THE MEDIATION ROLE OF ACADEMIC ACHIEVEMENT IN THE

RELATIONSHIP BETWEEN RELIGIOSITY AND PORNOGRAPHY

ADDICTIVENESS AMONG UNDERGRADUATE STUDENTS IN MALAYSIA

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Abstract

The cases of pornography addiction were increasing dramatically in Malaysia. Due to the conservative attitude of religion institution towards pornography usage, people with high religiosity may experience guiltiness when engaging in pornography viewing. It is also believed that academic achievement was positively predicted pornography addictiveness. Hence, this study is aimed to investigate the mediating effect of academic achievement between religiosity and pornography addictiveness. A quantitative research method and purposive sampling techniques were applied to recruit 120 undergraduate students from private and public universities of Malaysia. The questionnaire distributed consisted of three sections, which are demographic information (include CGPA), Centrality of Religiosity Scale (CRS) and Cyber Pornography Use Inventory-9 (CPUI-9). The single linear regression showed that religiosity can positively predict academic achievement. However, the result obtained from multi linear regression indicated there is no significant relationship between religiosity and pornography addictiveness. The relationship between academic achievement and pornography addictiveness was also not significant. The mediation analysis indicated academic achievement did not play a mediating role between religiosity and pornography addictiveness. The latest statistics obtained from this research able to fill in knowledge gap in mental health field. This research also contributes to the implementation of prevention program to create awareness towards pornography addiction issues and enhances psychological well-being.

Keywords: religiosity, academic achievement, pornography addictiveness

Chapter I

1.1 Background of study

Pornography could be defined as any form of sexually explicit material that is designed to stimulate sexual arousals and emotions within oneself (Harkness et al., 2015). The earliest concept of pornography was created on the cave walls (Lim, 2007). Due to the recent advances of technology, the pornography can be accessed through various platforms which include magazines, online websites and movies (Zohor Ali et al., 2021). According to Short et al. (2014), around 50% of total Internet traffic is related with pornographic material. Moreover, there are approximately 40 million of Americans view pornography regularly (Short et al., 2014). Pornography usage is a common topic among young adults due to their developing and curious mind. The pornography content will activate reward pathway in young adults' brains that lead to the releasing of dopamine and impulsivity (Brown & Wisco 2019). This leads to the increasing use of pornography among young adults (Lim et al., 2017). In Malaysia, the statistical data showed that 12% of adolescents accessed porn websites without the guidance from parents (Muhamad et al., 2021). This is because the online platform had enhanced the accessibility, anonymity and affordability of pornography use (Cooper et al., 2000).

Despite the popularity of internet pornography, pornography addictiveness has become the major concern to the researchers and clinicians. There is increasing number of studies suggested that internet pornography serves as a "gateway drug" for pornography addiction due to its compulsive and impulsive component (Hardy et al., 2013). There are around 4 million US pornography viewers perceived themselves as to be addicted to pornography (Weber, 2012). According to Charlton et al. (2013), the symptoms of pornography addiction included experiencing negative mood when reduce its use, viewing pornography to escape from problems and having difficulty in controlling pornography use.

However, pornography addiction is not officially recognized as a form of behavioral addiction in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-V) (Halpern, 2011). This is due to the skepticism about the broad concept of pornography addictiveness. In these few years, the previous researches have focused on the self-identify of pornography addiction (Grubbs et al., 2014). Although this kind of self-label is not diagnostically based, it reflects one's propensity to perceive own action as unhealthy. This self-label of pornography addiction represents that more researches are needed in this area. When gender is compared, there were approximately 13% to 60% of men and 5% of women who used pornography, believed themselves as to be addicted to pornography (Kraus et al., 2016). According to Hald and Mulya (2013), males started to watch pornography earlier and tend to use it excessively as compared to females. This is because females reported more negative attitudes such as disgusting and embarrassed as compared to males that perceived pornography as interesting (Wallmyr & Welin, 2006). The gender difference in pornography addictiveness serves as an interesting topic to discuss in this study.

With rising concern on pornography addiction, the central point of focus tends to be on the association between pornography addiction and religiosity. Religiosity can be defined as the degree of an individual's religious observance (Charlton et al., 2013). It can be determined by the adherence to religious ceremony and the degree in which the individual's existence is guided by the religious philosophies (Steelman & Hardy, 2011). The religiosity promotes positive value and the sense of social support to discourage people from behavioural addiction (Charlton et al., 2013). Based on the religious incongruence theory, an individual with high religiosity tend to believe that viewing pornography is a wrongful act (Maddock et al., 2019). The religiosity also predicts depressive symptoms and high level of distress among people who addicted to pornography use. This is because the pornography users will experience guiltiness and moral incongruence in which their behaviours violated the moral beliefs. Individuals with

high level of religiosity are less likely to be addicted to pornography for erotic or entertainment purpose (Maddock et al., 2019). Hence, it indicated that there is a negative relationship between religiosity and pornography addiction. According to Wright et al. (2013), the pornography addictiveness in religious population is lower as compared to non-religious population. It is because pornography is considered as taboo and act of lust in most of the Muslim country. Malaysia is a multi-religion country in which religion plays a significant role in daily life. According to Lim (2007), around 61.3% of Malaysia population are Muslim. The Malaysia government established different acts and laws to prohibit any form of sexually explicit material. For instance, the Printing Presses and Publications Act 1998 (PPPA), Content Code (CC) and Film Censorship Act 2002 (FCA) (Muhamad et al., 2021). This is because the pornography content goes against the modesty and positive value of the religious norm. According to Muhamad et al. (2021), the established law has reduced the average time of watching or surfing porn. This has shown that the religiousity is negatively correlated with pornography addictiveness

According to Zubairu and Sakariya (2016), academic achievement serves as a potential mediator that might link the relationship between religiosity and pornography addictiveness. People with high religiosity commonly show a higher level of self-regulation which lead to the appropriate goal selection (McCullogh & Willoughby, 2010). They learn how to determine the importance of goal and perceive academic achievement as higher precedence over other activities such as watching pornography (McCullogh & Willoughby, 2010). Additionally, people with high religiosity will show a higher level of self-monitoring (Jeynes, 2002). They tend to believe that their behaviours can be seen by supernature being. Thus, the individual will avoid behaviours that are regarded as sin and harmful to their academic achievement (Jeynes, 2002). Hence, the religiosity may enhance an individual's academic achievement, thus affecting the pornography addictiveness. In this end, the present study aims to investigate the

potential mediating role of academic achievement in the relationship between religiosity and pornography addictiveness.

1.2 Problem Statement

Pornography is a controversial topic, both in Malaysia and around the world. Pornography viewing is regarded as a sinful act because it portrays a negative social side and immoral personal values. Despite these limitations, it still happens cautiously. Malaysia is a multi-religious country, and Islam is the official religion and accounts for the largest population. Islam in Malaysia has turned conservative since the 1980s (Osman, 2017) and take a conservative attitude towards pornography and regard pornography as a taboo topic. With this in mind, certain behaviours such as pornography viewing may violate one's religion (Short et al., 2015).

According to Zohor Ali et al. (2021), in conservative countries such as Malaysia, pornography activities among undergraduates are not well described. This may due to they are too conservative in pornography addictiveness, such as being ashamed or unhappy when they are concealing their use of pornography (Dominguez et al., 2007). Most past year studies on religiosity and pornography use in Malaysian society has centralized on Islamic cultures (Azizuddin Mohd, 2020). As a result, there are less resources that discussed about pornography addictiveness and religiosity among undergraduates with different religions in Malaysia, and some of the information may not reliable because they may not provide the real answer due to shyness.

Moreover, according to Beyen et al. (2015), low academic achievement is related to earlier sexual intercourse. Research done by Witter and Senkbeil (2008) found that the more pornographic media materials undergraduates consumed, the lower their academic score. Additionally, a study showed that undergraduates with a higher academic achievement will

focus more on academics than on pornography use for recreational purposes (Duskworth et al., 2019). This is due to the high academic achievers learning strategies to restrain impulses and avoid goal conflict (Hofmann & Kotabe, 2012). Furthermore, Elms (2007) also mentioned that people with higher religious affiliation tend to have an internal locus of control, which may lead to a higher grade in school and thus higher academic achievement. However, there was less research emphasized on the relationship between academic achievement, religiosity, and pornography addictiveness in Malaysia. Hence, this study will be carried out to determine the mediation role of academic achievement between religiosity and pornography addictiveness among undergraduate students in Malaysia.

1.3 Research Objectives

Research Objective 1: To examine the effect of religiosity on pornography addictiveness among undergraduate students in Malaysia.

Research Objective 2: To examine the effect of academic achievement on pornography addictiveness among undergraduate students in Malaysia.

Research Objective 3: To examine the effect of religiosity on academic achievement among undergraduate students in Malaysia.

Research Objective 4: To examine the mediating role of academic achievement between religiosity and pornography addictiveness among undergraduate students in Malaysia.

1.4 Research Questions

Research Question 1: Does religiosity positively predict pornography addictiveness among undergraduate students in Malaysia?

Research Question 2: Does academic achievement positively predict pornography addictiveness among undergraduate students in Malaysia?

Research Question 3: Does religiosity positively predict academic achievement among undergraduate students in Malaysia?

Research Question 4: Does academic achievement plays a mediating role between religiosity and pornography addictiveness among undergraduate students in Malaysia?

1.5 Research Hypotheses

H1: Religiosity can positively predict pornography addictiveness among undergraduate students in Malaysia.

H2: Academic achievement can positively predict pornography addictiveness among undergraduate students in Malaysia.

H3: Religiosity can positively predict academic achievement among undergraduate students in Malaysia.

H4: Academic achievement can mediate between religiosity and pornography addictiveness among undergraduate students in Malaysia.

1.6 Definition of Terms

Pornography Addictiveness

Conceptual definition

Pornography addictiveness can be conceptualized as a behavioural addiction sharing common traits with substance addiction. Based on Wéry et al. (2018), addictive and dysfunctional cybersex usage will result in various risk factors that most likely requires psychological dysfunction. Individuals addicted with pornography are unable to regulate their porn consumption and the behaviour interferes with their daily life (Sniewski et al., 2018).

For example, they would sacrifice their social life to gain more time for pornography viewing, causing troubles in their daily life.

Operational definition

Pornography addictiveness can be measured by Cyber Pornography Use Inventory-9 (CPUI-9) developed by Grubbs et al. (2017). The scale has three different dimensions which are perceived compulsivity, access efforts and emotional distress. This full score scale is revised from the 2015 version which can report addictiveness towards pornography and predict religious difficulties (Grubbs et al., 2019).

Religiosity

Conceptual definition

Religiosity is the formal, institutional and outward expression of one's relationship with the sacred. It is normally operationalized as beliefs and practices linked with a particular religion or community (Villani et al., 2019). Religiosity is also defined as the extent to which the particular individual believes in the founder, gods or goddesses of the relevant religion, engages in the teachings and activities (Iddagoda & Opatha, 2017).

Operational definition

Religiosity can be measured by Centrality of Religiosity Scale (CRS-10) developed by Huber & Huber (2012). The scale is a five-dimensional model consisted of intellectual dimension, ideology, public practice, private practice and religious experience. The authors revised the scale during 2012 for studies with Muslims, Buddhists and Hinduists, making it more suitable for Malaysia's context.

Academic Achievement

Conceptual definition

Academic achievement is the performance outcomes in intellectual domains delivered at education platforms (Spinath, 2012). For most university in Malaysia, academic achievement is calculated in the form of CGPA with a maximum score of 4.0. However, most universities require the undergraduate students to obtain a minimum CGPA of 2.0 to pass the programmes and receive the degree certificate.

Operational definition

Academic achievement plays the mediating role in this study. In the survey questionnaire, the undergraduate student's results will be collected to gather data regarding their academic achievement. Respondents are required to fill in the results of current progress based on their latest CGPA score.

Undergraduate Students

Conceptual definition

Undergraduate students are individuals currently pursuing bachelor's degree programmes in the university. Bachelor degrees in Malaysia have certain level of pre-education requirement and full-time courses typically length within 3-5 years (Karpinski, 2015).

Operational definition

Undergraduate students are the target population of this study. The age range may be 18 years old and above. The target population must be currently pursuing a bachelor's degree in Malaysia's campus. They will be recruited to be the respondents of the survey questionnaire in this study.

1.7 Significance of study

This study focuses on the relationship between religiosity and pornography addictiveness among undergraduate students in Malaysia. Throughout the literature review, a limited number of journal support can be found online. However, most of the research are done at the Western continents such as Europe and United States. Despite the easy accessibility nowadays to Internet, pornography activities among undergraduate students are lacking of attention in conservative nation like Malaysia (Zohor Ali et al., 2021). Parents are getting more worried about the unhealthy consumption of internet pornography nowadays. During recent years, pornography addiction had stirred a series of social issues in Malaysia and around the globe ever since Western countries began legalizing the industry decades ago (Mahmud et al., 2019).

Parents are also concerned about the prevention available towards the rising popularity of internet pornography. The related issues connected to dysfunctional pornography usage are publicly talked in order to treat the root problem in other open-minded countries but not Malaysia. Based on Mahmud et al. (2019), early prevention of pornography is essential among adolescents and children before they grow up into porn addicts. In subject to that, this study will gather the required data about realistic statistic of Malaysia undergraduate students' pornography addictiveness to help with the development of the intervention programmes.

The undergraduate students' academic achievement is the mediating role in this study. Since the target population will be undergraduate students, CGPA results will be asked in the survey questionnaire. After done collecting their information, linkage between the variables will be discussed. The explored relationship will be helpful to discover methods to improve undergraduate students' academic achievement in their bachelor degree. It can provide

sufficient data for future academicians to conduct research regarding undergraduate students' study performance.

Religious has always been discussed its functionality over self-discipline and addiction. Nevertheless, Malaysian undergraduate students are seldom exposed to the linkage among religiosity and pornography addiction. In foreign country such as America, pornography usage and even sexual satisfaction of individuals can be determined by their religiosity (Perry & Whitehead, 2018). In Malaysia, limited resource regarding this field of topic can be found due to the conservativeness nature. Most previous studies regarding religion and porn usage conducted in the Malaysia society were focused on Islamic cultures (Azizuddin Mohd., 2020).

Based on Rahman & Mohd. Nor (2021), results shown highest pornography addictiveness closer to age 22 years old. Another study from Tong et al. (2019) mentioned that most undergraduate students in Malaysia are aged from 20 to 24 years old, with 22 years old being the median. These results shown that undergraduate students are most likely the group of individuals with highest prevalence towards pornography addiction. The authors called out the urgency of this addiction issue as it affects one's physical and mental health. The statistic of health problems occurring due to pornography addiction in Malaysia is increasing over the years. The major factor behind current phenomena is due to the youths and young adults unwilling to admit their dysfunctional pornography usage (Ashraaf & Othman, 2019). Hence, this study had targeted undergraduate students in Malaysia to participate in the survey questionnaire. A more precise intervention can later on be developed to effectively aid this group of individuals with high prevalence of pornography addiction. Thus, this study will contribute to the research gap and provide a more thorough results for all Malaysians with different religious beliefs.

Chapter II

This chapter described about the two variables and a mediator studied in this study. Subsequently, this study also reviewed various previous literature on the mediating role of academic achievement between pornography addictiveness and religiosity. Lastly, the theoretical and conceptual frameworks are introduced at the end of this chapter.

2.1 Pornography Addictiveness

According to Ohuakanwa et al. (2012), the word "pornography" comes from two Greek words which are "porne" means prostitute and "graphein" means to write. The combination of these two words were originally intended to describe the sexual adventures of women treated as prostitutes in literature. For the past many years, the meaning of pornography has been extended to include all offensive pictures and literature, especially those related to sex (Jenkins, 2010). The definition of pornography applies to products with the appearance of fictional drama, whether written or filmed (Mosher, 1988). Those relevant materials are described as obscene. On this matter, since they are a vivid expression of sexual activities or pictures, such obscene materials are considered very immoral, unpleasant, and offensive. Pornography can trigger or enhance sexual arousal by presenting explicit sexual activity between characters who main purpose is sexually motivated in the drama. Its task is to experience pornographic reality without being affected by daily reality, traditional morality, and social norms (Mosher, 1988).

Nowadays, many Malaysian teenagers have obtained pornographic materials through the Internet, which has led them to pornography addiction. Although in the early stages of their interests, accessing pornographic content was just for fun, but unknowingly caused them to become severely addicted (Laili et. al., 2018). Pornography addiction is a behaviour of repeatedly viewing pornographic materials, and it is difficult for the affected people to

eliminate it. Pornography addiction introduces the psychological dependence on pornography, which is characterized by obsessive viewing, reading and thinking about pornography and sexual themes, which damages other aspects of an individual's life (Ohuakanwa et. al., 2012). For those students who are involved in excessive use of pornography, the behaviour will interfere with their daily activities. Carnes (1991) also stated that young people have a distorted view of the composition of normal sexual relations through pornography addiction. For instance, teenagers are usually immature when consuming pornographic content and cannot distinguish fantasy from reality. They absorb pornography knowledge without filtering, and insist that all permutations of pornography affect the development of sexual behaviour (Paul, 2005). A study from Grubbs et al. (2015) mentioned that most studies have focused on the potential negatives consequences associated with pornography use, such as addiction. According to Ford et al. (2012), pornography addiction is an act that can cause major personal distress or major personal consequences, such as legal issues, loss of relationship, or work-related issues.

In pornographic field today, the Internet has become the main source of pornographic materials because it is a speedy growing media. Various pornographic materials can be downloaded at the lowest cost by all individuals of society (Ashraaf & Othman, 2019). In the research of Park et al., (2016), they discussed that in society, the Internet is acting as a source of people's sexual knowledge, which indirectly leads to pornography addiction and sexual behaviour. With the increase in Internet-related sex addiction, this is not surprising, as explicit sexual material occupies a notable place on the Internet (Abell et al., 2006). According to Beyens et al. (2015), most adolescent boys use pornographic websites, and about 20% of netizens have participated in online pornography related behaviours (Cooper et al., 2000). Ashraaf and Othman (2019) also expressed that more than 70% of participants had been exposed to pornographic content on Internet, which had an indirect and negative impact

on the behaviour of participants. They may try to perform the sex scenes they saw in pornographic content. In addition, the widespread presence of Internet-based pornography has attracted the attention of mental health professionals. As experts suggest, if the Internet alone can make people addictive, then online pornography will definitely make people addicted. In views of online pornography's accessibility and anonymity, it can be more addictive than traditional forms of pornography (Abell et al., 2006).

2.2 Religiosity

According to Noon et al. (2003), religion is regarded as a social system in traditional sociology. It is generally discussed as a separate topic, rather than culture, social stratification, social change, etc. in some introductory sociology books. Religiosity is considered as an attitude and practice used to discover meaning, purpose, or connection with external things (Kiesling et al., 2008). As a concept, Noon et al. (2012) also defined religiosity as a group of beliefs and practices related to transcendence. Religiosity is a common interest factor, because the belief systems provides people with comfort, social support, and power. In short, religion has a powerful influence on human personal and social behaviour (Alam et al., 2011). In addition, there are some researchers believe that religious or spiritual belief systems enable individuals to find meaning in unexplainable stressful life events and this will cause a sense of control and predictability of the world can be maintained (Garssen et al., 2021). As an example, Muslims generally use religion as a common strategy to deal with life problems (Achour et al., 2015). In terms of coping strategies, Barhem et al. (2009) identified it as a method used by individuals, groups or organizations to minimize the impact of stress.

Next, (Amin & Alam, 2008; Abdel-Khalek, 2019) found that religion has a major influence on human behaviour and behavioural results. Furthermore, Malaysia is a country

that attaches great importance to religion, because Malaysia's national principle has already mentioned that the first principle is "Kepercayaan kepada Tuhan", which brings the meaning of belief in God. Furthermore, Malaysia has officially become a Muslim country. For other religions, they are also tolerated, and the individual's right to freedom of belief is stipulated in the national constitution. Moreover, Malaysians also have their own religious beliefs. Therefore, religion is considered to be a very crucial part of Malaysians' lives (Sim & Bujang, 2012). In addition to this, Alam et al. (2011) pointed out that religion is a set of beliefs taught since childhood. As people learn more about its teachings, they will gradually have faith in religion. In the population of Islam, religion is not a culture, but a way of life, which can form a set of behaviours called "Islamic". Religion, as one of the basics of social moral education, also provides its followers with a set of survival principles. These believers will be greatly influenced by the religion they believe in and will be active in their daily lives (Alam et al., 2011). At the same point, religiosity will also influence sexual attitudes, fantasies and sexual behaviour. General speaking, religiosity on sex is prohibitive or shameful in nature (Grubbs et al., 2015). As such, highly religious individuals are more likely to have negative attitudes about pornography and less likely to consume it (Droubay et al., 2018).

According to the research of Tay et al. (2014), it shows that religiosity predicts better physical health. Religious people are more likely to live longer than non-religious people. Diener et al. (2011)'s study indicated that religiosity is related to positive life evaluations and positive emotions, such as experiencing enjoyment. In other perspectives, a person with high religiosity may be related to the inner peace that brings subjective well-being. Religion also serves the function of satisfying the inner needs of human beings such as self-esteem, control, meaning and uncertainty reduction (Tay et al., 2014). In order to suspend worry or contemplation, meditation and prayer are helpful (Garssen et al., 2021). Additionally, some

sociologists believed that different religious cultures may have different effects on personal well-being.

2.3 Academic Achievement

Education is a measure of obtaining practical skills that make individuals able to live a meaningful life in this world. Academic achievements are considered to be the most important result of formal educational experience, and the crucial role of these achievements in student life and later life is unquestionable (Kell et al., 2013). From the study of York et al. (2015), they mentioned that academic achievement is included in their study because it clearly describes the student's academic performance and its expected performance of academic ability. In the form of academic achievement, goals of learning, and acquisition of skills and abilities, York et al. (2015) found that academic performance is the most commonly measured aspect of academic success. Moreover, academic achievement is the most commonly measured as it is almost entirely measured by grades and GPA. They also stated that student success is defined as academic achievement, participation in educational activities, satisfaction, acquisition of required knowledge, skills and abilities, and performance after graduation from university or college.

According to Ong et al., (2009), university students will be assessed throughout the semester by reaching a certain level of academic achievement in order to graduate. The academic achievement depends on students' performance in classroom activities, examinations, and assignments. In addition, achievement motivation is the inner motivation for a person to achieve goals. Generally speaking, achievement motivation is closely related to academic performance. As such, all teachers should strive to improve students' learning attitude and motivation, because this will promote them to achieve higher achievements in the learning process (Bakar et al., 2010).

According to Nabizadeh et al. (2019), students who have higher academic performance were utilizing self-regulation and motivational learning strategies. The researchers have stated that there is a significant relationship between academic performance and the use of self-regulated learning techniques. Another researcher was also observed that self- regulated learning has a significant impact on the academic achievement of Malaysian university students (Kosnin, 2007). For other aspects, self-concept and stress response are crucial to academic performance and should be underlining on cultivating students with outstanding academic achievement, as behaviour is determined by personal self-concept (Ahmad et al., 2011). As if the level of self-concept gradually goes to high, it can ensure that students have excellent academic ability and good leadership skills. Ahmad et al. (2011), firmly believes that a high degree of self-concepts can help students better understand and recognize themselves. Eventually, such graduated students will be favoured by employers, and due to some graduates have outstanding leadership and academic abilities, they will have many job opportunities. Research done by Rentner and Kober (2001) has shown that university graduates who are academically successful are more likely to get paid employment, have a stable job, and make more money.

As claimed by Ohuakanwa et al. (2012), academic achievement is a direct indicator of academic adjustment. In terms of academic adjustment, it consults to the effect of adopting an active attitude in setting academic goals, meeting academic requirements, and working hard to meet these conditions in the academic environment. Academic adjustment can also depend on students' attitudes, values and sense of purpose towards university, and students' sense of independence (Ohuakanwa et al., 2012). Simply put, academic adjustment means that students achieve their academic goals through personal behaviour and commitment, and then to maximize their life and career dreams. In short, a good academic adjustment will give students the motivation to obtain a higher academic status. Students who are well-adapted to

their studies will bear hardships and stand hard work and will not be intimidated. In contrast, a poor academic adjustment will lead students to a low level of academic performance (Ohuakanwa et al., 2012).

2.4 Religiousity and Pornography Addictiveness

In these recent years, the relationship between religiosity and pornography addictiveness is well-documented within popular literature (Grubbs et al., 2014). According to Grubbs et al. (2016), people with high level of religiosity showed more conservative sexual attitude as compared to people with low level of religiosity. Religiousity predicts the guiltiness and unhappiness of excessive pornography users (Patterson & Price, 2012). Based on the religious incongruence theory, individuals with high religiosity tend to assume pornography viewing as an immoral act (Maddock et al., 2019). High religious people often view pornography use as a wrongful behaviour that violates their personal moral values (Grubbs et al., 2014). They tend to disapprove pornography use and result in low frequency of pornography viewing (Thomas, 2013). When compared to the non-religious, religious individuals showed a greater level of perceived addiction to pornography (Grubbs et al., 2014). Although the high religious people are less frequently watch pornography, they are more likely to believe themselves as addicted to pornography use. This is likely due to the fact that perceived addiction is strongly associated with moral incongruence of pornography rather than the time spent on pornography viewing (De Jong & Cook, 2021).

According to Rasmussen and Alex Bierman (2016), religiosity serves as a significant role that provides social control in reducing pornography addictiveness. The communities with high level of religiosity will promote the conformity to the social norm, which lead to the pornography withdrawal (Uecker, 2008). The research found that community members who engaged more in recent and past religious practices, are less likely to have pornography

addiction (Short et al., 2014). The previous research indicated that greater level of religiosity is positively correlated with increased self-regulation (McCullough & Willoughby, 2009).

High religious people are better in resisting the sexual impulse that leads to the pornography viewing (Rasmussen & Alex Bierman, 2016). According to Charlton et al. (2013), the religiosity may help people to guide their moral behaviours and deterring them from various addictive behaviours such as smoking, use of drugs and also pornography addiction. This is because individual with high religiosity will experience a sense of belonginess from religious group membership. Hence, there is a lesser need to engage in addictive behaviours as anxiety reducing mechanisms (Charlton et al., 2013). According to Droubay et al. (2018), high religious people are more likely to believe that pornography brings negative impact to their body. Therefore, they support for pornography censorship and less likely to be addicted. Additionally, the high level of religiosity is associated with certain positive traits such as low neuroticism and high self-esteem, which will protect people against pornography addiction (Charlton et al., 2013).

Based on the secularization theory, the conservative religious belief is negatively correlated with pornography addiction (Armfield & Holbert, 2003). This theory proposed a concept in which the religions serve as explanations of the natural order of things (Charlton et al., 2013). Hence, there is a negative relationship between religiosity and pornography addiction since the sexual content on pornography websites is secular in nature and does not reflect any religious values (Armfield & Holbert, 2003).

2.5 Academic Achievement and Pornography Addictiveness

A growing number of research has examined the association between academic achievement and pornography addictiveness (Donevan, 2021). According to Duckworth et al. (2019), individual with high academic achievement will result in low level of pornography

addiction. In the classical psychological aspect, people with high academic achievement learned the strategies to suppress impulse and obviate goal conflict (Hofmann & Kotabe, 2012). When there is a self-control conflict between studying and watching porn, they tend to believe that academic achievement is significant for their long-term benefits rather than other activities (Duckworth et al., 2019). Thus, they will delay the gratification and choose the academic goal-congruent response. The data showed that students with high academic achievement spend less time on pornography websites (Galla et al., 2014). This is because individuals with high academic achievement know how to manage time effectively and multitasking with academic work. They focus more on academic rather than using pornography for entertainment purpose (Duskworth et al., 2019). Additionally, high academic achievement is positively correlated with Big Five Conscientiousness, in which individuals tend to comply with social norms (Park et al., 2017). Hence, the individuals will perceive pornography use as an immoral act that violates social norms.

According to Singh (2011), academic achievement serves as an important role that promotes achievement motivation in order to prevent pornography addiction. Pornography is potentially addictive because it provides a platform to allow psychological escape from reality (Charlton et al., 2013). However, students with high academic achievement are usually hope for success and fear of failure (Steinmayr et al., 2019). They might find satisfaction in challenging tasks rather than leaving the outcome to change (Singh, 2011). Therefore, individuals with high academic achievement are more concerned with personal goals rather than short-term pleasures from pornography viewing (Steinmayr et al., 2019). Students with high academic achievement are less likely to suffer from pornography addiction due to their more fulfill and contented life (Singh, 2011).

The past research showed that high academic achievement enhances individuals' academic self-concept, which in turn reduces the likelihood of pornography addiction (Kumar

Jaiswal & Choudhuri, 2017). The students with high academic achievement will have positive perception towards their academic competence and engage in socially acceptable behaviours (Marsh et al., 2005). Thus, they are less likely to be addicted to pornography viewing (Kumar Jaiswal & Choudhuri, 2017). People who have high academic achievement develop better understanding and recognition towards themselves, this helps them to cope with psychological maturation during developmental transition (Sewasew & Schroeders, 2019). It is believed that individuals with high academic achievement having more understandings on their sexual impulses and learn how to control the pornography viewing (Kumar Jaiswal & Choudhuri, 2017).

2.6 Religiosity and Academic Achievement

According to McCullogh and Willoughby (2010), people with high religiosity showed high level of self-regulation, which lead to the appropriate goal selection. With the aid of religion, they know to determine the importance of goals and perceive academic achievement as higher precedence over other unbeneficial activities (McCullogh & Willoughby, 2010). Moreover, high religiosity encourages self-monitoring, which brings to the positive outcome such as good academic performance (Mckune, 2007). The individual feel that their behaviours can be seen by supernatural being. Therefore, they tend to avoid behaviours that is considered as sin and harmful to academic achievement (Jeynes, 2002).
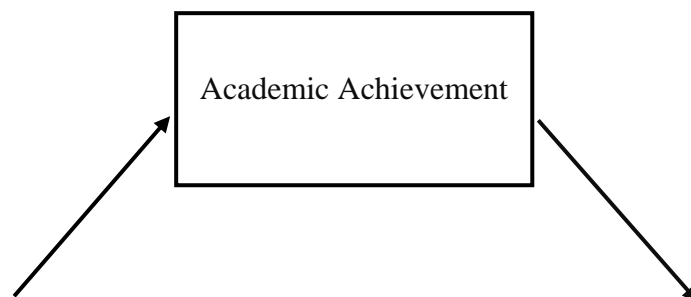
2.7 Religiosity and Academic Achievement and Pornography Addictiveness

The potential mediating role of academic achievement in the relationship between religiosity and pornography addictiveness has been investigated and studied extensively (Zubairu & Sakariya, 2016). High religious people are more likely to have internal locus of control, which was directly connected with high grades in school (Elms, 2017). The individuals tend to believe that everything is under control. Hence, they focused more on

academic work and less likely to use pornography for psychological escape (Jeynes, 2002). Additionally, individual with high religiosity will show high level of self-esteem, which leads to the good academic achievement (Elms, 2017). High academic achievement is associated with several protective factors such as overall happiness and psychological wellbeing that could deterring people from pornography addiction (Charlton et al., 2013). The individuals are less likely to engage in addictive behaviours as anxiety reducing mechanisms (Charlton et al., 2013).

The previous research indicated that religiousity enhances academic achievement by fostering work ethic (Li & Murphy, 2018). The students tend to develop a perception on good and bad behaviour, this led them to comply with social norms (Park et al., 2017). Thus, they tend to avoid excessive pornography viewing as it is a deviant behaviour in the society. Furthermore, the religiosity provides social control to enhance the academic achievement (McCullogh & Willoughby, 2010). The communities will promote the conformity to social norms, which creates a sense of belongingness for the students (Uecker, 2008). The students will follow the religious philosophies and show persistence in achieving academic goal. If the individuals disobey the rules and engage in deviant behaviour, they will experience social pressure from peers, teachers and parents (Charlton et al., 2013). Hence, they are less likely to be addicted to pornography. To this end, it has been proved that the religiosity may enhance an individual's academic achievement, thus affecting the pornography addictiveness (Zubairu & Sakariya, 2016).
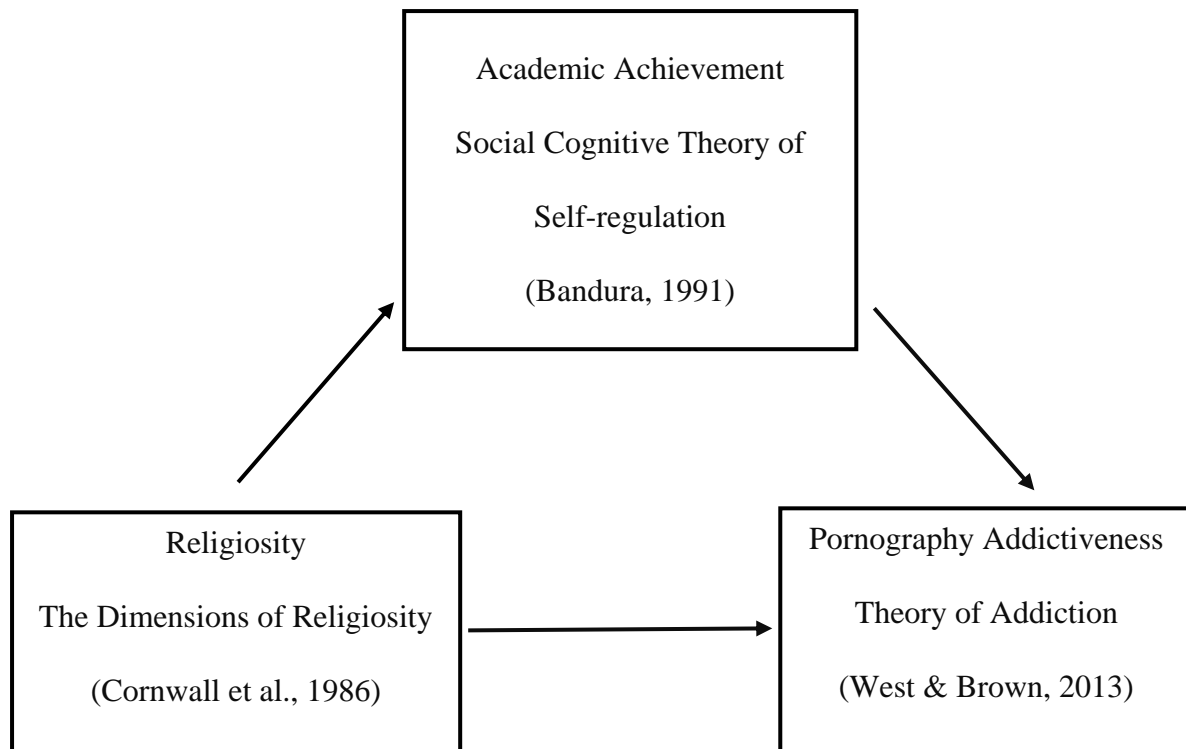
2.7 Conceptual Framework
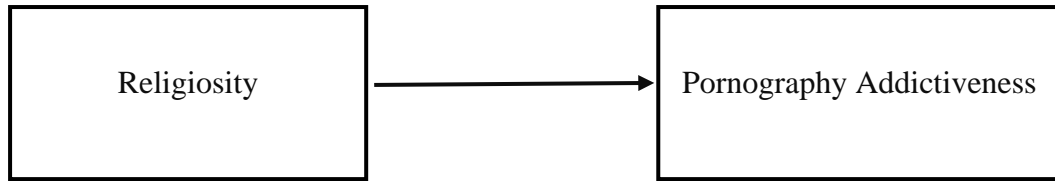
Figure 1. The mediation role of academic achievement between religiosity and pornography addictiveness.

According to the suggested hypothesis for this research, students who scored higher on the scale on pornography addictiveness show lower significance on religiosity. Based on previous literatures, the relationship between pornography addictiveness and religiosity is expected to be inversely proportional. Past studies shown that students who have better academic achievement tend to engage in healthier social life and show lower tendency towards pornography addiction. Therefore, the relationship between academic achievement and pornography addiction should be inversely proportional as well. After reviewing past literatures, it is able to conclude that students who have higher religiosity show higher level self-regulation. Hence, this group of students are more responsible to generate better academic achievement and able to self-manage against pornography addiction. In reverse, students who have lower religiosity are normally bound to have higher tendency towards pornography addiction, so does students with lower academic achievement. These statements shown validity of academic achievement as mediating role between religiosity and pornography addictiveness.

2.8 Theoretical Framework

Academic Achievement

Social Cognitive Theory of

Self-regulation

(Bandura, 1991)

Religiosity

The Dimensions of Religiosity

(Cornwall et al., 1986)

Pornography Addictiveness

Theory of Addiction

(West & Brown, 2013)

Figure 2. The academic achievement as the mediator between religiosity and pornography addictiveness.

The theoretical framework shown in Figure 2 initiates from the theory Dimensions of Religiosity proposed by Cornwall et al. (1986). This concept was being applied to seek its relationship whether religiosity affects academic achievement and pornography addictiveness. It was also implemented to predict if a person's religiosity can cause changes in his or her daily behaviour.

The Dimensions of Religiosity attempted to explain religiosity by deriving from three general components which are religious belief, commitment and behaviour. After decades of research, it is currently widely accepted that the concept of religiosity is best treated as a multidimensional phenomenon (Cornwall et al., 1986). How much an individual is dedicated towards the teachings, activities and beliefs of the religion can be reflected on their religiosity. Hence, Cornwall et al. (1986) suggested that development of religiosity can be examined as a factor of influence towards a person's behaviour changes. In this case, this

research will be approaching religiosity as a factor of attitude towards academic studies. Besides, the research will focus whether religiosity is able to serve as a prevention or treatment towards pornography addictiveness.

Later, the concept of academic achievement was adapted from the Social Cognitive Theory of Self-Regulation (1991). According to Bandura, human behaviour is extensively motivated and regulated by the ongoing practice of self-influence. It also meant that a person's personal standards and behaviours are a reflection of his or her self-monitoring. For this context, an undergraduate student's academic achievement can be due to his or her self-monitoring effort on constantly focusing on studies and revisions. A self-regulation of behaviour can be affecting the picking up of responsibilities as an undergraduate student, which in turn managing good academic results.

Next, the concept of pornography addictiveness can be explained through Theory of Addiction (2013). Based on West and Brown, addiction is best defined by repeated failures to refrain from drug use despite prior strategies to do so. The consumption of pornography through Internet, magazines or other visual forms is similarly to drug usage. For example, a person is unable to stop viewing pornography despite knowing all the side effects of excessive viewing and different sorts of attempts. Another type of addictiveness suggested by West and Brown (2013) was the strong desire to keep consuming the 'drug', which in this case is pornography. The undergraduate students who are distracted from healthy social life or personal responsibilities in order to consume pornography is considered addicted as well.

Chapter III

Methodology

This chapter explain how researchers conduct the research in term of research design, sampling techniques overview, information collection methods, types of questionnaires used for research, description of the research process and analysis of the data.

3.1 Research Design

In this research, an independent variable, a dependent variable, and a mediator were included. The independent variable in this study is religiosity among undergraduate students in Malaysia, the dependent variable is pornography addictiveness among undergraduate students in Malaysia, and the mediator is academic achievement among undergraduate students in Malaysia. This research study was utilized the quantitative research method. Quantitative research can be used to discover patterns and averages, make predictions, test causality, and generalize the results to a bigger population (Bhandari, 2021). This study collected data on Malaysian undergraduates over a 3-month period using the survey method which was quantitative research focused on the collection and analysis of statistical data through computer software and surveys.

3.2 Research Sample

The sampling technique used in this research was the purposive sampling technique. Purposive sampling is a non-probability sampling that is effective for research because the sample for this study was selected based on the population characteristics and research objective. For example, this research required a specific target sample, namely Malaysian undergraduates. In the purposive sampling method, those participants who do not meet the requirement on the profile page will be regarded as outliers and will subsequently be rejected.

For instance, responses from students over 24 or under 18 years old will be rejected. This made the study use strictly data collected from undergraduates aged 18 to 24 years old.

The sample of this study was taken from undergraduate students in Malaysia aged 18 to 24 years old. According to Makro Institusi Pendidikan Tinggi (2020), the total number of students for bachelor's degree is 640 642. The minimum sample size calculated by G*Power is 106 participants (see Appendix A). A total of 120 respondents participated in this study to avoid under-samples due to outliers. Therefore, the target for the respondent sample was 120 undergraduate students.

3.3 Instruments

Centrality of Religiosity Scale (Huber & Huber, 2012)

This research study utilized the more economical, updated and modified version of CRS for Buddhists, Hindus and Muslims. It is a 10-item scale that used to identify the religiosity of an individual. The scale is a five-dimensional model consisted of intellectual dimension, ideology, public practice, private practice and religious experience. This scale includes two questions per dimension. It is a five-point Likert scale ranging from never, rarely, occasionally, often and very often. Higher score obtained in the scale indicates higher religiosity. Normally, it takes around 5 minutes for the participant to complete answering the questions. The scale showed high reliability that ranged from 0.89 to 0.94. The original scale also showed significant validity that ranged from 0.67 to 0.83 (Huber & Huber, 2012). In this study, the Cronbach's Alpha was .917, which considered strong reliability (Taber, 2017).

Cyber Pornography Use Inventory-9 (Grubbs et al., 2013)

The CPUI-9 is a 9-item scale that used to measured respondents perceived addiction towards internet pornography. It was rated on a 7 point Likert scale from 1 (disagree) to 7 (agree). It has three main components which are perceived compulsivity, access efforts and

emotional distress. Each component has equally 3 questions to assess the factors associated with pornography addiction. The scoring of this inventory will reflect the actual compulsivity of pornography usage. The total scale and component scales shown significant positive relations ranging from $r = .44$ to $r = .51$ (Grubbs et al., 2013). The findings of this scale suggest high degree of relatedness between perceived addiction and internet pornography. Higher score obtained in this scale indicated higher degree of internet pornography addiction. The mean was calculated for the scoring of this instrument. In this study, the Cronbach's Alpha was .771, which represented fairly high reliability (Taber, 2017).

3.4 Procedure

Ethical approval to conduct this study was applied from the UTAR department of Scientific and Ethical Research Committee (UTAR SERC) prior to distributing the survey. Prior to data collection, approval was also granted from our current supervisor Ms. Natasha Amira Binti Hushairi. The data for this research study was gathered through online survey questionnaire. The survey questionnaire was shared to respondents via different online platforms such as WhatsApp, Microsoft Teams, Facebook and Instagram. An informed consent was provided at the start of the questionnaire to get the respondents' approval to proceed. Follow up was a short brief to explain what this research study is about and what the respondents can expect in this survey. Personal information such as name and I/C number were not required to protect the privacy and confidentiality of the respondents. The data gathered was strictly for academic research purpose only. The questionnaire consisted a total of 19 questions from two instruments which were CRS-10 and CPUI-9. The duration to complete the survey was approximately 6 minutes. After completing the collection of data, outliers were removed and was analysed using IBM SPSS Statistics Version 23.

3.5 Pilot Study

Before the full-size sample was collected, the researchers carried out a pilot study to examine the reliability of the questionnaire. The pilot study aimed to evaluate the feasibility and enhance the quality of the main study (In, 2017). Purposive sampling was used in this pilot testing. The questionnaire was distributed through social media such as Facebook. WhatsApp and Instagram. For this pilot study, a smaller sample size of 30 participants was collected. This pilot study generated Cronbach Alpha's of .922 and .708 for CRS-10 and CPUI-9 respectively which were considered strong and relatively high (Taber, 2017). No items were required to be deleted or modified.

3.6 Data Analysis

Before the statistical test was carried out, the normality assumption of data was tested. The skewness, kurtosis, Kolmogorov-Smirnov test and QQ plot were conducted to ensure the data was normally distributed. In this study, two different statistical tests were calculated through SPSS to answer the research questions. For research question 1, Multiple Linear Regression was used to examine the relationship between religiosity and pornography addictiveness. For research question 2, Multiple Linear Regression was conducted to determine the correlation between academic achievement and pornography addictiveness. For research question 3, Simple Linear Regression was conducted to determine the relationship between religiosity and academic achievement. For research question 4, the mediation analysis was conducted to examine the mediation effect of academic achievement between the relationship of religiosity and pornography addictiveness.

Statistical test used for each hypothesis

Hypothesis	Statistical Test
H1: Religiosity can positively predict pornography addictiveness among undergraduate students in Malaysia.	Multiple Linear Regression
H2: Academic achievement can positively predict pornography addictiveness among undergraduate students in Malaysia.	Multiple Linear Regression
H3: Religiosity can positively predict academic achievement among undergraduate students in Malaysia.	Simple Linear Regression
H4: Academic achievement can mediate between religiosity and pornography addictiveness among undergraduate students in Malaysia.	Mediation Analysis

<center>**Chapter IV**</center>

<center>**Results**</center>

Normality Test for Each Variable

Normality test for two variables in this study were assessed by using histogram and Q-Q plot. The independent variable, religiosity showed no violation in both histogram and Q-Q plot., The dependent variable, pornography addictiveness showed violation in histogram but no violation in the Q-Q plot (refer Appendix 4.1).

Furthermore, skewness and kurtosis were used to assess the normality in this study. The value of skewness indicated the symmetry of distribution. Positive value of skewness suggested that most of the scores were concentrated on the left-hand side of graph with low values. However, negative value of skewness indicated that most of the scores were concentrated on the right-hand side of graph with high values (Jammalamadaka et al., 2021). In this study, the skewness of religiosity and pornography addictiveness were in positive values, indicating that most of the scores were clustered on the left-hand side of graph with low values

Moreover, the value of kurtosis indicated the peaks of the distribution. The positive value of kurtosis indicated most of the cases were concentrated in the middle, suggesting that distribution was rather peak. However, the value of kurtosis that below zero proved that there were too many extreme cases, so the distribution was relatively flat (Jammalamadaka et al., 2021). In our study, the kurtosis value of religiosity and pornography addictiveness were found to be positive, which were .19 and 1.06 respectively. It indicated that the distributions were rather peak.

According to Gravetter, and Wallnau (2014), the acceptable range for skewness and kurtosis were between -2 and 2. In this study, the skewness and kurtosis of religiosity

were .20 and .19. Moreover, the skewness and kurtosis of pornography addictiveness

were .96 and 1.06. Therefore, the skewness and kurtosis value of all variables were fall

within the acceptable range (see Table 4.2).

Table 4.2

Descriptive Statistics of Continuous Variable (N=105)

	Skewness		**Kurtosis**	
	Statistic	*SE*	Statistic	*SE*
Religiosity	.20	.24	.19	.47
Perceived pornography addictiveness	.96	.24	1.06	.47

Note. SE = standard error.

Besides, tests of normality were conducted to assess the normality. In Kolmogorov-

Smirnov test, a non-significant result with *p*-value that greater than .05 showed normality

(Hanusz & Tarasińska, 2015). In our study, the *p*-value of religiosity (*p* = .07) was found to

be greater than .05. However, the p- value of perceived pornography addictiveness (*p* = .001)

was found to be lesser than .05, indicating that assumptions of normality was not met (see

Table 4.3). According to Drezner et al. (2010), the violation of normality assumptions was

quite common in large sample. Furthermore, the Shapiro-Wilk test was also conducted to

assess the normality. In this study, the *p*- value of religiosity (*p* = .40) was found to be greater

than .05. However, the *p*- value of pornography addictiveness (p < .001) was found to be

smaller than .05, indicating that data were not normally distributed (Hanusz & Tarasińska,

2015).

Table 4.3

Tests of Normality (N=105)

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	*df*	*p*	Statistic	*df*	*p*
Religiosity	.084	105	.067	.987	105	.400
Perceived pornography addictiveness	.119	105	.001	.920	105	.000

Note. df = degrees of freedom; *p* = significant value.

Descriptive Statistics

Table 4.4 showed the demographic information of participants in this study. The sample consist of 105 respondents with age range from 18 to 24 (*M* = 22.10, *SD* = 0.98). In term of sex, female outnumbered male in this study as they were 57 females (54.3%), 47 males (44.7%) and 1 respondent prefer not to say (1.0%). Moreover, most of the respondents were Chinese (80.0%), followed by Malay (14.3%), Indian (4.7%) and other racial groups (1.0%). In addition, there were 74 Buddhists (70.5%), 16 Muslims (15.2%), 8 Christians (7.6%), 5 Hindus (4.8%) and 2 were from other religions (1.9%). Furthermore, a total number of 105 respondents (100%) were pursuing bachelor's degree in university.

Table 4.5 displayed the frequency distribution of the variables in this study, which included academic achievement, religiosity and pornography addictiveness. The mean, standard deviation, minimum and maximum value of the instrument used were showed in the table. Cut-off point for the scales was mean score in order to categorize the scores of scales into above and below mean. The mean value for religiosity, pornography addictiveness and academic achievement were 3.00 (*SD* = 0.72), 2.01 (*SD* = 0.85) and 3.36 (*SD* = 0.37) respectively.

Table 4.4

Demographic Information of Sample (N=105)

	n	%	M	SD	Min	Max
Age			22.10	.98	18	24
18	1	1.0				
19	1	1.0				
20	2	1.9				
21	14	13.3				
22	61	58.1				
23	17	16.2				
24	9	8.6				
Sex						
Male	47	44.7				
Female	57	54.3				
Prefer not to say	1	1.0				
Races						
Chinese	84	80.0				
Malay	15	14.3				
Indian	5	4.7				
Others	1	1.0				
Religions						
Buddhism	74	70.5				
Islam	16	15.2				
Christianity	8	7.6				
Hinduism	5	4.8				
Others	2	1.9				

Note. n = number of cases; % = percentage; M = mean; SD = standard deviation; Min = minimum value; Max = maximum value.

Table 4.5

Frequency Distribution of Religiosity, Pornography Addictiveness and Academic Achievement (N=105)

	n	%	M	SD	Min	Max

	n	%	M	SD	Min	Max
Religiosity			3.00	.72	1.1	4.9
Low (<3.00)	53	50.5				
High (≥3.00)	52	49.5				
Pornography Addictiveness			2.01	.85	1.0	5.1
Low (<2.01)	51	48.6				
High (≥2.01)	54	51.4				
Academic Achievement			3.36	.37	2.0	4.0
Low (<3.36)	47	44.8				
High (≥3.36)	58	55.2				

Note. n = number of cases; % = percentage; M = mean; SD = standard deviation; Min = minimum value; Max = maximum value.

Preliminary Analysis of Multiple Linear Regression

Preliminary analysis was conducted to evaluate the assumption before proceeding to multiple linear regression.

Test on the Multivariate Outliers and Influential Cases

Casewise diagnostic was used to detect multivariate outliers in this study. There were 4 outliers were found through SPSS with the ID number of 31, 32, 39 and 52 (see Table 4.6). According to Tabachnick and Fidell (2013), Mahalanobis distance were determined by the critical value based on the number of predictors in the study. Since there were only two independent variables in this study, the critical value was identified at 13.82 (Tabachnick & Fidell, 2013). There were no cases exceeding this value as the maximum value is 13.45 (see Table 4.7). Moreover, the Cook's distance was also used to examine multivariate outliers. In this study, the maximum value for Cook's distance was .24 (see Table 4.7), which did not exceed 1. Therefore, no violation shown in term of Mahalanobis distances and Cook's distance, indicating no major problem to the results.

Table 4.6

Casewise Diagnostics

ID	Standard Residual	Mean_CPUI	Predicted Value	Residual
31	2.277	4.00	2.0490	1.9510
32	2.868	4.56	2.0987	2.4569
39	3.668	5.11	1.9685	3.1426
52	2.121	3.78	1.9608	1.8169

Note. ID 31, 32, 39 & 52 = multivariate outliers.

Table 4.7

Residual Statistics of Religiosity and Perceived Pornography Addictiveness (N=105)

	Min	Max	*M*	*SD*
Mahalanobis distance	.001	7.169	.991	1.482
Cook's distance	.000	.243	.010	.028

Note. Min = minimum value; Max = maximum value; *M* = mean; *SD* = standard deviation.

Multicollinearity Test

Table 4.8 showed two tests for collinearity which included tolerance and variance inflation factor (VIF). The assumptions were not violated as the values met the benchmark of more than .1 for tolerance and less than 10 for VIF (Schreiber-Gregory, 2018). In this study, the values of tolerance and VIF showed .95 and 1.05 respectively, indicating no violation for the assumptions.

Table 4.8

Collinearity Statistics of Religiosity and Academic Achievement toward Perceived Pornography Addictiveness (N=105)

	Collinearity Statistics	
	Tolerance	VIF

Religiosity	.952	1.050
Academic Achievement	.952	1.050

Note. VIF = Variance Inflation Factor

Test on Independence of Errors

The independence of errors was examined through Durbin-Watson test. The residual terms should result in little or absence of autocorrelation. The independence of errors was achieved as the Durbin-value met the benchmark of 1 or above (Hill & Flack, 1987). In this study, it indicated a Durbin-Watson value of 1.17 (see Table 4.9). Hence, the residual terms were independent from each other.
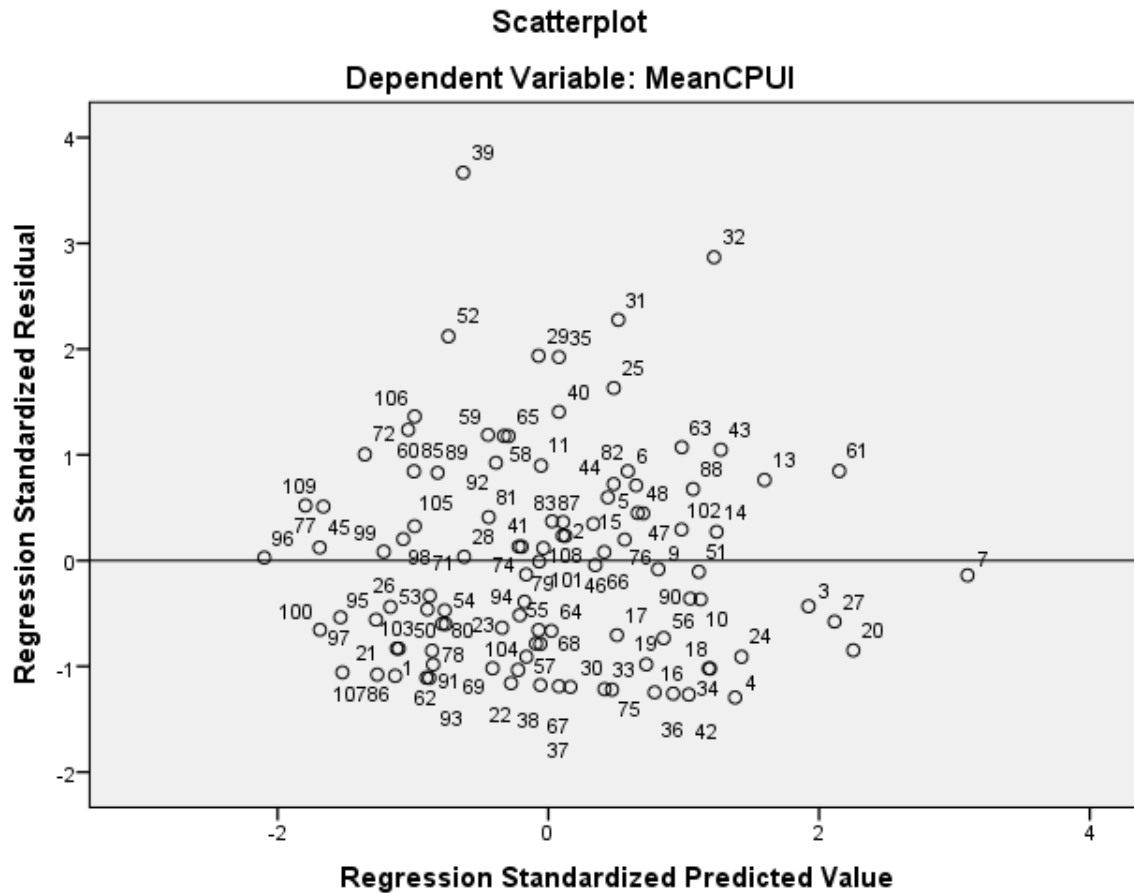
Table 4.9

Independence of Errors of Religiosity and Academic Achievement towards Perceived Pornography Addictiveness (N=105)

Model	Durbin-Watson
1	1.17

Normality of Residual, Linearity of Residual and Homoscedasticity.

The scatterplot (see Figure 4.10) displayed the regression standardize predicted value of pornography addictiveness (DV) against regression standardize residual. According to Schützenmeister et al. (2012), the assumptions of normality, linearity and homoscedasticity were met when most of the scores concentrated in the center along the "0" after the fit line was added on the scatterplot. In this study, the residual roughly distributed rectangularly with most of the values scattered around the "0". It proved that normality, linearity and homoscedasticity assumptions are met.

Figure 4.10

Scatterplot

Dependent Variable: MeanCPUI

Inferential Statistics

Multiple Linear Regression (MLR) analysis. MLR analysis was conducted to examine if religiosity and academic achievement significantly predicted pornography addictiveness. Table 4.11 showed the model summary of religiosity and academic achievement towards perceived pornography addictiveness. Table 4.12 showed the regression model of religiosity and academic achievement on pornography addictiveness was not statistically significant, $F(2, 102) = .349$, $p = .706$, and it accounted for 0% of variance as the adjusted R squared was -.013. It was found that religiosity ($\beta = .070$, $p = .492$) and academic achievement ($\beta = -.062$, $p = .542$) were not significantly predicted pornography addictiveness (see Table 4.13). Therefore, hypothesis 1 and 2 were rejected.

Table 4.11

Model Summary of Religiosity and Academic Achievement towards Perceived Pornography Addictiveness (N=105)

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate
1	.082[a]	.007	-.013	.85679

Note. R = multiple correlation; R^2 = multiple correlation squared or measure of strength of association.

Table 4.12

Analysis of Variance of Religiosity and Academic Achievement towards Perceived Pornography Addictiveness (N=105)

Model		Sum of Squares	*df*	Mean Square	*F*	*p*
1	Regression	.513	2	.256	.349	.706[b]
	Residual	74.878	102	.734		
	Total	75.390	104			

Note. df = degrees of freedom; *F* = F distribution; *p* = significant value.

Table 4.13

Coefficients of Religiosity and Academic Achievement towards Perceived Pornography Addictiveness (N=105)

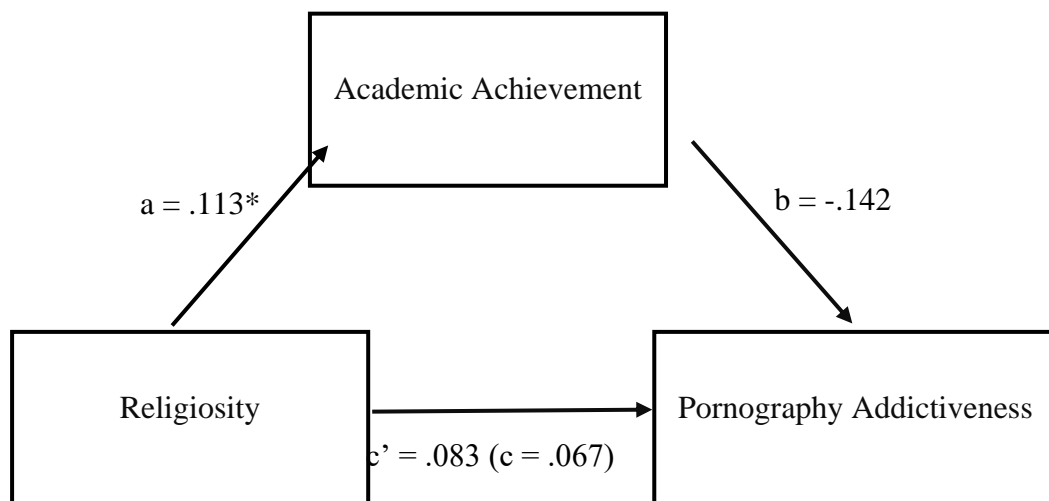|	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	β	*t*	*p*
(Constant)	2.242	.790		2.840	.005
Religiosity	.083	.120	.070	.689	.492
Academic Achievement	-.142	.233	-.062	-.612	.542

Note. B = unstandardized regression coefficients; β = standardized regression coefficients; *t* = sample value of *t*-test statistic; *p* = significant value.

Mediation Analysis

Model 4 of the PROCESS macro by Hayes (2018) was used to examine if academic achievement mediated the effect of religiosity on the pornography addictiveness. The results

showed that path a of religiosity on academic achievement (B = .11, SE = .05, p = .02) was significant. Therefore, hypothesis 3 was supported. However, path b and c' of academic achievement on pornography addictiveness (B = -.14, SE = .23, p = .54) and religiosity on pornography addictiveness (B = .08, SE = .12, p = .49) were not significant. The indirect effect of religiosity on pornography addictiveness was not significant, B = -.02, SE = .03, 95% CI [-.08, .03]. Moreover, the direct effect of religiosity on pornography addictiveness was also not significant, B = .08, SE = .12, 95% CI [-.16, .32]. Based on the 95% of confidence intervals, both direct and indirect effect were statistically insignificant since the values included zero (Hayes, 2018). The hypothesis 4 was rejected as the indirect and direct effect were not significant, indicating that full mediation did not occur in this study.

Figure 4.14. Unstandardized regression coefficients for the relationship between religiosity and academic achievement toward pornography addictiveness as mediated by own academic achievement. * = significant at the value of .05.

Chapter V

Discussion and Conclusion

5.1 Discussion

H1: Religiosity can positively predict pornography addictiveness among undergraduate

students in Malaysia.

The Multiple Linear Regression (MLR) analysis showed that religiosity negatively

predicted pornography addictiveness. The results did not support the hypothesis suggested in

current study which stated that Religiosity can positively predict pornography addictiveness

among undergraduate students in Malaysia. The results are inconsistent with some previous

studies (Grubbs et al., 2014; Short et al., 2014), which indicated that a lower level of

perceived addiction of pornography happened when the individuals are high religious people

and view pornography as a sinful act that violates their personal values. However, the

National Institute on Drug Abuse (NIDA) describes addiction as a brain disorder, and

proponents of this framework describe porn addiction as having biological causes and

consequences (Burke & Haltom, 2020). In short, pornography addictiveness is primarily

caused by underlying mental health (Villines, 2021). For instance, a person may use

pornography to escape psychological distress. According to Burke and Haltom (2020),

pornography consumption is not only a sin but is actually a powerful biological drive.

H2: Academic achievement can positively predict pornography addictiveness among

undergraduate students in Malaysia.

The Multiple Linear Regression (MLR) analysis indicated that academic achievement

was a negative predictor of pornography addictiveness. The findings do not support the

hypothesis in the present study that there is a significant correlation between pornography addiction and academic achievement among undergraduate students in Malaysia. These findings are contradicted with the past research (Duckworth et al., 2019), which noted that people with high academic achievement were associated with lower levels of porn addiction. In fact, the results of a questionnaire about this study showed that undergraduates with low academic performance also had lower levels of porn addiction. For example, regarding to the data from questionnaires, low CGPA scores that obtained by undergraduates, would not be a root cause that lead them to addict in pornography. One researcher also mentioned that the use of pornographic materials did not predict a change in the academic performance of any group of undergraduates (Šević et al., 2020). Parenting style is one of the factors that will lead to pornography addiction. Parenting acts as a crucial role in shaping a child's character and behaviour (Ashraaf & Othman ,2019). Every positive or negative action that parents do in front of their children is an indirect education for their children without the parent realizing that the children will be able to emulate what they do. For example, parents' attitudes about using words and displaying obscene gestures when angry can negatively affect their children's behaviour and ultimately fall into pornographic behaviours (Ashraaf & Othman ,2019). Besides that, the Internet is the primary source of pornographic material today as it has become the fastest growing medium in the porn scene, which indirectly leads to society's addiction to pornography and sexuality (Park et al., 2016).

H3: Religiosity can positively predict academic achievement among undergraduate students in Malaysia.

The results from mediation analysis has showed that religiosity can positively predicted academic achievement. Thus, the result had supported the third hypothesis in which

Religiosity can positively predict academic achievement among undergraduate students in Malaysia. The result tallied with the past study by Li and Murphy (2018) that religiosity may be the crucial factor that will affecting the academic achievement. The effects of religiosity on academic achievement are likely to reinforce the effects for undergraduates with high religiosity, as these effects continue to ingrain work ethic. To illustrate, undergraduate students are motivated to pursue a high academic achievement by maintaining an active spiritual life. Furthermore, the findings of this study are consistent with the study by Elms (2017). He stated that people with high religiosity showed high self-esteem, which could lead to good academic achievement. People with high religiosity have better internal locus of controls, which can have a positive impact on academic scores.

H4: Academic achievement can mediate between religiosity and pornography addictiveness among undergraduate students in Malaysia.

Mediation analysis showed that academic achievement unable to mediate between religiosity and pornography addictiveness among undergraduate students in Malaysia. Hence, hypothesis 4 was rejected. The results are inconsistent with the past research (Elms,2017; Jeynes,2002), which described that high religious people are more focused on academic work and less likely to use porn for psychologically escape. That is because they are more inclined to have internal locus of control, which are straight related to higher academic achievement. They tend to believe that everything is under control. However, the discussion of hypothesis 1 have mentioned that religiosity and pornography addictiveness are negatively predicted. It means that religiosity does not primarily lead to pornography addiction as pornography addiction is mainly brought by other factors such as biological aspect, parenting aspect, and social media aspect. Furthermore, academic achievement failed to moderate the correlation

between religiosity and pornography addictiveness due to our results, which indicated that academic achievement is inversely associated with pornography addictiveness. Because academic achievement is defined as an undergraduate's ability to demonstrate academic achievement in the acquisition of program outcomes, it cannot be used to determine or predict the level of pornography addictiveness.

5.2 Implications

Theoretical implications. The theories used in this study were Social Cognitive Theory of Self-Regulation, The Dimensions of Religiosity, and Theory of Addiction. According to the Social Cognitive Theory of Self-Regulation that proposed by Bandura (1991), it provides an understanding that human behaviour is broadly motivated and regulated by ongoing practices of self-influence, meaning that a person's personal standards and behaviours reflect his or her self-monitoring. Similar to the current study, academically high-achieving students, who were able to better understand and recognize themselves, helped them cope with psychological maturity during developmental transitions. Thus, students can apply this theory to acknowledge the ongoing interaction that exist between individuals and their environment. Beyond that, current research can contribute to the larger community in a number of modalities. The Theory of Addiction (West & Brown, 2013) provides an in-depth understanding about pornography addiction. It reminds the parents to pay extra attention and focus on pornography addiction issue among the undergraduates.

Practical implications. The findings can provide insight and bring advantage to other universities, colleges, undergraduates, and parents as it contributes to understanding pornography prevention. Thus, attention should be paid to the behaviours of pornography addiction and measures should be taken to improve undergraduates' mental and

psychological state of well-being. For example, a university or college could design a workshop, seminar or talk to help students learn more about pornography topic. In addition, the results of this study are beneficial for the target sample, students, society, parents, and educators. It helps to increase consciousness and understanding of the possible downsides of excessive addiction to the pornography, thereby building awareness of pornography addiction symptoms. Hence, the behaviour of pornography addiction should consider on both self-esteem and fear. Additionally, efforts should be made to improve mental and physical health of undergraduates.

5.3 Limitations

As with all other studies done by researchers in the past, this study has some limitations. First, the questionnaire did not include the study title, "The Mediation Role of Academic Achievement in the Relationship between Religiosity and Pornography Addictiveness among Undergraduate Students in Malaysia", thus, potentially causing participants to be confused and curious about what's the linkage between religiosity and pornography addictiveness. In addition, the collected samples contained three different religions, namely Islam, Buddhism, and Hinduism. However, the number of these three religions' samples are not consistent and even. This is because Buddhist participants made up a large percentage of the present study. Therefore, the results may not be very representative of undergraduate students in Malaysia. Moreover, since there is no guider to lead the participants, they may have difficulty answering and completing the survey. As a result, participants may not answer the questionnaire carefully, leading to questions of inaccurate data. Furthermore, in order to collect the samples, the non-probability sampling method, that is, the purposive sampling method was adopted in this study. Bias may be introduced due to

the collection of samples that do not best imply the population, and it may exert influence on the research findings.

5.4 Recommendations

Some recommendations are made for improvement in future research. First of all, the researchers should insert the title of the study into the survey. Therefore, participants are more able to understand more about the study and answer the survey more accurately. The next recommendation is to suggest that researchers must collect the samples based on three religions respectively. For example, if a total of 120 samples need to be collected, an average of 40 participants from three different religions will be collected to prevent inaccurate data. In addition of this, researchers could also use ratio quota sampling method to collect data. Thus, it may help to balance and get closer to the composition of religions in Malaysia. Moreover, the researchers can apply the method of the interview or paper and pen survey rather than online surveys, because interviewers can better guide participants when they are answering the survey. For example, the researchers can explain questions or words to the participants so that they can clearly understand the questionnaire and answer it more exactly. Besides that, in order to obtain a sample that is most representative of the population, researchers are suggested to apply the probability sampling method, which is the cluster sampling method. Additionally, bias can also be minimized and improve the accuracy of future studies to generalize population.