 2008), studies in this regard have received scant attention.

The Malaysian Communication and Multimedia Commission (MCMC) estimates the number of Internet users in Malaysia to be 18.6 million (63.6% of the population), with 72.1% of them on the younger side of 35 years with an average age of 29.65 years (MCMC, 2014). Hedgcoth (2011) approximated that 20 - 33% of Malaysian Internet users engage in online sexual activities, such as viewing pornography, sexchatting, or reading erotica. Sexually-related materials are abundant and easy to access on the Web, and it is estimated that individuals searching for and viewing sexually explicit material constitute 30% of all Internet traffic (Didymus, 2012). In general, the terms porn and sex have been the most common search terms from the onset of the WWW with its easy availability (Bell, Blythe, & Sengers, 2005).

While it is true that most Internet users use it for recreational or utilitarian purposes, there are individuals who develop an addiction to cybersex (Döring, 2010). It has been postulated that cybersex engagement is a potentially highly risky Internet activity (Laier et al., 2013), that can prevail over an individual's life, thoughts and feelings (Yarber, Sayad, & Strong, 2013). Consequently, there are individuals who develop an addiction to cybersex (Döring, 2010). Cybersex addicts lose self-control in stopping behavior which leads to clinically significant personal anxiety and stress, and brings adverse effects on health, family, education and employment (Hentsch-Cowles & Brock, 2013).

In the present study, this problem may be explained by Freud's (1856- 1939) Psychosexual Theory (PT). The theory argues how sexual urge explains different stages of psychosexual development and personality. Another theory that undergird this study is Flow Theory (FT). It explains how a person may be so highly addicted as to lose all sense of time (Csikszentmihalyi, 1997). Finally, Theory of Planned Behavior (TPB) by Ajzen (2005) addresses intention to perform given behaviors, specifically, intention to seek psychological help and the risk taking.

Since university students use the Internet as their main communication medium and spend more time online these days, which means they are more exposed to cybersex and sexual saturation online (Dendy, 2008; Rhea, 2013). Some studies show most compulsive sexual behaviors have been rooted in the college-age years that will be a basis for sexual compulsive and addicted behaviors (e.g., Orsal et al., 2013; Rhea, 2013; Schneider, 2000). Pornography and other forms of online sexual activities are known to be rampant as reported in the media (Low, 2009) and especially among university students in Malaysia (Zakaria & Baharuddin, 2011).

Despite the growth of research in this area regarding the obvious importance for the psychological well-being of university students (Dir, Cyders, & Coskunpinar, 2013; Kim, LaRose, & Peng, 2009; McGeeney, 2009; Rhea, 2013; Rimington, 2008; Rimington, 2008), relatively little research has been done in Malaysia on cybersex (for review, see Baharudin & Zakaria, 2012; Ismail, 2003; Zakaria & Baharuddin, 2011). Although there are considerable research studies conducted on university students' addiction to Facebook and the problematic use of the Internet in Malaysia (e.g., Kapahi, Ling, Ramadass, & Abdullah, 2013; Ling, Ramadass, Altaher, & Arjuman, 2011; Zaremohzzabieh, Samah, Omar, Bolong, & Kamarudin, 2014), the literature yields very few studies on students' cybersex engagement. This may be because sexuality has generally been mythicized as a taboo due to various reasons – social, cultural, religious - in varying degrees (Vargas, 2014).

In spite of the Internet's widespread use, and considering the negative consequences of engagement in online sexual activities, little is known about at-risk and compulsive users and more specifically about university students in Malaysia. Besides, variables used in the study such as personal characteristics have been a comparatively neglected area of research in the field of cybersexual studies (Shaughnessy, 2013). As a result, exploring the possibility that students with certain personal characteristics are more likely to be excessive cybersex users might help us to better predict and intervene prior to the development of addictive behaviors. In view of that, students' risk taking, counseling attitudes, and gender are highlighted as possible influencers for the relationship between personality traits, religiosity and cybersex engagement.

Therefore, due to the non-existence of empirical models on which counselors can rely for adequately explaining underlying factors involved in cybersex engagement, a gap exists which needs to be filled. This study contributes theoretically and methodologically to the cybersex literature. It may help fill the gaps in the understanding of engagement in cybersex and thus has practical and theoretical implications for developing a counseling framework for dealing with the issue of cybersex engagement. Such a framework can help counselors enhance their knowledge, develop appropriate interventions for prevention as well as treatment plans for students who are at risk. A positive outcome can be a step in helping improve counseling services as a result of counselors' increased awareness and competence in addressing problems associated with student online sexual activities.

#### **1.4 Objectives and Research Questions**

In view of the Problem Statement elucidated above, the following are the objectives of this study:

1. To determine if the hypothesized Counseling Model on Cybersex Engagement (CMCE) is supported by model-fit-data indices.

2. To investigate the influence of personality traits on cybersex engagement among postgraduate students in Malaysia.
3. To investigate the influence of religiosity on cybersex engagement among postgraduate students in Malaysia.
4. To investigate the influence of personality traits on risk taking among postgraduate students in Malaysia.
5. To investigate the influence of religiosity on risk taking among postgraduate students in Malaysia.
6. To investigate the influence of risk taking on cybersex engagement among postgraduate students in Malaysia.
7. To investigate the mediating effect of risk taking on the relationship between personality traits and cybersex engagement among postgraduate students in Malaysia.
8. To investigate the mediating effect of risk taking on the relationship between religiosity and cybersex engagement among postgraduate students in Malaysia.
9. To investigate the moderating effect of counseling attitudes on the relationship between personality traits and cybersex engagement among postgraduate students in Malaysia.
10. To investigate the moderating effect of gender on the relationship between personality traits and cybersex engagement among postgraduate students in Malaysia.

In order to achieve the above stated objectives, the following research questions have been formulated:

1. Is the hypothesized Counseling Model on Cybersex Engagement (CMCE) supported by model-fit-data indices?
2. Is there any significant influence of personality traits on cybersex engagement among postgraduate students in Malaysia?
3. Is there any significant influence of religiosity on cybersex engagement among postgraduate students in Malaysia?
4. Is there any significant influence of personality traits on risk taking among postgraduate students in Malaysia?
5. Is there any significant influence of religiosity on risk taking among postgraduate students in Malaysia?

6. Is there any significant influence of risk taking on cybersex engagement among postgraduate students in Malaysia?
7. Does risk taking have any mediating effect on the relationship between personality traits and cybersex engagement among postgraduate students in Malaysia?
8. Does risk taking have any mediating effect on the relationship between religiosity and cybersex engagement among postgraduate students in Malaysia?
9. Do counseling attitudes have any moderating effect on the relationship between personality traits and cybersex engagement among postgraduate students in Malaysia?
10. Does gender have any moderating effect on the relationship between personality traits and cybersex engagement among postgraduate students in Malaysia?

### **1.5 Research Hypotheses**

Answers to these questions and hypotheses contribute to the conclusions drawn in Chapter 4. The findings of this study, together with the research design, have both theoretical and practical implications which are discussed in Chapter 5.

H<sub>1</sub>. The proposed Counseling Model on Cybersex Engagement (CMCE) is supported by model-fit-data indices.

H<sub>2</sub>. Personality traits influence cybersex engagement among postgraduate students in Malaysia.

H<sub>2a</sub>. Extraversion positively influences cybersex engagement among postgraduate students in Malaysia.

H<sub>2b</sub>. Agreeableness negatively influences cybersex engagement among postgraduate students in Malaysia.

H<sub>2c</sub>. Conscientiousness negatively influences cybersex engagement among postgraduate students in Malaysia.

H<sub>2d</sub>. Openness positively influences cybersex engagement among postgraduate students in Malaysia.

H<sub>2e</sub>. Neuroticism positively influences cybersex engagement among postgraduate students in Malaysia.

H<sub>3</sub>. Religiosity negatively influences cybersex engagement among postgraduate students in Malaysia.

H<sub>4</sub>. Personality traits influence risk taking among postgraduate students in Malaysia.

H<sub>4a</sub>. Extraversion positively influences risk taking among postgraduate students in Malaysia.

H<sub>4b</sub>. Agreeableness negatively influences risk taking among postgraduate students in Malaysia.

H<sub>4c</sub>. Conscientiousness negatively influences risk taking among postgraduate students in Malaysia.

H<sub>4d</sub>. Openness positively influences risk taking among postgraduate students in Malaysia.

H<sub>4e</sub>. Neuroticism positively influences risk taking among postgraduate students in Malaysia.

H<sub>5</sub>. Religiosity negatively influences risk taking among postgraduate students in Malaysia.

H<sub>6</sub>. Risk taking positively influences cybersex engagement among postgraduate students in Malaysia.

H<sub>7</sub>. Risk taking mediates the personality traits and cybersex engagement relationship among postgraduate students in Malaysia.

H<sub>7a</sub>. Risk taking mediates the extraversion and cybersex engagement relationship among postgraduate students in Malaysia.

H<sub>7b</sub>. Risk taking mediates agreeableness and cybersex engagement relationship among postgraduate students in Malaysia.

H<sub>7c</sub>. Risk taking mediates the conscientiousness and cybersex engagement relationship among postgraduate students in Malaysia.

H<sub>7d</sub>. Risk taking mediates the openness and cybersex engagement relationship among postgraduate students in Malaysia.

H<sub>7e</sub>. Risk taking mediates the neuroticism and cybersex engagement relationship among postgraduate students in Malaysia.

H<sub>8</sub>. Risk taking mediates the religiosity and cybersex engagement relationship among postgraduate students in Malaysia.

H<sub>9</sub>. Counseling attitudes moderates the personality traits and cybersex engagement relationship among postgraduate students in Malaysia.

- H<sub>9a</sub>. Counseling attitudes moderate the extraversion and cybersex engagement relationship among postgraduate students in Malaysia.
- H<sub>9b</sub>. Counseling attitudes moderate the agreeableness and cybersex engagement relationship among postgraduate students in Malaysia.
- H<sub>9c</sub>. Counseling attitudes moderate the conscientiousness and cybersex engagement relationship among postgraduate students in Malaysia.
- H<sub>9d</sub>. Counseling attitudes moderate the openness and cybersex engagement relationship among postgraduate students in Malaysia.
- H<sub>9e</sub>. Counseling attitudes moderate the neuroticism and cybersex engagement relationship among postgraduate students in Malaysia.
- H<sub>10</sub>. Gender moderates the personality traits and cybersex engagement relationship among postgraduate students in Malaysia.
- H<sub>10a</sub>. Gender moderates the extraversion and cybersex engagement relationship among postgraduate students in Malaysia.
- H<sub>10b</sub>. Gender moderates the agreeableness and cybersex engagement relationship among postgraduate students in Malaysia.
- H<sub>10c</sub>. Gender moderates the conscientiousness and cybersex engagement relationship among postgraduate students in Malaysia.
- H<sub>10d</sub>. Gender moderates the openness and cybersex engagement relationship among postgraduate students in Malaysia.
- H<sub>10e</sub>. Gender moderates the neuroticism and cybersex engagement relationship among postgraduate students in Malaysia.

## **1.6 Significance of the Study**

Online sexual activities and cybersex engagement have become a focus for researchers and academicians. Counselors and mental health professionals paid close attention to the understanding, prevention and treatment of the behavior in recent years. In developed countries many individuals who are addicted to or compulsive about engaging in cybersex, turn to seek help from counselors and psychologists to address their issues and save their study, life, family and job. Even though some individuals use cybersex for recreation, yet it is significant and controversial, because compulsion and addiction are personal and private. Furthermore, a large number of people access cybersex sites and cybersexual activities are widely prevalent, driven by the easy availability and accessibility made possible by modern Internet technology. Cybersex engagement is a serious issue because it may mask existing

relational problems and may affect the students' academic performance and psychological well-being in very significant ways.

The results of this study may provide counselors, educators, academicians, and mental health practitioners with knowledge of how cybersex activities are developed and maintained and the adverse effects on the respondents. This current study is important in the field, as it increases understanding of links to personality traits, and religiosity of participants, their risk taking, counseling attitudes, and gender as proposed predictors of the phenomena. Through teaching and training programs the dangers and negative outcomes of cybersex compulsivity or addiction, can be identified and correctly addressed in order to bring about the entire psychological well-being of students. This holds potential for reducing students' depression and stress and enhances their academic achievement.

## 1.7 Definition of Terms

### Cybersex Engagement

**Conceptual:** "Cybersex" is simply defined as "The use of the Internet for sex" (Rimington, 2008, p. 4) and comprises engagement on diverse sexually motivated behaviors on interactive or solitary form including; viewing text, pictures, videos, sexchats, using webcam, specific information search about sexual issues, establishing sexually-biased contacts online, etc. (Döring, 2009; Short, Black, Smith, Wetterneck, & Wells, 2012; Valkyrie, 2011). Cybersex engagement refers to the degree that an individual gets involved in the activity ranging from non-pathological to pathological use (Delmonico & Griffin, 2008).

**Operational:** In this study, the Internet Sex Screening Test (ISST; Delmonico & Miller, 2003) is used as a self-administered, screening instrument to assist individuals establish if their Internet sexual behavior is indeed a clinical problem. Using this instrument, involvement in cybersex falls into three categories including: low risk (recreational, range = up to 40), at risk (range = 40 to 90), and high risk (compulsive/ addictive, range = 90+) users.

### Personality traits

**Conceptual:** "Personality" is "the enduring emotional, interpersonal, experiential, attitudinal and motivational style that explains individual's behavior in different situations" (Rose, Ramalu, Uli, & Kumar, 2010; John and Srivastava 1999). The consistent patterns that construct individuals' behavior, feeling and thoughts, are labeled as personality traits (John, Robins, & Pervin, 2008).

**Operational:** Personality traits will be operationally defined through the total scores of Big Five Inventory, which consists of 44 items (BFI-44) created by John and Srivastava (1999) to assess the Big Five personality facets: openness, conscientiousness, extraversion, agreeableness, and neuroticism using a 5-point-Likert scale (1 = “strongly disagree” to 4 = “strongly agree”).

## Religiosity

**Conceptual:** Religiosity is the level of an individual’s consciousness of God (Krauss, Fazilah, Azimi , 2007) that is reflected in the extent to which various aspects of religion play a role in an individual’s life (Ahrold, Farmer, Trapnell, & Meston, 2011) while adhering to faith-based religious values, beliefs, and practices (Lindholm, 2010).

**Operational:** Religiosity in this study incorporates a variety of questions that tap aspects of religiosity based on general concept of religion for a diversity of university student population. So, the questions are adapted and rewritten to avoid bias toward any special affiliation to assess religiosity from the following scales:

- i. Muslim Religiosity - Personality Inventory (MRPI; Krauss & Hamzah, 2011);
- ii. Hoge’s Intrinsic Religiosity Scale (IRS; Hoge, 1972),
- iii. Duke University Religion Index (DUREL; Koenig et al., 1997), and
- iv. Age Universal I/E-Revised Scales (I/E-R; Gorsuch & McPherson, 1989).

## Risk Taking

**Conceptual:** An individual’s tendency to perceive or interpret potentially risky situations is defined as risk-taking (Blais & Weber, 2006).

**Operational:** The scores were obtained from adjusted and enhanced Domain-Specific Risk-Taking Scale (DOSPERT; Blais & Weber, 2006). The risk-taking responses of the DOSPERT Scale provide an evaluation of behavioral intentions - or the likelihood of respondents who might engage in risky activities/behaviors - derived from three domains of life (ethical, health/safety, and social risks), using a 7-point rating scale ranging from 1 (Extremely Unlikely) to 7 (Extremely Likely).

## Counseling Attitudes

**Conceptual:** Attitude is conceptualized as referring to individuals’ overall evaluations, whether positive or negative, the carrying out of a given behavior (Baker & White, 2010; Fischer & Farina, 1995). Counseling attitudes are a classic approach to or avoidance of conflict behavior (Vogel, Wester, &



Larson, 2007). An individual's degree of distress and the wish to minimize that distress heightens the probability of the individual seeking counseling services. However, avoidance factors, such as the risk of being viewed as crazy, reduce the possibility of an individual seeking such assistance (Vogel et al., 2007).

**Operational:** Operationally, counseling attitudes are measured by a 10-item Professional Psychological Help Seeking Scale (ATSPPHS, Fischer & Farina, 1995) with 4-point Likert scale responses.

**Gender:** Gender in the physical sense, divides people into two main categories, i.e. men and women. A third considered item for gender in this study is transgender.

**Time spent online:** In this study time spent on line is measured based on hours online per day.

**Time spent online for cybersex:** Time spent on line is measured based on hours online for cybersex based on number of hours a week.

**Sexual orientation:** In this study sexual orientation will be measured by asking the question, "what do you consider to be your sexual orientation?" The response alternatives were 1 = heterosexual (sexual attraction between persons of opposite sex), 2 = homosexual (sexual attraction toward members of same sex) 3 = bisexual (sexual attraction toward both men and women) 4= I am uncertain about my sexual orientation

### **Relationship Status**

**Conceptual:** The interactions, liaisons, or feelings that are present between two people (Collins, 2000).

**Operational:** Relationship status is measured according to given alternative questions: 1=legally married, 2= Single, 3= Separated, 4= Divorced, 5= Widow/er, 6= Cohabiting (to live together in a sexual relationship, especially when not legally married).

## **1.8 Scope and Limitations of Study**

This study has many limitations which should be noted. Data collected using the research instruments in this study are confined to self-report measures and are thus confined to the direct experience of each participant. However,

cybersex engagement research to date has relied on self-report data and the anonymity and sometimes covert nature inherent in some cyber behaviors may mean that self-report data is necessary to examine and understand this construct. Self-selection bias may also impact the results, which should be analyzed and interpreted with these constraints considered.

The research instruments in this study have inherent limitations in that there remain additional behaviors or dimensions that could be unearthed in respect to cybersex. This study utilized questionnaires to collect the data and was based on the assumption that the respondents would answer the survey questions truthfully and accurately based on their personal experiences and impressions. However, there is a possibility that there may have been under or over reporting of symptoms or behaviors by the respondents for reasons of social desirability (Lee & Woodliffe, 2010). With regard to this survey, some of the limitations noted concern underestimation in self-monitoring, and fear of stigmatization.

Accessing potential participants' emails to be involved in an online survey has its advantages and disadvantages. A disadvantage though is that potential participants may find this approach rude or distasteful (Hudson & Bruckman, 2004), or they may perceive such online posting as "spam" (Andrews, Nonnecke, & Preece, 2003; Wright, 2005). An unwanted email could be considered an invasion of privacy. An email receiver may delete the unwanted post, or the researcher may be inundated with emails from irate members of the community.

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## LIST OF PUBLICATIONS

- Ghoroghi, S., Hassan, S.A. & Ayob, A. F. M., (2017). The influence of religiosity and risk taking on cybersex engagement among postgraduate students: A study in Malaysian universities. *International Journal of Social Science and Humanity*, 7(3), pp.143-152.
- Ghoroghi, S., Hassan, S.A. & Ayob, A. F. M., (2017). An online study on student's causal cybersex activities in Malaysia. *Journal of Qualitative Research in Psychology*, submitted.
- Ghoroghi, S., Hassan, S. A., & Baba, M. (2015). Marital Adjustment and Duration of Marriage among Postgraduate Iranian Students in Malaysia. *International Education Studies*, 8(2), p50.

### Conference Presentations

- Ghoroghi, S., Hassan, S.A. & Ayob, A. F. M., (2016). *The Influence of Religiosity and Risk Taking on Cybersex Engagement among Postgraduate Students: A Study in Malaysian Universities*. 4th International Conference on Behaviours, Education and Psychology (ICBEP 2016), San Francisco, United States of America.
- Hassan, Ayob, A. F. M., Hawafi, Ghoroghi, (2015). *Who engaged more online sexual activities, younger or older adult?* Implication for marital, couple and family counseling. 3rd International Conference on Educational Research and Practice 2015 (ICERP), Everly Hotel, Putrajaya.

### Awards

- Gold Medal for a team project titled: "*Islamic Psycho-sexual Interventional Model for Cybersex User, Mental Health and Marital Satisfaction*". Project leader: Assoc. Prof. Dr. Siti Aishah Hassan. Invention, Research and Innovation Exhibition (PRPI) 2016, Faculty of Educational Studies, University Putra Malaysia.



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