



UNIVERSITI PUTRA MALAYSIA

***INTENTION AS A MEDIATOR IN THE INTERRELATIONS OF FACTORS
IN HEALTH INFORMATION-SEEKING BEHAVIOUR ON HEALTHCARE
WEBSITES AMONG YOUTH***

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By

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**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in
Fulfilment of the Requirements for the Degree of Master of Science**

June 2020

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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirement for the degree of Master of Science

INTENTION AS A MEDIATOR IN THE INTERRELATIONS OF FACTORS IN HEALTH INFORMATION-SEEKING BEHAVIOUR ON HEALTHCARE WEBSITES AMONG YOUTH

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June 2020

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The Internet has changed the way we search for information. Information is readily available to us with the push of a button, and it is undeniable that health is an area of interest for Internet users, especially among youth. In recent years, extensive research has been carried out to study the relationship between Malaysian youth and their perceptions of reproductive health; ranging from knowledge and awareness levels to lifestyle choices. However, minimal research has been done to study youth e-health literacy levels on the subject matter, therefore, the objective of this study is to examine the factors that influence youth behaviour towards using healthcare websites to search for reproductive health information. This study was guided by the Theory of Reasoned Action (TRA) which suggests that the best indicator of behaviour is intention, and that intention is formed by a person's attitude towards performing a specific behaviour, along with the social pressure (from peers, family, schoolmates, and/or colleagues) to perform said behaviour. Participants for the study were 400 youth (from 18 – 40 years of age) based in the Klang Valley area. Data was collected through survey questionnaires that consisted of 47 close-ended and open-ended questions. The research instrument used in this study included the framework of the TRA namely: Attitude, Subjective Norms, Intention and Behaviour. Data collected was analysed using the IBM SPSS Statistics 22.0 software where regression analyses were carried out to understand the predictive nature of the variables in the framework. Overall, the findings found that youth who have positive (favourable) attitudes and adequate social support/pressure towards using healthcare websites to find reproductive health information are likely to have a high intention to do so, which is a key indicator of the respondents actual behaviour to perform the act. One crucial finding in the context of this study is how subjective norms is a stronger predictor of intention compared to attitude. In conclusion, the study's findings are in line with the TRA framework and past research findings. Ministries, NGOs and private institutions that advocate better sexual and reproductive health (SRH) practices in Malaysia should leverage on the influence of new media to improve health literacy levels among youth.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk Ijazah Master Sains

**NIAT SEBAGAI PENGANTARA DALAM HUBUNGAN ANTARA FAKTOR
PENCARIAN INFORMASI KESIHATAN DI LAMAN WEB PENJAGAAN
KESIHATAN DALAM KALANGAN BELIA**

Oleh

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Internet telah mengubah cara kita mencari maklumat. Kita mempunyai banyak informasi yang tersedia di hujung jari. Tidak dinafikan bahawa carian berkaitan bidang kesihatan adalah antara yang menarik minat pengguna Internet, terutamanya dalam kalangan belia. Kebelakangan ini, penyelidikan yang luas telah dilakukan untuk mengkaji hubungan antara belia di Malaysia dan persepsi mereka terhadap kesihatan seksual; dari tahap pengetahuan dan kesedaran hingga ke pilihan gaya hidup. Walau bagaimanapun, penyelidikan berkaitan tahap literasi e-kesihatan belia mengenai perkara tersebut adalah minimum. Justeru itu, objektif kajian ini adalah untuk mengkaji faktor-faktor yang mempengaruhi tingkah laku belia dalam membuat carian di laman web kesihatan bagi mendapatkan maklumat kesihatan seksual. Kajian ini berpandukan *Theory of Reasoned Action* (TRA) yang menyatakan bahawa petunjuk tingkah laku terbaik adalah niat. Niat dibentuk oleh sikap seseorang terhadap tingkah laku tertentu serta pengaruh sosial (daripada rakan sebaya, keluarga, rakan sekolah, dan/atau rakan sekerja). Subjek kajian adalah merupakan 400 orang belia (18-40 tahun) di sekitar Lembah Klang. Data dikumpulkan melalui tinjauan soal selidik yang mengandungi 47 soalan tertutup dan terbuka. Instrumen kajian yang digunakan dalam penyelidikan ini merangkumi kerangka TRA iaitu Sikap, Norma Subjektif, Niat dan Tingkah Laku. Data yang diperolehi dianalisis menggunakan perisian IBM SPSS Statistics 22.0 yang mana analisis regresi dilakukan untuk meramal pemboleh ubah dalam kerangka kerja. Hasil kajian menunjukkan bahawa belia yang mempunyai sikap positif dan pengaruh sosial mempunyai kecenderungan yang tinggi untuk mencari maklumat kesihatan seksual di laman web kesihatan. Penemuan penting dalam kajian ini adalah bagaimana norma subjektif merupakan peramal niat yang lebih kuat berbanding sikap. Kesimpulannya, penemuan kajian ini sejajar dengan kerangka TRA dan hasil kajian lepas. Kementerian, badan bukan kerajaan (NGO) dan pihak swasta di Malaysia harus memanfaatkan pengaruh media baharu untuk meningkatkan tahap literasi kesihatan seksual dalam kalangan belia.

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This thesis was submitted to the Senate of Universiti Putra Malaysia and has been accepted as fulfilment of the requirement for the degree of Master of Science. The members of the Supervisory Committee were as follows:

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LIST OF ABBREVIATIONS

AAP	American Academy of Pediatrics
AIDS	Acquired immunodeficiency syndrome
ARROW	Asian-Pacific Resource and Research Centre for Women
CDC	Centres for Disease Control and Prevention
DV	Dependent variable
FRHAM	Federation of Reproductive Health Associations Malaysia
HIV	Human immunodeficiency viruses
HSP	Health Service Providers
IBM	Integrated Behavioural Model
ICT	Information and Communications Technology
IV	Independent variable
IUHPE	International Union for Health Promotion and Education
KOL	Key opinions leaders
KPWKM	Ministry of Women, Family and Community Development
LGBTQ	Lesbian, gay, bisexual, transgender, or queer
MAC	Malaysian AIDS Council
MCMC	Malaysian Communications and Multimedia Commission
MOE	The Ministry of Education
MOH	Ministry of Health
NFID	National Foundation of Infectious Diseases
PEERS	Reproductive Health and Social Education
RAA	Reasoned Action Approach
SPSS	Statistical Package for Social Sciences
SRH	Sexual and Reproductive Health
STI	Sexually transmitted infections
TPB	Theory of Planned Behaviour
TRA	Theory of Reasoned Action
UGT	Uses and Gratifications Theory
UNFPA	United Nations Population Fund
WHO	World Health Organization

CHAPTER 1

INTRODUCTION

1.1 Chapter Summary

This chapter begins by discussing the main theme of the study, then it moves onto the gaps that exist within the current research context. After discussing the gaps, the research questions and research objectives are set to pave the pathway of the study. In addition, other vital topics are also addressed in this chapter including the significance of the study, scope and limitations of the study and lastly, the definition of key terms.

1.2 Background of the Study

The Internet plays an imperative role in our lives as a significant communication tool. We use it on a daily basis for a multitude of reasons. It has undoubtedly changed the way users get information, socialise, seek entertainment and even conduct businesses. We live in an era where information is literally at our fingertips, our gadgets are the gateway to the digital world that provides us with a wealth of information. Extensive use of the Internet and various digital devices has created an opportunity for the areas of health and communication to combine and revolutionise how the public receives health information and services (Bernhardt, Chaney, Chaney, & Hall, 2013; Patrick et al., 2016). There are many factors that influence an individual's need to seek for online health information, including concerns for a specific health issue, decision making with regards to a medical procedure, or just general interest in developing health literacy habits (Basch, MacLean, Romero, & Ethan, 2018). Healthy literacy is defined as an individual's capability to obtain and comprehend basic health information and take necessary action to ensure healthy behavioural habits (Chang, 2011; Ghaddar, Valerio, Garcia, & Hensen, 2012; Chisolm, Manganello, Kelleher, & Marshal, 2014; Hoffman, Marsiglia, Nevarez, & Porta, 2017).

Thompson (2014) noted that the trend of becoming an active health consumer is popular and the Internet plays a key role in actively allowing users to search for health information. One of the many advantages of searching for health information on the Internet compared to using traditional sources is accessibility; users can search for information on numerous devices: laptops, smartphones, tablets, desktops, etc., for all categories of health information (Abroms et al., 2019). Furthermore, it is convenient as constraints such as time and/or location are negligible, allowing users to search for information according to their personal preferences. This allows healthcare providers to engage with a larger number of intended individuals and communities from different demographics on a more personal basis (Bernhardt et al., 2013). This is closely linked to the term, e-health literacy. The International Union for Health Promotion and Education (IUHPE) defines e-health literacy as the capability to evaluate, seek, and understand health information taken from electronic sources (new media) and apply this knowledge

in addressing health related issues, it is a component of health communication and education (IUHPE, 2018).

Healthcare websites such as *Medline Plus*, *WebMD*, and *Family Doctor* are popular in the e-health sphere mainly due to their source credibility. The content from the aforementioned websites are from professional bodies that are verified such as the National Library of Medicine and the National Institutes of Health (Popular Science, 2018). In addition, the way information is presented online is another plus point; interactive multimedia, health-check tools, and live chat sessions with professional healthcare providers are some of the options available for users to engage with. Real-time health analysis followed by immediate feedback from easily accessible, credible and persuasive media platforms paves the way for effective health education planning, intervention and development (Patrick et al., 2016). In Malaysia, the *MyHEALTH* portal, an initiative by the Ministry of Health (MOH), is lauded as one of leading local healthcare websites that promotes e-health literacy among Malaysians as it encourages individuals to become active health consumers by providing online health information and education (Mohd. Tobi, Masrom, Syed Abd. Rahaman, & Mohammed, 2017).

With the Internet allowing users to have more freedom and power in acquiring health information, it is no surprise that the public's healthcare needs are constantly changing. Wolbring, Leopatra, and Yumakulov (2012) opined that these dynamic advancements in technology influences health consumers to play an active role in information-seeking by acting on the health information presented to them. Those who seek health information want to take charge of their health, participate in healthy living lifestyles and keep abreast of current healthcare models (Patrick et al., 2016). It is clear that the Internet is a valuable tool to support society's healthcare needs as there is a significant increase in our dependence on it to obtain health information (Soni, Lakshmi, & Kaur, 2017). Although it may not completely replace the roles of medical experts and healthcare providers, it definitely acts as a supplement to enhance the public's decision-making process when it comes to health while simultaneously satisfying any health-related information hunger.

Ghaddar et al. (2012) discussed if exposure to credible sources of online health information on the World Wide Web had a direct relationship with increased levels of health literacy among young people. They found that youth are generally portrayed as healthy and thus do not invest a lot of their time and effort in navigating through verified health information on the Internet. However, research has shown that young people often use the Internet to find information (Bhandari, Shi, & Jung, 2014) hence it is imperative for them to understand the importance of being meticulous when it comes to searching for health information online, as sufficient e-health literacy will ultimately lead to better health information-seeking behaviours (Basch et al., 2018). Ghaddar et al. (2012) also added that having a multitude of factually-correct health information alone is insufficient in improving youth health literacy levels, it is also important for gatekeepers, healthcare providers and the like to actively promote their content in the right channels so that it reaches the intended target audience. For instance, youth rely on their technological devices on a daily basis, therefore health information that is catered for them must be online, easily accessible and interesting enough to grab their attention (Fergie, Hilton, & Hunt, 2016).

Apart from that, Myrick, Willoughby, and Verghese (2016) noted that it is common for young adults to search for health information online due to the vast amount of data available on the Internet. This age group is determined to be an informed patient. Myrick et al. (2016) added that today's youth are up against a multitude of health issues and highlighted reproductive health diseases as one of the main threats. Youth often engage in sexually risky behaviours such as having multiple sexual partners, premarital sex and indulging in unprotected sex that carry unintended health consequences. Thus, this leads to a high rate of unplanned pregnancies and sexually transmitted infections (STIs) among our young people, including HIV (Centres for Disease Control and Prevention [CDC], 2017). Sexual health overlaps with the term reproductive health and they are often used interchangeably to form the term sexual and reproductive health (SRH); the efforts aimed at reducing unpleasant outcomes of risky health behaviours (sexual activity) and support normal physiological functions such as pregnancy (Glasier, Gülmezoglu, Schmid, Moreno, & Van Look, 2006; Khawaja, Ali, & Khan, 2017). In lay terms, Godia et al. (2013) noted that the term SRH is a combination of sexual health and reproductive health.

When emotions such as fear and anxiety overcome youth who participate in risk-taking behaviours, they choose to go online to search for health information instead of consulting a healthcare professional to avoid the embarrassment and stigma that is associated with this sensitive health topic. Myrick et al. (2016) shared a similar thought process with the work of Barman-Adhikari and Rice (2011) and Ghaddar et al. (2012), noting that youth prefer to use the Internet to obtain reproductive health information as it removes the pitfalls of dealing with formal systems or practices to receive information pertaining to reproductive health. It is not surprising that young adults find it uncomfortable to discuss sensitive reproductive health related topics such as pregnancy and STIs with their parents or other adults, which is why healthcare websites offer an alternative platform for them to search for relevant information at their own discretion (Mitchell, Ybarra, Korchmaros, & Kosciw, 2015). These websites offer reproductive health information for youth who lack access to offline options and so it is imperative to have accurate and credible information on these sites. Myrick et al. (2016) further clarified that youth are sceptical of the reproductive health information they find online so they are more inclined to go on websites with suffixes such as '.org' or '.gov' as they believe the information available here is filtered by qualified gatekeepers.

Moving forward, it is clear that the Internet is a significant medium for youth to seek for health information, especially on SRH matters, as it is a top priority for them as opposed to finding information on other health related topics such as diet and/or nutrition (Buhi, Daley, Fuhrmann, & Smith, 2009; Myrick et al., 2016.). In the Malaysian landscape, research has established that young people do indeed search for reproductive health information through healthcare websites (Wong, 2012; Nik Farid et al., 2018; Tan, Yaacob, & Tan, 2018; Mohamad Shakir, Li, Abdullah, & Adam, 2019). As SRH concerns are becoming more apparent among youth, this study seeks to understand the factors that affect their behaviour in seeking for reproductive health information through healthcare websites. The Theory of Reasoned Action (TRA) by Fishbein & Ajzen (1975) is a model that is often used to understand SRH behaviours hence its framework will guide the mechanics of this study. The TRA posits that behaviour is the result of an individual's intentions, which is influenced by certain variables (Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1980). The two main variables that predict intention are attitude

towards the behaviour (favourable or unfavourable) and subjective norms (perceived social pressure by others to perform a specific behaviour) (Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1980; Ajzen, 1991).

1.3 Problem Statement

Health in general, is a topic that Malaysians freely discuss, however, when it comes to reproductive health, it is often labelled as a taboo or sensitive subject, where people are hesitant to talk about out in the open. Owing to this, Malaysian youth face the risk of being inadequately informed about issues related to sexual health, sexuality, risk-taking behaviours and so on (Mustapa, Ismail, Mohamad, & Ibrahim, 2015; Ismail & Abd. Hamid, 2016; Muhammad, Shamsuddin, Mohd Amin, Omar, & Thurasamy, 2017; Nik Farid et al., 2018).

In Malaysia, both the government (Ministry of Health, Ministry of Education and Ministry of Women, Family and Community Development) and non-governmental organisations such as the Federation of Reproductive Health Associations Malaysia (FRHAM) and Asian-Pacific Resource and Research Centre for Women (ARROW) work closely to promote SRH services (Manimaran, Vikneswaran, Ng, Siti Aisah, & Chiew, 2017). FRHAM, who are actively involved with young people seek to ensure that youth are well informed about their sexual and reproductive rights by empowering them to make knowledgeable choices. In an open letter to YAB Datuk Seri Dr Wan Azizah Wan Ismail (former Minister of Women, Family and Community Development), YB Dr Maszlee bin Malik (former Minister of Education) and YB Dr Dzulkefly bin Ahmad (former Minister of Health), FHRAM noted that results of the *5th Malaysian Family and Population survey* (2014) showed that about 40 to 60 percent of Malaysian youth are aware and have some knowledge of reproductive health. Although that number has increased over the past few years, many still face barriers in accessing SRH information along with other obstacles such as stigma, privacy and morality concerns (FRHAM, 2018).

One of the biggest stumbling blocks that youth face when it comes to seeking SRH information in Malaysia is the lack of official online communication channels designated to disseminate accurate and credible information. Mohamad Shakir et al. (2019) argued that youth often found information of such matters, especially on STIs, through general websites via *Google* instead of visiting specific healthcare websites that specialise in SRH matters. To make matters worse, some have even resorted to finding for such information on social media sites such as *Facebook* where there is a high probability of receiving unreliable information or fake news (Khawaja et al., 2017; Müller & Schulz, 2019). This highlights the need for young people to have access to official SRH portals/websites for information-seeking purposes and the opportunity to engage with qualified healthcare providers. Moreover, youth must also be equipped with the skills to find information that is verified and factually-correct in order to make better judgments of their overall reproductive health (Mohamad Shakir et al., 2019).

To be an active health consumer, young people must have high levels of health literacy which can be attained through health communication and education. Mokhtar, Rosenthal, Hocking, and Satar (2013) opined that although reproductive health education is present in the curriculum of secondary schools through the Reproductive Health and Social Education (PEERS) initiative, it is not solely focused on SRH education. In Malaysia, SRH education is covered in selected subjects such as Science, Biology, Islamic Education, Moral Education and Physical Education (PE), it is not given priority as an independent subject (Chan & Jaafar, 2009; Abd. Manaf, 2019). Students often feel that they receive insufficient information as teachers are embarrassed to touch on sensitive topics (Talib et al., 2012; Nik Farid et al., 2018; Abd. Manaf, 2019). The Ministry of Education (MOE) has created public awareness on reproductive health among youth in the past, however certain quarters, especially NGOs that deal with HIV/AIDS cases among youth such as the Malaysian AIDS Council (MAC), have advocated the need of a formal and accessible platform for young people to learn about sex and sexuality (Mokhtar et al., 2013; Siti Syahirah & Ruzianisra, 2012).

In addition, the Ministry of Women, Family and Community Development (KPWK) and Durex Malaysia collaborated on an initiative titled *Malaysian Youth Sexual and Reproductive Health Survey* (2015) that involved over 1000 youth. The main objective of the survey was to act as a catalyst to signal the importance of improving reproductive health awareness among young Malaysians. Some of the issues covered were knowledge on pregnancy, contraception, rape and consent. The survey found that one of the main reasons why youth have a lack of understanding about the topics above is mainly due to insufficient and factually-incorrect information. Communication and education are key factors in rectifying this issue, youth must be equipped with the right information from trusted sources so that they can protect themselves and those around them and have a better quality of life as they grow older (CDC, 2018). As argued by Manimaran et al. (2017), reproductive health services should be disseminated to people through all stages of life: children, youth, adults and the elderly. This survey was also conducted in 2016 and the results were similar, once again there is an emphasis on the need for holistic SRH education through proper communication channels for Malaysian youth (Tan, 2016).

From a theoretical point of view, the current research seeks to understand how the TRA can be used as a standard guide to predict youth behaviour in seeking reproductive health information here in Malaysia. As mentioned in the introduction, Fishbein and Ajzen (1975) stated that intention is the best predictor of behaviour and intention is formed by attitude towards the act and subjective norms (social pressure). Before a person performs a given behaviour, he or she must first form a strong positive intention to perform said behaviour (Lee & Kotler, 2016). The TRA is often used in communication studies whenever predicting communication and consumer behaviour is necessary, it is also popular in the field of health behaviour. Researchers have used this theory to study various sexual behaviours among youth (Rise, 1992; Albarracín, Fishbein, Johnson, & Muellerleile, 2001; Randolph et al., 2009; Manstead, 2011; Conner, Mceachan, Lawton, & Gardner, 2017).

Unfortunately, the TRA is rarely used in the Malaysian context when it comes to predicting reproductive health behaviour among youth. Previous studies have indeed

looked at issues related to the topic, mainly focusing on knowledge of reproductive health (Wong, 2012; Mokhtar et al., 2013; Mustapa et al., 2015; Ayub et al., 2017; Ujang & Sutan, 2018) and factors predicting reproductive health issues (Low, 2009; Manaf et al., 2014; Cheah et al., 2016; Muhammad et al., 2017). However, these studies scarcely use this theory as a guide to study youth behaviour towards SRH information. Currently, there is little academic research here in Malaysia that suggest the usage of the TRA as a significant theory to predict reproductive health information-seeking behaviour among Malaysian youth (Alagrisamy & Arokiasamy, 2019).

It is key for youth to develop healthy behaviours from a young age as various studies have shown that many young Malaysians are practicing unsafe sexual habits (Manaf et al., 2014; Cheah, Lim, Kee, & Ghazali, 2016; Ayub et al., 2017; Muhammad et al., 2017; Nik Farid et al., 2018) and in most cases, it is due to the information available to them, or a lack of it, and how this affects their behaviour towards reproductive health. The common theme that resonates throughout these studies is that there is a gap in understanding the factors that form SRH information-seeking behaviours as there are insufficient studies on extensive e-health literacy among young Malaysians (Hamzah, Suandi, & Ishak, 2016; Mohamad et al., 2020). While local authorities are tasked in exploring, monitoring and improving e-health literacy levels among youth, this responsibility does not fall on the government alone, but also on the nation as a collective noun (CDC, 2018).

To conclude, there are various ongoing efforts by ministries in the government sector and private institutions in Malaysia to educate our youth on reproductive health. Researchers from various backgrounds have conducted studies in the past to understand the extent of the effectiveness of these messages to the targeted audience. While there have been improvements over the years in assessing youth perceptions of reproductive health; ranging from knowledge and awareness levels to lifestyle choices, it is also necessary to understand how youth have responded to these efforts, their behaviour towards reproductive health information, the importance of the Internet as a communication tool in disseminating reproductive health information and ultimately, strategies in improving e-health literacy levels among youth. This study seeks to use the variables in the TRA framework as a guide to understand and predict youth behaviour in seeking reproductive health information from healthcare websites.

1.4 Research Questions

1.4.1 Main Research Question

What are the factors that predict youth behaviour in using healthcare websites to seek reproductive health information?

1.4.2 Specific Research Questions

As per the problems in this area of research, the research questions are as follows:

RQ1: What is the relationship between attitude towards using healthcare websites as a source of reproductive health information and the intention to do so among youth?

RQ2: What is the relationship between subjective norms towards using healthcare websites as a source of reproductive health information and the intention to do so among youth?

RQ3: What is the relationship between intention of using healthcare websites as a source of reproductive health information and the actual behaviour to do so among youth?

RQ4: Will attitude and subjective norms predict youth intention to use healthcare websites as a source of reproductive health information?

RQ5: Will intention predict youth behaviour to use healthcare websites as a source of reproductive health information?

1.5 Research Objectives

1.5.1 Main Research Objective

To examine the factors that predict youth behaviour in using healthcare websites to seek reproductive health information.

1.5.2 Specific Research Objectives:

RO1: To determine the relationship between attitude towards using healthcare websites as a source of reproductive health information and the intention to do so among youth.

RO2: To analyse the relationship between subjective norms towards using healthcare websites as a source of reproductive health information and the intention to do so among youth.

RO3: To test the relationship between intention of using healthcare websites as a source of reproductive health information and the actual behaviour to do so among youth.

RO4: To investigate if attitude and subjective norms will predict youth intention to use healthcare websites as a source of reproductive health information.

RO5: To examine if intention will predict youth behaviour to use healthcare websites as a source of reproductive health information.

1.6 Significance of Study

The findings of this study will benefit health/medical organisations, ministries and policy regulators on the importance of the Internet in providing credible and accessible reproductive health information to the youth in Malaysia. One example is how the MOE can look into revamping the current PEERS syllabus, although it has been introduced in schools since 1989 (Curriculum Development Centre, 2011), many students are not aware about SRH matters (Mokhtar et al., 2013). Studies have shown that most youth use the Internet as an informal source of reproductive health information as they are already accustomed to it (Ghaddar et al., 2012; Ismail & Abd. Hamid, 2016; Nik Farid et al., 2018; Ujang & Sutan, 2018), therefore, the next step is to make healthcare websites a formal source of reproductive health information that is available to all.

In addition, healthcare website regulators can also determine the level of youth dependency on the content they produce and use this data to improve their websites to better serve the community. This will benefit both the provider (website regulators), the receiver (youth) and the overall result, which is to understand the consumer behaviour of youth when they use healthcare websites. Gatekeepers have an important role to play here as they are tasked with creating information not only for youth, but also for parents, key opinion leaders (KOL) and the larger community as there is a greater demand for total inclusion when it comes to educating youth on reproductive health (Denno, Hoopes, & Chandra-Mouli, 2015). This research hopes to bridge that gap and highlight the responsibilities carried by all members of society regarding this matter.

Moving on, this study seeks to focus on a specific target audience and their behaviour towards reproductive health information. As youth look online to find information, they will be curious to learn about reproductive health (Mitchell et al., 2015; Myrick et al., 2016; Flanders, Pragg, Dobinson, & Logie, 2017), however, they must be channelled through to the right platform and not be misguided by the influence of pornography and/or unverified information on social media sites that portrays sex in a false light, again, highlighting the role of gatekeepers. This study may yield new insights into the way SRH information is disseminated to the younger generation here in Malaysia. It has the potential to also understand how this group relies heavily on the Internet to discover SRH information to prepare themselves before consulting medical experts with regards to any illness and/or to receive health advice. Interest in the area of reproductive health communication is growing rapidly in Malaysia and the ones affected the most by it are youth; understanding their health literacy levels and attitude towards reproductive health is the first step in making necessary changes to address any issues related to sexual health (Ayub et al., 2017; Mohamad Shakir et al., 2019).

Apart from that, this study will also contribute to academia in the area human communication, health communication and information-seeking studies as this research focuses on the role of the Internet as a global source of reproductive health information. It also adds knowledge to social science studies that follow a quantitative approach as the results of this study will be analysed via statistical approaches. One of the main paradigms of human communication revolves around activities that include the sharing of data, facts and ideas from one person to another, this engagement now thrives on

digital communication as the medium that people rely on the most (Onyeator & Okpara, 2019). This study revolves around the impact of new media as the main source of information for young people to satisfy their reproductive health information needs. Youth make up the biggest fraction of Internet users around the world and this is no different in Malaysia (UNICEF Malaysia, 2014; Mohamad Shakir et al., 2019), therefore it is important to study how they use new communication mediums as an educative and informative SRH tool (Curnalia & Mermer, 2014; Ham et al., 2014; Naidu, Pandaram, Chand, & Dayal, 2019).

Lastly, this study aims to contribute to research methodology in social science studies by highlighting the importance of using theories as a guide where explaining, predicting and understanding human behaviour is at the focal point of research work (Head & Noar, 2014, Bergenholtz & Busch, 2016; Ayub et al., 2017; Van Belle, van de Pas, & Marchal, 2017). The TRA is often used as a guide to investigate the influence of intention in forming behaviour, or in this case, shaping SRH information-seeking behaviours among youth. Furthermore, testing the TRA framework in a Malaysian context may pave the way for future researches to use this theory in SRH communication studies.

1.7 Scope/Limitations of Study

The scope of the study was to investigate attitude and subjective norms (independent variables) as factors that predict youth behaviour (dependent variable) in seeking reproductive health information with intention being the mediator in this relationship. The study specifically looked at youth using healthcare websites as their main source SRH information as this group is known to be avid Internet users who search for such information online (UNICEF Malaysia, 2014; Myrick et al., 2016; Ayub et al., 2017; Malaysian Communications and Multimedia Commission [MCMC], 2018). The population for this study included youth in the Klang Valley area between the ages of 18 – 40, primarily college/university students (public and private, postgraduates and undergraduates) and those with working experience.

As every study has its flaws, this one is no different. Firstly, one of the main limitations of this study is that the data is limited to youth in the Klang Valley; hence, the data that will be collected will be skewed to this group of people from the same area. In addition, the sample size ($N=400$) is rather small to make a significant conclusion of the general population, the results would yield new and additional information if the number of respondents were increased to include youth from other states in Malaysia as well. Future research could also extend to younger individuals such as school students as they are also exposed to the Internet.

Secondly, methodological limitations. As the study uses a convenience sample, the findings of this study may not represent all quarters of the population. Although the measures and framework used in this study did well with the selected sample, repeating the process with different population samples is necessary to examine the generalisability of the research outcomes. In addition, the process of answering the survey questions requires time and patience as there are five sections and close to 50 questions that the

participants need to diligently read and comprehend – this may cause some of the respondents to answer inaccurately. Furthermore, the respondent's interpretation of the questions can be subjective as each individual has a different of perception towards seeking reproductive health information through healthcare websites. Therefore, the instrumentation of this study should revolve around a mixed method research where both quantitative and qualitative techniques are taken into consideration – apart from questionnaires, focus group and interviews should also be conducted to gather in depth information of the respondent's opinions and feelings of using healthcare websites to find SRH information.

Lastly, there are other variables that could also be tested such as the emergence of social media and how healthcare experts are turning to *Facebook*, *Instagram* and *Twitter* to disseminate factual and credible information. Taking this into consideration could potentially alter the way health information is shared and received by users, particularly the youth of today who are tech-savvy.

1.8 Definition of Terms

Healthcare websites – A platform on the Internet for users to search for health information. The popularity of these websites are growing rapidly for many reasons including: credibility of information, user interactivity, anonymity, availability, online support groups, online interaction with health experts, etc. (Cline & Haynes, 2001). The diversity and magnitude of healthcare websites enables the dissemination of information and engagement with consumers from various demographic backgrounds (Tieman & Bradley, 2013).

Information-seeking behaviour – the collective efforts to gain information from various sources and channels, this process is divided into active and passive information-seeking and information use (Wilson, 1999). The term 'active' means when an individual intentionally searches or request for information, whereas 'passive' information-seeking occurs when the consumer does not have any intention to use the information at hand. Case (2007) suggested that information-seeking behaviour is a conscious effort to attain information to satisfy our curiosity and fill a knowledge gap (Case & Given, 2016).

Reproductive health – The World Health Organisation (WHO) (2015) defines reproductive health as being in a state of emotional, mental, physical, and social well-being with regards to one's sexuality. Furthermore, reproductive health involves a positive and respectful attitude towards sexuality and sexual relationships. The WHO stresses that every individual must have access to proper methods of fertility regulation and appropriate healthcare services.

Youth – The National Youth Development Policy that was published by the Ministry of Youth and Sports (MOYS) defines youth as people between the age range of 15 and 40

years old, however, the ministry stressed that programs that cater to youth development should be focused on those aged between 18 and 25 (MOYS 1997; Yunus, 2007; Youthpolicy, 2014).



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