THE DETERMINANTS OF SEXUAL-RISK BEHAVIOUR AMONG INCARCERATED ADOLESCENTS IN MALAYSIA – A MIXED METHODS STUDY

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FACULTY OF MEDICINE
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Abstract

The purpose of this study was to determine the proportion of sexual-risk behaviour (SRB) and its associated factors among incarcerated adolescents within the Malaysian welfare-institution system. This group of adolescents were chosen because they had been identified as participating in SRBs, so using them would facilitate identification of determinants involved.

The study employed a sequential, mixed-method approach that combined qualitative and quantitative data. Quantitative data was collected using a self-administered questionnaire; variables used in the questionnaire were identified from applying the Social Ecological Model (SEM). The qualitative phase consisted of in-depth interviews and written essays. The questionnaires were completed by 1082 adolescents, while 29 participants were interviewed and wrote essays. All participants were recruited from 22 welfare institutions in Peninsular Malaysia, were between 12 and 19 years old and comprised 86.9% Malay, 8.5% Indian and 3.5% Chinese.

Overall, 62.3% of incarcerated adolescents had engaged in sexual intercourse. The mean age at first sexual intercourse for both genders was 14 years. Sexual intercourse in the study population was associated with individual factors such as female gender (OR = 1.75, 95% CI = 1.11–2.74), alcohol use (OR = 1.80, 95% CI = 1.10–2.94), illicit drug use (OR = 1.85, 95% CI = 1.07–3.22), permissive attitude toward premarital sex (OR = 4.34, 95% CI = 2.17–8.70), a history of child sexual abuse (OR = 5.41, 95% CI = 3.52–8.32) and viewing pornography (OR = 2.84, 95% CI = 1.65–4.89). Among the study subjects

who had initiated sex, 55.1% were found to have engaged in SRBs. The qualitative findings showed that belief in “sex as an expression of love” was a strong reason for initiating sexual intercourse. This finding was further confirmed by methodological triangulation.

The study recommends that sexual and reproductive health (SRH) programmes focusing on individual determinants of sexual initiation and SRB should be developed for adolescents in Malaysia.

Abstrak

Tujuan kajian ini dijalankan adalah untuk menentukan kadar tingkahlaku seksual berisiko dan faktor-faktor yang berkaitan dengannya di kalangan remaja di bawah jagaan sistem institusi kebajikan di Malaysia. Remaja yang menetap di institusi-institusi kebajikan telah dipilih kerana mereka telah dikenalpasti sebagai kumpulan individu yang terlibat dalam tingkahlaku seksual berisiko. Ini membolehkan faktor-faktor tingkahlaku dapat dikenalpasti.

Kajian ini menggunakan kaedah berurutan campuran yang menggabungkan pendekatan kuantitatif dan kualitatif. Data kuantitatif telah dikumpul dengan menggunakan borang soal selidik isi sendiri dan pembolehubah-pembolehubah yang digunakan dalam borang tersebut telah dikenal pasti dari Model Sosial Ekologi. Kaedah temuramah secara mendalam dan penulisan esei telah dijalankan semasa fasa kualitatif. Borang soal selidik telah diisi oleh 1082 remaja manakala 29 peserta telah ditemuramah dan juga mengambil bahagian dalam penulisan esei. Mereka dipilih dari 22 institusi kebajikan di Semenanjung Malaysia, berumur antara 12 hingga 19 tahun dan terdiri daripada 86.9% Melayu,, 8.5% India dan 3.5% Cina.

Secara keseluruhan, 62.3% remaja dibawah jagaan institusi kebajikan telah terlibat dalam hubungan seksual. Purata umur semasa pertama kali melakukan hubungan seks untuk lelaki dan perempuan adalah 14 tahun. Faktor-faktor individu seperti jantina perempuan (Nisbah Ods = 1.75, 95% Interval Keyakinan = 1.11-2.74); pernah menggunakan alkohol (Nisbah Ods

= 1.80, 95% Interval Keyakinan = 1.10-2.94); pernah menggunakan dadah haram (Nisbah Ods = 1.85, 95% Interval Keyakinan = 1.07-3.22); sikap permisif terhadap seks sebelum berkahwin (Nisbah ods = 4.34, 95% Interval Keyakinan = 2.17-8.70); sejarah penderaan seksual semasa kanak-kanak (Nisbah Ods = 5.41, 95% Interval Keyakinan = 3.52-8.32) dan menonton pornografi berkait dengan insiden hubungan seksual. Antara mereka yang telah melakukan hubungan seks, 55.1% didapati terlibat dalam tingkahlaku sexual berisiko. Hasil kajian kualitatif menunjukkan remaja memaklumkan "seks sebagai suatu ekspresi sayang" sebagai sebab yang kukuh untuk memulakan hubungan seks. Keputusan ini telah disahkan lagi melalui metodologi triangulasi.

Kajian ini mengesyorkan bahawa program kesihatan seksual dan reproduktif yang mensasarkan kepada faktor penentu individu untuk hubungan seks dan tingkah laku seksual berisiko perlu dipertingkatkan bagi remaja di Malaysia.

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List of Acronyms

AA	Asrama Akhlak (Probation Hostel)
AIDS	Acquired Immune Deficiency Syndrome
CDC	Centers for Disease Control and Prevention
ESD	Early Sexual Debut
HIV	Human Immunodeficiency Virus
HPV	Human Papilloma Virus
KOTS	Keep Our Teens Safe
NUTP	Negotiated Unsupervised Time with Peers
PBT	Problem Behaviour Theory
RKK	Rumah Kanak-kanak (Childrens' Home)
SEM	Social Ecological Model
SRB	Sexual-Risk Behaviour
STB	Sekolah Tunas Bakti (The Tunas Bakti School)
STIs	Sexually Transmitted Infections
SWD	Social Welfare Department
TSP	Taman Seri Puteri
UNICEF	The United Nations Children's Fund
USAID	The United States Agency for International Development
WHO	World Health Organization
YRBSS	Youth Risk Behaviour Surveillance System

Operational Definitions

Terms	Definitions
Distal domain	A distal domain is composed of indirect factors of sexual initiation.
Early sexual debut	Sexual intercourse initiation before the age of 16 (Valle, 2005).
Incarcerated adolescents	Young people aged 10-19 years confined within Malaysian welfare institutions following a judicial decision in cases of neglect, child abuse or offending the law. These individuals require substantial support and rehabilitation.
Late sexual debut	Sexual intercourse initiation at age 16 and above (Valle, 2005).
Proximal domain	A proximal domain is composed of factors that are very much linked to sexual initiation.
Sexual initiation	Ever having had sexual intercourse (Sieverding, Adler, Witt, & Ellen, 2005).
Sexual intercourse	Heterosexual intercourse involving penetration of the vagina by the penis (Sexual Intercourse, 2011).
Sexual-risk behaviour (SRB)	A behaviour employed by persons who practice premarital sex, early sexual initiation, unprotected sexual intercourse, sex with multiple different partners or unprotected sex with partners who are potential carriers of STIs (Bengel, 2002). Such practices put the person at risk of the consequences of SRBs, i.e., STIs, unwanted pregnancies and cervical cancer (Malhotra, 2008).
Social Ecological Model	This model considers the complex interplay between individual, interpersonal, community and societal factors that put adolescents at risk for experiencing risk behaviour (Centers for Disease Control and Prevention [CDC], 2009c).
Welfare institutions	Refers to public organisations governed by the Social Welfare Department of Malaysia and devoted to the care of children and adolescents who are in need of support, shelter and rehabilitation (Social Welfare Department of Malaysia [SWD], 2010a).

Conference Proceedings

Farid, N. D. N., Al-Sadat, N., & Rus, S. C. (2010). *Predictors of Early Sexual Debut Among Adolescents of Welfare Institutions in Peninsular Malaysia.* Paper presented at the The 42nd APACPH Conference, Bali, Indonesia.

Farid, N. D. N., Al-Sadat, N., & Rus, S. C. (2011a). *Early Sex among High Risk Adolescents in Peninsular Malaysia.* Paper presented at the 1st Regional Health Sciences & Nursing Conference 2011, Shah Alam, Selangor, Malaysia.

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Farid, N. D. N., Al-Sadat, N., & Rus, S. C. (2011d). *Predictors of Premarital Sex Among High Risk Adolescents in Peninsular Malaysia.* Paper presented at the 1st International Public Health Conference & 18th National Public Health Colloquium, Kuala Lumpur, Malaysia.

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Publications Arising From the Work Presented in this Thesis

(1) Determinants of Sexual Intercourse Initiation among Incarcerated Adolescents – A Mixed Method Study (This manuscript has been accepted by Singapore Medical Journal, Tracking No. SMJ-2012-342R1)

(2) Predictors of Sexual Risk Behaviour among Adolescents from Welfare Institutions in Malaysia (Manuscript submitted to Turkish Journal of Medical Sciences on May 12, 2012)

(3) Factors That Shape The Initiation of Early Sexual Intercourse among Adolescents – A Qualitative Study (Manuscript submitted to Journal of Adolescence on June 14, 2012)

Chapter One: Introduction

1.1 Introduction

The body of this thesis is divided into six chapters. This first chapter provides an introduction to the research topic and highlights the problem statement, research objectives, questions, and hypotheses. Chapter one also describes the course of research development and the layout of the subsequent chapters.

1.2 Sexual-Risk Behaviour

Adolescents are at risk from the negative health outcomes associated with sexual-risk behaviour (SRB). SRB is a behaviour employed by persons who practice premarital sex, early sexual initiation, unprotected sexual intercourse, sex with multiple different partners or who have unprotected sex with partners who are potential carriers of sexually transmitted infections (STIs).

Participation in SRBs is influenced by a wide range of factors depending on the demographic, biological, psychological, and social factors that influence an adolescent's development.

Adolescents aged 10-19 account for almost 1.2 billion people worldwide, or 18% of the world's population (United Nations Children's Fund [UNICEF], 2011a). In the Asia Pacific Region, which includes Malaysia, there are approximately 660 million adolescents (UNICEF, 2011a), and this number will continue to grow until approximately the year 2030 (UNICEF, 2011a). In Malaysia, adolescents represent 19.2% of the total population (WHO Western Pacific Region, n.d.).With the increasing number of adolescents, more and more individuals will become susceptible to SRBs, despite the majority of these adolescents being biologically healthy (World Health Organization [WHO], 2007). Adolescents are particularly susceptible to SRBs because they lack the knowledge and skills to avoid unsafe behaviours and they lack access to

acceptable, affordable, and appropriate reproductive health information and services (WHO, 2007). Moreover, the environment required to support adolescents has not really changed to accommodate their needs; families and communities are still unprepared to provide adolescents with the accurate reproductive health information and services required (WHO, 2007).

SRB is also a result of the developmental features of adolescence (Zimmer-Gembeck, 2008). A distinctive phase in human development, adolescence is the period when the developing individual undergoes dramatic changes in their biological processes (Rew, 2005). During adolescence, the individual develops emotionally, cognitively, socially, and spiritually concurrently with their biological development; however, growth and development in one aspect do not guarantee a similar level or quality of growth and development in other aspects (Rew, 2005). For instance, early pubertal timing has been associated with early sexual activity among female adolescents (Deardorff, Gonzales, Christopher, Roosa, & Millsap, 2005; Downing & Bellis, 2009).

In addition to demographic and biological factors, empirical studies indicate that psychological and social factors are determinants of SRB. There is agreement that an adolescent's self-esteem (Spencer, Zimet, Aalsma, & Orr, 2002) and substance use (alcohol, smoking, and illicit drugs) can influence SRB (Chinsembu, Siziya, Muula, & Rudatsikira, 2008; Fatusi & Blum, 2008; Wong et al., 2009; Shenghui et al., 2008; Tavares, Schor, Junior, & Diniz, 2009). Furthermore, studies have shown that adolescents living with single parents are more likely to initiate sex compared to their peers who are living with both parents (Biddlecom, Awusabo-Asare, & Bankole, 2009; Cuffee, Hallfors, & Waller, 2007; Lee, Chen, Lee, & Kaur, 2006; Ugoji, 2009).

Other contributing factors to SRB include the cultural and policy situation in Malaysia. The discussion of sexual behaviour is viewed as inappropriate by most Malaysians because of their cultural values, which are governed by their perceptions of

religious teachings. Therefore, previous programmes on sexual health and reproduction were initiated only to educate adolescents on the harmful effects of SRB, such as STIs and HIV/AIDS (Ministry of Health, Malaysia, 2005; Lee, 1999). Nevertheless, with the increase in premarital sex, teenage pregnancies, and baby dumping, sex education was finally initiated as a compulsory part of the curriculum for both primary and secondary school students in 2011 (Agence France Press [AFP], 2010). This newly introduced programme, however, only included school-going adolescents (AFP, 2010).

There is still much to be desired in terms of government policies and the allocation of funds to control unwanted pregnancies, unsafe abortions, and pregnancy-related complications resulting from SRBs among adolescents. A review of adolescents' sexual and reproductive health (SRH) revealed that there were some policies dedicated to adolescents' general health (WHO, 2007), but policies regarding SRH were not emphasised as extensively as other areas of adolescent health, especially by governmental policies. This lack of emphasis shows the sensitivity of the subject as a result of religious teachings and rules governing sexuality (WHO, 2007).

1.3 Problem Statement

1.3.1 The nature and extent of sexual-risk behaviours

According to several national and state figures, more Malaysian adolescents are experimenting with sex. Police figures on the number of female teenagers caught having consensual sex have increased: 310 girls under the age of 16 were caught engaging in underage sex in 2008, and this figure was nearly 45% higher than the year before (Quek & Spykerman, 2009). The National Health and Morbidity Survey also reported an increase in the percentage of premarital sexual activity among adolescents aged 12-19 years (Institute for Public Health [IPH], 2008) (Table 1.1).

Table 1.1: National Level Figures on Premarital Sexual Activity among Adolescents Aged 12-19 Years

Year	Boys (%)	Girls (%)
1996	2.5	1.3
2006	8.3	2.9

Source: Institute for Public Health. (2008). *The Third National Health and Morbidity Survey (NHMS III) 2006, Sexual Behaviour*. Kuala Lumpur: Ministry of Health, Malaysia.

Furthermore, at the state level, in Negeri Sembilan, 5.4% of secondary school students were reported as having had premarital sex (Lee et al., 2006). In a more recent study, 12.6% of school-going adolescents in Pulau Pinang reported a history of sexual experience (Mudassir, Syed, Keivan, & Tahir, 2010). More adolescents in Pulau Pinang compared to Negeri Sembilan reported ever having had sex due to the differences in terms of age, ethnicity and study period. In Pulau Pinang, the sample included only 16-19 years old and majority were Chinese. However, in Negeri Sembilan the sample included those between 12-19 years and they were mainly Malays. These differences probably have influenced the sexual behaviour information willingly provided by the adolescents. Additionally, the Pulau Pinang study was conducted in 2005 while the Negeri Sembilan study was carried out in 2001. Hence, the differences in years may have exposed these adolescents to different sexual influences.

Reports on sexual initiation by Malaysian adolescents have indicated that the age of initiation is lower than it has been in previous years. Between 1994 and 2000, a high frequency of adolescents reported initiating sex at age 17-18 (WHO, 2007). Then, in 2001, the mean age at first sexual intercourse declined to 15 years (Lee et al., 2006). In a recent national study, it was stated that male adolescents became sexually active at 15.0 years and females at 14.0 years (IPH, 2008).

1.3.2 The impact of sexual-risk behaviours

SRBs increase the likelihood of various harmful medical consequences. These consequences include unintended pregnancies, subsequent abortions, STIs, and HIV/AIDS (CDC, 2009b). Other medical outcomes include human papilloma virus (HPV) infection; persistent infection with high-risk HPV types is further associated with the development of cervical intraepithelial dysplasia (CIN), which may progress to cervical cancer (Leung, 2005). Additionally, psychological outcomes, such as depression and low self-esteem, have been associated with sexual activity occurring in adolescence (Malhotra, 2008; Health Institute for Mother and Child [MAMTA], n.d.; Meier, 2007). Thus, it is essential for adolescents to be aware of and educated on the consequences of these risk behaviours.

The impact of SRBs among Malaysian adolescents has shown a disturbing trend. At public hospitals, more than 70,000 adolescent girls were admitted in 2005, with approximately 37% of these admissions being for pregnancy and related problems (Lum, 2010). In 2006, pregnancies in girls under 15 years of age comprised 0.15 percent of the total births for that year (Lum, 2010). The Ministry of Health recorded 18, 652 pregnant adolescents in 2011 of which 30% were unmarried compared with 5962 pregnant adolescents (26% were single) in the second half of 2010 (Soon & Murali, 2012). One public hospital in Selangor reported that from 2008-2012, about 14% of pregnancy cases involved girls below 19 with many of them unwed (Soon & Murali, 2012). This trend is similar to trends reported by the Malaysia Social Welfare Department. As shown in Table 1.2, the department had already observed 111 such cases by April 2010 (Yee, 2010). These were only underaged pregnant girls who received the welfare aids; the number of underaged pregnant girls could be doubled.

Table 1.2: The Number of Pregnant Underage Girls Receiving Welfare Department Aid

Year	Number
2008	107
2009	131
2010 (January-April)	111

Source: Yee, N. C. (June 26, 2010). Teen pregnancies on the rise with 111 reported this year. *The Star*. Retrieved February 10, 2011, from http://thestar.com.my

In addition to teenage pregnancies, the percentage of HIV infections among adolescents has also increased. The 2008 statistics from the Ministry of Health revealed an increase in new HIV infections among 13 to 19 year olds compared to 2004 (2.0%, up from 0.85%) (UNICEF, 2009).

For incarcerated adolescents, the consequences of SRBs have been shown to be significant. Among juvenile detainees in the US, screened adolescents reported initiating sexual intercourse at an early age (median, 13 years), having numerous sexual partners (median, 8 partners), and inconsistently using condoms (only 37% reported always using a condom) (Belenko et al., 2008). The detained juveniles were reported to have STIs and issues regarding pregnancy and HIV (Belenko et al., 2008). Additionally, studies among adolescent males in detention centres documented high rates of STIs when they were screened at admission (Belenko et al., 2008). A recent study examined the rates and patterns of health risk behaviours in young adolescents in the child welfare system and found that 25.5% of youths had engaged in sexual intercourse, and 4.5% reported having become pregnant or gotten someone pregnant (Leslie et al., 2010).

1.3.3 Rationale of the study

In recent years, more adolescents have engaged in sexual intercourse in Malaysia. The consequences are of concern to the nation. As one of the causal factors for various diseases and conditions in adolescents, SRBs are a significant public health problem. Unless fundamental changes are made, Malaysia does and will face a

tremendous health and economic burden in the very near future. Scientific evidence is required to discern and verify possible associating factors of SRB. Until now, mixed methods studies on SRB have been limited, especially in Malaysia. Thus, an in-depth study on the factors that influence SRBs among adolescents and the circumstances in which SRBs occur could significantly contribute to answering questions about SRBs.

Many studies on adolescent sexual behaviour in Malaysia have been either cross-sectional or solely qualitative. This study is methodologically different from previous studies because a sequential mixed methods approach was used. The combination of quantitative and qualitative approaches provides opportunities in terms of the following: (1) the resulting mixture, which has complementary strengths and non-overlapping weaknesses, (2) expanding or complementing a set of results, and (3) discovering trends that would have been missed if either approach had been used alone. In recent years, translational research has been emphasised to meet people's needs (National Cancer Institute, n.d.). To disseminate research results for practical purposes, researchers must speak at least two languages: the technical language of research and the language that makes the results simple to communicate and easy to understand. Thus, in writing the research, words are as important as numbers (Brannen, 2005). Mixed methods research uses both quantitative and qualitative approaches and has the advantage of allowing for the expression of the results in both words and numbers (Brannen, 2005). This approach also provides enriched data that could further strengthen Malaysia's current Sexual and Reproductive Health policies for all adolescents at various levels.

In the United States, it has been recognised and accepted by Americans that sex is a prevalent part of their lives and is increasingly becoming a prevalent part of their lives at younger ages (Dykeman, Duncan, Irvin, & King, n.d.). In contrast, Asian countries are generally known as traditional societies, wherein premarital sex is

forbidden and viewed as inappropriate. The age of initial sexual activity has been studied among different ethnic backgrounds in the United States (Cavazos-Rehg et al., 2009), and the results showed that African-American males experienced sexual debuts earlier than all other groups (all $p<0.001$), while Asian males and females experienced sexual debuts later than all other groups (all $p<0.001$) (Cavazos-Rehg et al., 2009). However, a study that examined changes in adolescent sexual behaviour in China, Taiwan, and Vietnam highlighted the impact of modernisation on this behaviour (Zabin et al., 2009). These three countries underwent social change, which caused them to depart from traditional sexual behaviours (Zabin et al., 2009). This transformation has also been observed in Malaysia because of the advancement in media technologies (Alavi et al., 2012). Thus, this study will provide in-depth information on the current SRB status and the SRB determinants among adolescents for use in the future implementation of programmes by health professionals and health educators. Moreover, it will also assist policy makers in implementing new policies and programmes, as well as in strengthening existing ones.

In some Asian countries, adolescents face social stigmatisation because of premarital sex. In Vietnam, for instance, both the traditional Vietnamese culture and current governmental policies and propaganda strongly promote abstinence until marriage, and a woman's virginity is considered important for both young men and women (Kaljee et al., 2007). In Korea, the society's traditional beliefs relating to the ancient Chinese philosophy of Confucianism mean that sex and pregnancy out of wedlock are also considered very undesirable (Cha, 2005). Similarly, the topic of sexuality has largely remained a taboo subject in Malaysia, where the cultural values are governed by religious teachings that discourage the discussion of sexual topics (Siti Nor et al., 2010). Because of the social and religious consequences, most adolescents do not want to expose their sexual experiences. Thus, the experiences shared by the

adolescents in this study will help professionals caring for adolescents to understand the problems that have led them to engage in such behaviours. These findings will eventually aid in the development of better and more comprehensive programmes appropriate for adolescents in this millennia.

The risk factors of SRBs have been well documented around the world (Blum, 2005). However, less well known are the determinants of SRBs among adolescents confined within welfare institutions, particularly in Malaysia. Researchers can only gain access to related statistics based on individual studies or reports by non-governmental organisations (WHO, 2007). This gap in the literature is a cause for concern given the links between SRB and individual, interpersonal, social and community factors affecting adolescents within the institutional system (Voisin, DiClemente, Salazar, Crosby, & Yarber, 2006).

One main issue in the rationale for this study was the validity of previous studies. Although there have been various studies on SRB conducted by different agencies, many have suggested for further research and improvement in the validity of results. One reason is the setting in which such surveys occurred. In schools, for example, students may be afraid that their confidentiality might be violated and that their sexual experiences could be exposed to teachers and friends (Lee et al., 2006). Another reason is the sensitive topic of sex, which many adolescents in the general population are uncomfortable talking about freely and which may make the findings unrepresentative of the incarcerated population. Depending on the setting and the target population, the reported prevalence of SRBs may also be biased (WHO, 2007). Thus, welfare institutions were selected for their remote locations because information on sexual behaviour could be given by adolescents in confidence and the identification of the determinants of SRBs could be obtained.

The findings will strengthen the current sexual education curriculum for Malaysia's adolescents to become more knowledgeable, confident and respect self and others. Not many adolescents receive adequate preparation for their sexual lives. This leaves them potentially vulnerable to unwanted pregnancy and STIs, including HIV. Effective sexual education can offer adolescents opportunities to explore their attitudes and values, and to practice decision-making and other life skills they will need to be able to make informed choices about their sexual lives. Due to the impact of cultural values and religious beliefs on all individuals, especially on adolescents, an effective sexual education can help them to abstain from or delay the debut of sexual relations; reduce the frequency of unprotected sexual activity and increase the use of protection against unintended pregnancy and STIs during sexual intercourse.

Welfare institutions settings provide an important opportunity to reach large numbers of adolescents who have been involved in sexual activities. Being institutionalised, some adolescents are not permitted to attend government schools. This study will identify the need for SRH programmes, especially for adolescents who are incarcerated and those identified as being at-risk for SRBs. Healthcare professionals will then be provided with specific insights into adolescents' SRB, which can be used to create better programmes and more practical methods for delivering these SRH programmes.

Finally, the results of mixed methods studies conducted among the incarcerated population in Malaysia remain unknown or unpublished. It is expected that the rich findings gathered from this method of study will reduce SRBs by establishing comprehensive interventions, especially for at-risk adolescents in Malaysia.

1.4 Objectives, Research Questions, and Hypotheses

The first purpose of this study was to determine the factors and proportions of SRB among incarcerated adolescents within the social welfare institutional system. Then, based on these findings, adolescents' perceptions of the reasons for initiating sexual intercourse, as well as their first sexual experiences, were explored through in-depth interviews and written essays. The themes that emerged from the qualitative phase describe the basis for engaging in sexual intercourse.

1.4.1 General objective

To determine the relationships between the factors identified from the Social Ecological Model (SEM) and sexual risk behaviours (SRBs) among incarcerated adolescents within the social welfare institutional system.

1.4.2 Specific objectives

1) To determine the proportion of sexual risk behaviours, i.e., ever had sex, early sexual debut, multiple sex partners, non-contraception use, and sex with high-risk partners among incarcerated adolescents.
2) To identify the predictors of ever had sex among incarcerated adolescents.
3) To establish the factors in SEM that are associated with SRBs among incarcerated adolescents.
4) To establish the association between factors of SRBs and variables in the SEM among incarcerated adolescents, by gender.
5) To ascertain pathways relating to sexual initiations among incarcerated adolescents.
6) To investigate incarcerated adolescents' perceptions of the factors that influenced their initiation of sexual intercourse.
7) To explore first sexual experiences among incarcerated adolescents.

8) To recommend policies and public health interventions that could reduce the negative outcomes of sexual risk behaviour among adolescents.

1.4.3 Research questions and hypotheses

Question 1: What are the associating factors related to individuals who have had sex?

Hypothesis 1: Every component of the SEM is associated with the number of individuals who have had sex.

Question 2: What are the associating factors of SRBs?

Hypothesis 2: Every component of the SEM is associated with SRBs.

Question 3: What are the associating factors of SRBs by gender?

Hypothesis 3: Every component of the SEM is associated with SRBs for both genders.

Question 4: What are the pathways related to adolescents' sexual initiations?

Question 5: What are adolescents' perceptions of the factors that have influenced their sexual initiations?

Question 6: What are the first sexual experiences like for adolescents?

1.5 The Course of Research Development

The motivation to embark on this study arose after several individual observations and discussions with various agencies. For the past few years, reported numbers on adolescents' sexual activities, underage and unwed pregnancies as well as abandoned babies have increased in Malaysia. Taken individually, this issue is very disturbing and there is a need to find out reasons for such behaviour. Many non-governmental (NGOs) agencies were also urging the Malaysia government to put a stop to this issue. For the NGOs, this problem has been around for quite sometime and actions have been taken by them at a smaller scale due to budget constraint and manpower. Additionally, the Ministry of Health Malaysia have made the topic on adolescents' sexual behaviour as a research priority and welcomed studies on it.

Following discussions with Adolescent Health Specialists, it was agreed that complications from sexual risk behaviour among adolescents admitted to hospitals was becoming more frequent compared to other health problems. Thus, a mixed methods study to determine the magnitude of sexual risk behaviour among adolescents and its associated factors was developed.

1.6 Outline of the Thesis

The main body of the thesis is divided into six chapters, including the introduction (Figure 1.1), with the content of the subsequent chapters as follows. Chapter Two contains a literature review on the prevalence and negative outcomes of SRBs. A review of SRB determinants is included along with a concluding summary of the gaps found in the literature. Chapter Three presents the methodology which utilized mixed methods and is divided into two sections. The first section covers the methods and design of the quantitative phase, while the second section describes the methods of the qualitative segment. Chapter Four presents the separate results from the two methodologies, as well as the findings from methodological triangulation. Chapter Five contains the discussion, interprets the findings based on the research objectives, specific recommendations as well as public health implications. It also discusses the study's strengths and limitations. Chapter Six is the conclusion, and it includes a summary of the findings and public health policy implications regarding SRBs. This section also includes recommendations for future research.

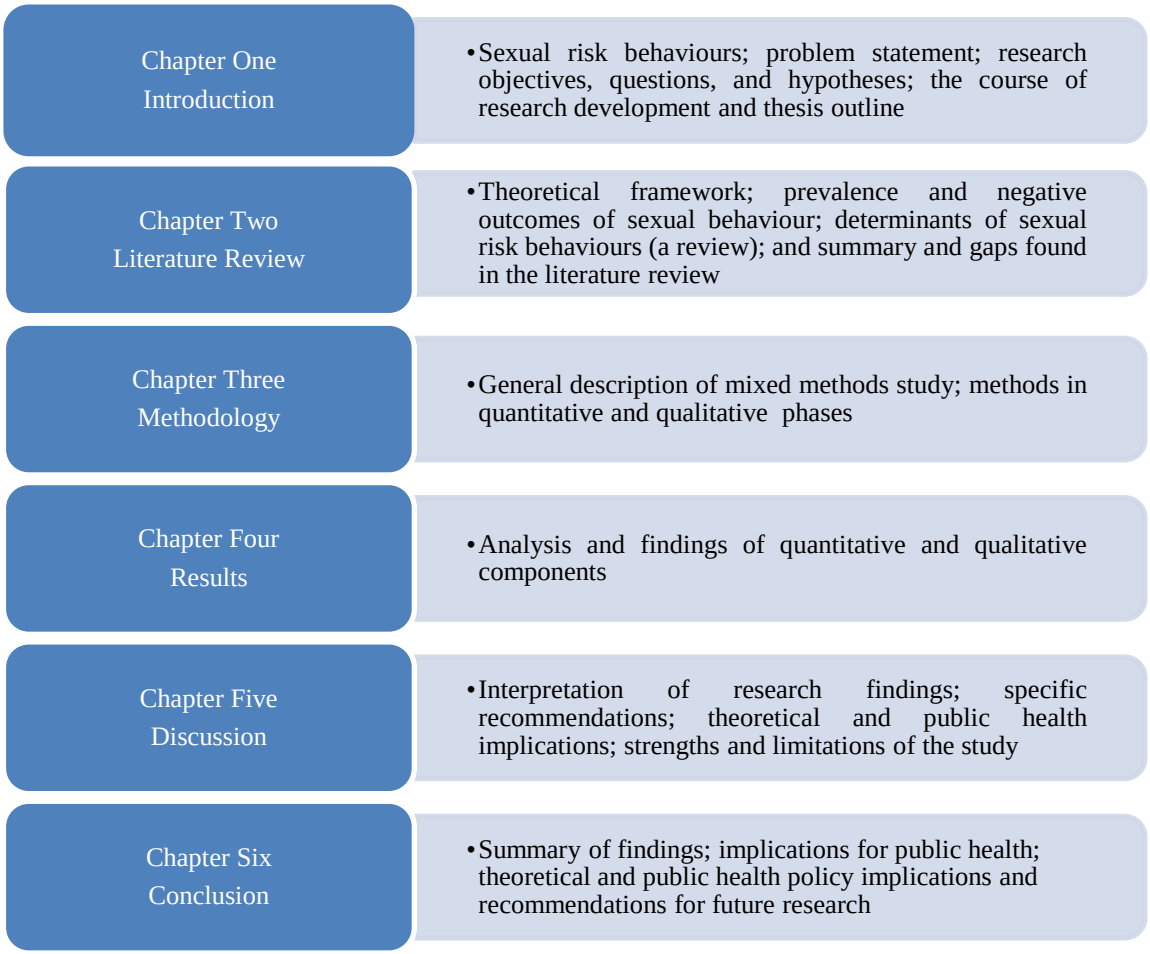

Figure 1.1: Thesis Outline

1.7 Conclusion of Chapter One

The increasing levels of SRBs among adolescents are becoming a public health concern because of the related health implications. The objective of this study was to better understand the factors that influence SRB among incarcerated adolescents and the circumstances in which SRB occurs. To examine these factors, data were collected using self-reported questionnaires, in-depth interviews and written essays.

Chapter Two: Literature Review

2.1 Introduction

The main purpose of this chapter is to review and summarise the literature on the prevalence of sexual risk behaviours, their harmful outcomes and the determinants of this behaviour among adolescents worldwide. Descriptions of the theoretical frameworks used in this study are also included.

2.2 Background of this Review

The word *adolescence* comes from the Latin word *adolescere*, meaning "to grow up" (Adolescence, 2009). Adolescence is a developmental transition between childhood and adulthood (Marcell, 2007); it is the period extending from the commencement of physiologically normal puberty to the establishment of adult identity and behaviour (Marcell, 2007). Puberty is a time when children undergo multiple physical, social, psychological and cognitive changes that propel them toward physical maturity and an adult lifestyle (Rew, 2005). For many individuals, puberty includes experimentation with behaviours they consider to be appropriate, such as SRBs (Jessor & Jessor, 1977). These behaviours raise concerns because of their potentially adverse consequences.

2.3 Aim of this Review

This review specifically addresses the factors that accompany SRB and contains four sections. The first section provides an overview of the prevalence of SRB globally, regionally and locally. The second section describes the negative health consequences of SRB. The third section lists the determinants of SRB and is organised into individual, interpersonal, community and societal sub-sections. The final section presents several literature reviews on SRB in incarcerated adolescents.

2.4 Process of Searching for Relevant Literatures

2.4.1 The criteria for including articles

Articles were collected by reviewing the globally published literature on adolescent health. An online search of articles published from 1990 to 2011 was performed using a combination of bibliographic databases (e.g., PubMed, Science Direct and Google Scholar) and the World Wide Web. Additional articles were gathered through bibliographic searches. To be included in this review, the paper had to (1) address or contain information on adolescents, (2) be in English, (3) have been published between 1990 and 2011, and (4) include studies on the prevalence of common SRBs, the negative outcomes of SRBs, associating factors of SRBs and SRBs among adolescents within juvenile or welfare institutions.

2.4.2 The searching of articles

Articles were collected by entering relevant keywords, including “adolescent,” “teenagers,” “youth” and “incarcerated adolescents,” along with “sexual behaviour,” “high-risk sexual behaviour,” “risky sex” and “sexual risk behaviour.” The articles were obtained in full and reviewed to determine whether they met the inclusion criteria.

2.4.3 Article selection

Only 500 articles were evaluated against the inclusion criteria. Those articles that did not meet the necessary requirements were excluded, resulting in a total of 214 articles that were retrieved and included in the review (Figure 2.1).

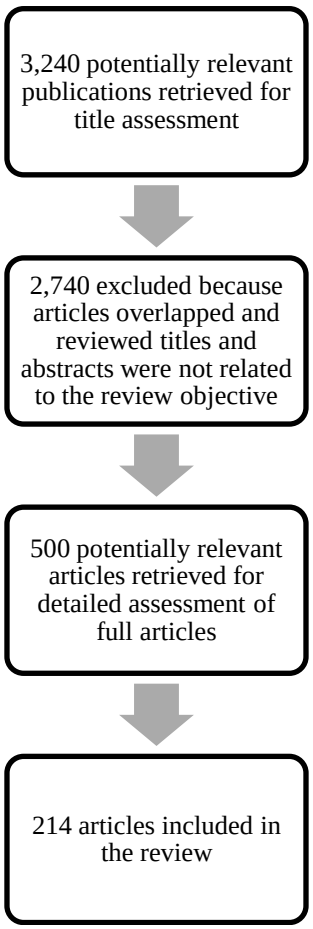

Figure 2.1: Number of Articles Included in the Review

2.5 The Prevalence of Common Sexual Risk Behaviours

There were 33 articles, dated 2005 to 2012, which provided prevalence data on sexual-risk behaviour. The prevalence was reported based on five indicators: (1) the percentage of adolescents who reported having had sexual intercourse, (2) the percentage of adolescents who reported initiating sex by the age of 16, (3) the percentage of boys and girls who reported having had sexual intercourse with more than one partner, (4) the percentage of contraception use during adolescents' last intercourse, and (5) the percentage of adolescents who reported having sex with high-risk partners, such as men having sex with men.

2.5.1 Identification of individuals who have ever had sexual intercourse

In recent years, trends of sexual behaviour among adolescents have become less prevalent in some countries, while the prevalence in other countries has not changed or has increased. In the United States, the prevalence of adolescents who reported ever having sexual intercourse declined between 1991 and 2009 (CDC, 2009d). Obviously, this is a healthy trend with regards to sexual activity in the United States. However, differences remain in the sexual activity rates among adolescents from different ethnic backgrounds. In 2009, black high school students were more likely to have had sexual intercourse (65%) compared to White (42%) and Hispanic students (49%) (Kaiser Family Foundation, 2011).

In Asia, sexual intercourse is on the rise in several countries in the region (Zabin et al., 2009). Once considered taboo, sexual activity is becoming increasingly common among young Thais (The United States Agency for International Development (USAID), 2011). In one survey conducted in 2004 among Thai adolescents, 19.1% of males and 4.7% of females reported having sexual intercourse (Kanato & Saranrittichai, 2006). A later survey conducted in 2007 in 11 Thai provinces among youths aged 15 to 22 found that 49% believed that sex among unmarried adolescents was acceptable (USAID, 2011). An even more recent study found that more than 50% of Thai adolescents were sexually active (Khumsaen & Gary, 2009).

Malaysian adolescents' patterns of sexual behaviour follow the same trends as other Asian countries. The percentage of premarital sexual activity among adolescents aged 12-19 years appears to have increased in Malaysia in recent years (IPH, 2008). In 2006, it was reported that 8.3% of boys and 2.9% of girls reported having sex (IPH, 2008), an increase of 2.5% for boys and 1.3% for girls, compared to figures from 1996 (IPH, 2008). At the state level, in Negeri Sembilan, 5.4% of secondary school students reported having premarital sexual intercourse (Lee et al., 2006). In a recent study

conducted in Pulau Pinang, 12.6% of secondary school students reported histories of sexual experience (Mudassir et al., 2010).

2.5.2 Early sexual debut

Worldwide, 11% of adolescent girls have sex before the age of 15 (UNICEF, 2011c). Approximately 7.1% of American youth reported sexual debuts prior to age 13, with more male than female youths reporting the behaviour (Eaton et al., 2008 & Finer, 2007). A more recent finding from a U.S. study reported that the probability of survival (not having become sexually active) by their 17th birthday was less than 35% for Asians (28% for females, 33% for males) and less than 60% for Caucasians (58% for females, 53% for males) and Hispanic females (59%) (Cavazos-Rehg et al., 2009). However, the probability for sexual debut by their 17th birthday was greatest for African-Americans (74% for females, 82% for males) and Hispanic males (69%) (Cavazos-Rehg et al., 2009). Additionally, one study conducted in Norway found that early sexual debut (ESD) was reported by 25% of adolescents (Valle, Torgersen, Roysamb, Klepp, & Thelle, 2005).

In Africa, 27.3% of nationally representative adolescents from eight African countries experienced their sexual debut before the age of 15 (Peltzer, 2010). However, the progress toward ESD seems to have decreased, with ESD trends among African adolescents falling between 2000 and 2008 (Peltzer, 2010). This was observed among the 15 to 19-year-olds in 13 of 17 (statistically significant in eight) countries (Ghys et al., 2010).

Approximately 8% of adolescent girls have sex before the age of 15 in Southern Asia (UNICEF, 2011a), which includes countries such as India, Pakistan and Bangladesh, among others. In China, 6% of sexually active youths initiated sexual activity before high school, and 37% did so in high school (Ma et al., 2009). Data regarding the national prevalence of ESD in Malaysia were not available. However, a

recent study performed in Pulau Pinang, Malaysia, found that 75.7% of adolescents had their sexual debut between the ages of 15-19 years (Mudassir et al., 2010). These prevalences differed by region because of variations in the cut-off point for ESD from one country to another. For example, certain country like India defines ESD as less than 15 years old while China defines it as less than 18 years (UNICEF 2011a & Guo et al., 2012).

2.5.3 Multiple sexual partners

Individuals having multiple sexual partners (MSPs) are at risk of getting STIs and the prevalence of this risky behaviour is alarming as showed in various studies. A Youth Risk Behaviour Surveillance System (YRBSS) conducted in the U.S. reported that 13.8% of youths had multiple sexual partners (CDC, 2009d). In Africa, a trend analysis reported a reduction in the proportion of adolescents with multiple partners in the majority of countries, including Tanzania (Ghys et al., 2010), where the percentages of both male and female adolescents who reported having had sexual intercourse with more than one partner were 2.5% and 9.3%, respectively (Ghys et al., 2010). However, in Asian countries such as Thailand, the pattern of risky sexual behaviour is changing rapidly (Rasa mimari, Dancy, Talashek, & Park, 2007). A recent survey found that 39% of sexually active young Thai individuals reported having two or more sexual partners (Rasamimari et al., 2007).

2.5.4 Contraceptive use

The use of contraceptives can protect sexually active individuals from STIs and alleviate problems associated with unwanted pregnancies. Some countries have shown fine practices of contraception among their adolescents. However, the usage among adolescents in certain Asian countries is still poor.

Currently, in the United States, sexually active adolescents are more likely than in past generations to use contraceptives, including condoms. Data from the YRBSS conducted from 1991-2003 showed an increase in the percentage of condom use for both male and female students from 46.2% to 63.0% (CDC, 2009d). However, the trend reached a plateau from 2003-2009 (CDC, 2009d). Encouragingly, since 2007, the teen birth rate in the U.S. has consistently declined to 39.1 per 1,000 females in 2009 (Kaiser Family Foundation, 2011).

Adolescents in developing countries have shown a higher proportion of contraceptive use in recent years. Patterns and trends for contraceptive use among unmarried adolescents in developing countries have been observed using the Demographic and Health Survey (DHS) (Blanc, Tsui, Croft, & Trevitt, 2009). The current use of contraceptives among sexually active female adolescents in Uganda was found to be higher in 2006 (37.2%) compared to contraceptive use in 1988 (5.8%) (Blanc et al., 2009). Additionally, more sexually active and unmarried female adolescents were found to use contraceptives compared to married adolescents (Blanc et al., 2009) as observed for 38% vs. 60% of female adolescents in Kazakhstan and 4% vs. 45% of female adolescents in Nigeria (Blanc et al., 2009), respectively.

Despite the HIV epidemic in Thailand, many adolescents reported being inconsistent condom users; in 2004, the percentage distribution of inconsistent condom use among youths was reported as 48.7% (Haque & Soonthorndhada, 2009). According to the United Nations Development Programme, only 20 to 30% of Thai youths use condoms consistently (USAID, 2011). A recent study found that 28.3% of youths reported that they never used condoms at the beginning of a sexual relationship, 31.7% reported not using condoms the last few times they engaged in sexual relationships, and 25.6% reported never using condoms in a sexual relationship (Khumsaen & Gary, 2009).

For a traditional country where premarital sex is generally not approved, reports on the prevalence of condom usage among Malaysian adolescents are obviously limited. From a review of the literature on adolescents' sexual and reproductive health in Malaysia, one study reported ninety percent of sexually active Malaysian in-school females admitted to not taking any measures to prevent pregnancy (WHO, 2007). However, 60% of out-of-school females said they used contraceptives. In contrast, approximately 30% of in-school males and 15% of out-of-school males took precautions to avoid impregnating their sexual partners (WHO, 2007). Additionally, the review also reported a study in Kuala Lumpur in which only 37% of the sexually active teenage respondents said they used some form of birth control, regardless of their knowledge of birth control methods (WHO, 2007). A recent survey among urban youths found that of those who were sexually active, less than half (41.8%) used contraception the first time they engaged in sexual intercourse (Zainuddin et al., 2009).

2.5.5 Sex with high risk partners: Men having sex with men

In the United States, it was estimated that 4% of men have sex with men (MSM) (Kann, 2011). The CDC's recent data showed that there has been a 48% increase among young black MSM (CDC, 2011). However, the national prevalence of sexual behaviour with same-sex partners among females aged 15-19 years has remained the same (11%) from 2006-2008 (Chandra, 2011).

Because of the lack of openness among people living in Asian countries, information on individuals' sexual orientations is limited. For example, in Cambodia, just over 1.5% of youths reported same-sex preferences (UNICEF, 2010). Similarly, the situation in Malaysia also limits the availability of and accessibility to sexual health information specifically regarding MSM. Nevertheless, one national study reported that the prevalence of homosexuality among males and females 15-19 years old was 10.1% and 7.6%, respectively (IPH, 2008).

2.6 The Negative Outcomes of Sexual-Risk Behaviours

2.6.1 Sexually transmitted infections

Sexually transmitted infections are the most common infections in adolescents. STIs are known to have long-term reproductive health consequences for females, such as pelvic inflammatory disease (PID), tubal infertility, ectopic pregnancy, chronic pain and an increased risk of exposure to HIV (Boyer et al., 2006). According to World Health Organization (WHO), 333 million new cases of curable STIs occur worldwide each year, with the second highest rates occurring among 15 to 19-year-olds (Dehne & Riedner, 2001). One review on the global epidemiology of sexually transmitted diseases stated that fifty percent of all newly acquired STIs occur among adolescents worldwide (Da Ros & da Silva Schmitt, 2008). In the United States, STIs were found to be a serious problem among female adolescents, and it was predicted that nearly 3 million females aged 14-19 had at least one STI (Forhan et al., 2009).

In Asia, nationwide studies on the prevalence of STIs among adolescents are limited. In Singapore, a dramatic increase in STIs was observed from 1999 to 2003 (Sen, Chio, Tan, & Chan, 2006). The incidence of STIs was 162 cases per 100,000 population (6,318 cases) in 1999, and 195 cases per 100,000 population (8,175 cases) in 2003 ($p < 0.01$) (Sen et al., 2006). This trend was largely the result of an increase in the incidence of gonorrhoea, infectious syphilis, chlamydial cervicitis and genital herpes, among others (Sen et al., 2006). In China, the incidence of STIs among 15 to 19-year-olds has risen by 79.5% since 1999 (World Health Organization (WHO), 2012b). The data for STIs among adolescents in Malaysia is difficult to obtain, as they often withdraw from public clinics (WHO, 2007). An analysis of 5,485 visits by adolescents to eight government clinics found only seven cases (0.1 percent) that had sought treatment for urethral discharge and another 12, or 0.2%, for urinary tract infections (WHO, 2007). However, such ailments cannot be construed as being synonymous with

STIs. In another study performed in Malaysia, female adolescents under the age of 20 were reported to have significantly higher rates of infection with *Chlamydia trachomatis* and hepatitis B virus than older women ($p<0.05$) (Ramachandran & Ngeow, 1990).

SRBs increase the probability of adolescents developing STIs (Rew, 2005). This description is consistent with previous studies on the determinants of STIs among adolescents. A study conducted among female adolescents in the U.S. reported the odds of having any of five STIs were greater for those with more lifetime sex partners (OR: 4.90 [95% CI: 2.20-11.0]), and especially for ≥ 3 vs. 1 lifetime sex partner (OR: 4.40 [95% CI: 1.80-10.5]) (Forhan et al., 2009). For adolescent boys, reporting a new sexual partner within the last three months was also found to be a significant risk factor (Rassjo, Mirembe, & Darj, 2006). Similarly, studies in developing countries found that adolescents who had a higher number of sexual partners were more likely to have STIs (Blum, 2005). In addition to multiple sexual partners, having the first experience of sexual intercourse at a younger age was also associated with higher odds of STIs (Boyer et al., 2006; Kaestle, Halpern, Miller, & Ford, 2005).

2.6.2 HIV/AIDS

Human immunodeficiency virus (HIV) is a retrovirus that infects cells of the immune system, destroying or impairing their function (WHO, 2011b). As the infection progresses, the immune system becomes weaker, and the person becomes more susceptible to infections (WHO, 2011b). The most advanced stage of HIV infection is Acquired Immune Deficiency Syndrome (AIDS) (WHO, 2011b). It can take up to 10-15 years for an HIV-infected individual to develop AIDS (WHO, 2011b).

It is widely known that adolescents are at or near the epicentre of the global HIV epidemic across almost all geographic risk profiles and locations (UNICEF, 2011a). As of 2009, there were 5 million young people aged 15-24 in the world living with HIV

(UNICEF, 2011b). One recent study estimated that 2,500 young people are newly infected with HIV every day (The Joint United Nations Programme on HIV/AIDS [UNAIDS], 2011). In the U.S., the estimated number of cases of HIV/AIDS among 15- to 19-year-olds has shown an increasing trend from 2003 to 2006 (CDC, 2007). Black adolescents aged 13-19 years have been disproportionately affected by the HIV epidemic (CDC, 2009a). In 2009, an estimated 73% of diagnoses of HIV infection among 13 to 19-year-olds were among black adolescents (CDC, 2009a). In terms of age, younger females aged 13-19 years accounted for an estimated 23% of adolescents diagnosed with HIV infections, compared with 19% of young adults aged 20-24 years (CDC, 2009a). In South Africa, HIV infection is highest in adolescents aged 10-19, which encompasses 210,000 females and 82,000 males (UNICEF, 2011c). In Asia, 77,000 girls and 78,000 boys aged 10-19 were estimated to be living with HIV (UNICEF, 2011c). China is experiencing one of the most rapidly expanding HIV epidemics in the world, with a 30% annual rate of increase in reported infections (WHO, 2012b). Malaysia is no exception with respect to the HIV/AIDS epidemic, and the number of infections is increasing among adolescents (UNICEF, 2009). Statistics from the Malaysian Ministry of Health from 2008 revealed an increase in new HIV infections among 13 to 19-year-olds compared to 2004 (2.0%, up from 0.85%) (UNICEF, 2009).

Studies have shown that adolescents who practice SRBs are most affected by the HIV epidemic (Wilson, Wright, Safrit, & Rudy, 2010). Among the ethnic minorities in the U.S., the HIV epidemic is expanding most rapidly because of unprotected anal intercourse among young MSM (Wilson et al., 2010). In Southern Brazil, the odds of being diagnosed as HIV seropositive were 10 times higher among those who had early sex (before 12 years of age) compared to those who engaged in sex at age 12 or older (Bassols, Boni, & Penchansky, 2010). In Africa, the risk of HIV infection in female

adolescents is directly related to the age and risk profile of their partners (Wilson et al., 2010); they are infected at younger ages through exposure to older males (Wilson et al., 2010). In another study conducted in sub-Saharan Africa, it was reported that exposure to unprotected sexual relationships was a factor in increasing the vulnerability of female adolescents to HIV (Underwood, Skinner, Osman, & Schwandt, 2011).

2.6.3 Adolescent pregnancy

Adolescent pregnancy is defined as pregnancy occurring in females aged 13-19 years. It has been reported that a majority of adolescent pregnancies are unplanned and result from risky sexual behaviours (Coleman, 2006; Domenico & Jones, 2007). Often, these pregnancies lead to serious health and social complications, including unsafe abortions and baby dumping (Bruyn & Packer, 2005).

Worldwide, it has been reported that 10-14% of young females experience unwanted pregnancies (Bruyn & Packer, 2005). It was also estimated that 16 million women between the ages of 15-19 give birth each year, roughly 11% of all births worldwide (Mangiaterra, Pendse, McClure, & Rosen, 2008). Regionally, adolescent pregnancies comprise 2 percent of all births in China, 18% in Latin America and more than 50% in sub-Saharan Africa (WHO, 2012a). In the United States, a vast majority of teen pregnancies are unplanned (Bruyn & Packer, 2005). These pregnancies comprise a fifth of the total number of unintended pregnancies annually in the US (Bruyn & Packer, 2005). In Malaysia, many adolescents are getting pregnant. In 2005, approximately 37.0% of adolescent girls were admitted to public hospitals for pregnancy and related problems (Lum, 2010). In the following year, it was reported that pregnancy in Malaysian girls under 15 years of age comprised 0.15% of the total births (Lum, 2010). Another report by the Malaysian Welfare Department stated that the number of unmarried pregnant adolescents had increased dramatically between 2008 (107 cases) and 2009 (131 cases) (Yee, 2010).

Unwanted pregnancy in adolescents has been associated with SRBs. A study in Jamaica found that adolescents who had early sexual debuts, i.e., by the age of 14, were at higher risk for pregnancy (Baumgartner, Geary, Tucker, & Wedderburn, 2009). One study among adolescent females in Dutch detention centres found that SRB predicted pregnancy (Sannie et al., 2007). Another study in the United States reported that adolescent risky sexual behaviours such as multiple partners and non-contraceptive use were causal factors contributing to adolescent pregnancy (Kirby & Lepore, 2005).

2.7 The Determinants of Sexual-Risk Behaviour among Adolescents

In total, 135 articles addressing the determinants of SRB were identified. All determinants were classified into four levels of influence as adapted from the SEM and the WHO Risk and Protective Factors Affecting Adolescent Reproductive Health Framework. An evidence table is included for each level of influence.

2.7.1 Individual-level influences

There were 82 articles published from early 2000 to the present that focused on individual determinants of SRBs. Individual determinants included biological and personal history factors that may increase or decrease the likelihood of an individual becoming involved in SRBs.

Studies have shown that there is an association between gender and SRBs among adolescents (Mudassir et al., 2010; Brown et al., 2008; Donenberg, Wilson, Emerson, & Bryant, 2002; Huang, Murphy, & Hser, 2011; Lee et al., 2006; Li et al., 2009; Liu et al., 2006; Suzanne, Teijlingen, & Tucker, 2009; Podhisita, Xenos, & Anchalee, 2001; Puente et al., 2011; Puffer, 2011; Rahamefy et al., 2008; Rasamimari et al., 2007; De Rosa, Ethier, Kim, Cumberland, & Afifi, 2010; Sambisa et al., 2008; Slap et al., 2003; Yamamoto, 2006). Many studies have shown that male adolescents are more likely than females to engage in SRBs (Mudassir et al., 2010; Huang et al., 2010;

Lee et al., 2006; Li et al., 2009; Liu et al., 2006; Podhisita et al., 2001; Puente et al., 2011; Puffer, 2011; Rahamefy et al., 2008; Rasamimari et al., 2007; Rosa et al., 2010; Sambisa et al., 2008; Yamamoto, 2006). However, other studies have shown that female adolescents engage in SRBs more often than male adolescents (Alemu, Mariam, Belay, & Davey, 2007; Brown et al., 2008; Donenberg et al., 2002; Suzanne et al., 2009; Slap et al., 2003; Thompson & Auslander, 2011).

The association of age and SRBs has also been documented in several other studies (Bachanas et al., 2002; Brown et al., 2008; Lee et al., 2006; Li et al., 2009; Liu et al., 2006; Mathews et al., 2009; Minna et al., 2009; Podhisita et al., 2001; Puffer, 2011; De Rosa et al., 2010; Sanchez, Grogan-Kaylor, Castillo, Caballero, & Delva, 2010; Trajman et al., 2003; Wang et al., 2007; Yamamoto, 2006; Yan et al., 2009). Often, it was found that younger adolescents were more likely to engage in SRBs compared to older adolescents, especially among males (Bachanas et al., 2002; Liu et al., 2006; Puffer, 2011; Tavares et al., 2009). However, in a local study, generally conservative values in the population caused adolescents to report having sex at older ages (Lee et al., 2006). Only a few studies were found to associate race or ethnicity with SRBs (Mudassir et al., 2010; Caminis, Henrich, Ruchkin, Schwab-Stone, & Martin, 2007; Cavazos-Rehg et al., 2011; Huang et al., 2011; Ompad et al., 2006; De Rosa et al., 2010). Four studies found differences based on ethnicity, where ethnic minorities were more likely than the majority to engage in SRBs (Caminis et al., 2007; Cavazos-Rehg et al., 2011; Huang et al., 2011; Ompad et al., 2006). Another individual characteristic, the onset of puberty, also placed adolescents at risk of engaging in SRBs. Studies found that early puberty was associated with sexual intercourse (Deardorff, Gonzales, Christopher, Roosa, & Millsap, 2010; Michaud, Suris, & Deppen, 2006; Siebenbruner, Zimmer-Gembeck, & Egeland, 2007).

Numerous studies have reported an association between substance use and SRBs. For instance, adolescents who admitting having smoked tobacco at any point were linked to influencing adolescents regarding SRBs (Caminis et al., 2007; Cavazos-Rehg et al., 2011; San San, Oo, Yoshida, Harun-Or-Rashid, & Sakamoto, 2010; Lee et al., 2006; Liu et al., 2006; Pahl, Brook, Morojele, & Brook, 2010; Schofield, Bierman, Heinrichs, & Nix, 2008; Takakura, Ueji, & Sakihara, 2001; Wong et al., 2009; Yan, Chiu, Stoesen, & Wang, 2007; Yi et al., 2010). Those who had consumed alcohol or used illicit drugs at any point were similarly associated with these behaviours (Alemu et al., 2007; Alexander, Garda, Kanade, Jejeebhoy, & Ganatra, 2007; Avalos et al., 2010; Bachanas et al., 2002; Caminis et al., 2007; Cavazos-Rehg et al., 2011; Donenberg et al., 2002; Fatusi & Blum, 2007; San San et al., 2010; Kalina et al., 2009; Khumsaen & Gary 2009; Kiene, Barta, Tennen, & Armeli, 2009; Laksmana, 2003; Latimer, Rojas, & Mancha, 2008; Lavikainen, Lintonen, & Kosunen, 2009; Lee et al., 2006; Levy, Lon-Sherritt, Gabrielli, Shrier, & Knight, 2009; Lomba, Apostolo, & Mendes, 2009; McGrath, Nyirenda, Hosegood, & Newell, 2008; Penelope et al., 2010; Robinson, 2010; Rosengard et al., 2006; Schofield et al., 2008; Scott-Sheldon, Carey, & Carey, 2010; Siebenbruner et al., 2007; Siziya, Muula, Kazembe, & Rudatsikira, 2008; Stanton, Li, Cottrell, & Kaljee, 2001; Steinberg, Boudov, Kerndt, Grella, & Kadrnka, 2008; Tavares et al., 2009; Thompson & Auslander, 2011; Towe, Hasan, Zafar, & Sherman, 2009; Twa-Twa, Oketcho, Siziya, & Muula, 2008; Whitaker, Miller, & Clark, 2000; Wisit & Pichainarong, 2011; Wong et al., 2009; Yan et al., 2007; Yi et al., 2010). The influence of smoking and alcohol use on adolescents' sexual behaviours has also been documented in several qualitative studies (Alemu et al., 2007; Saranrittichai, Sritanyarat, & Ayuwat, 2006; Skinner, Smith, Fenwick, Fyfe, & Hendriks, 2008). The reason for such behaviour was believed to be a side effect of the alcohol, which makes individuals more sexually aroused (Kennedy, Nolen, Applewhite, Waiters, &

Vanderhoff, 2007; Lindgren, Pantalone, Lewis, & George, 2009; Skinner et al., 2008). Sexual health knowledge, including knowledge of STIs, is another factor associated with SRB. Studies have reported that both good and poor knowledge of sexual health are associated with these behaviours (Anderson-Ellstrom & Milsom, 2002; Mudassir et al., 2010; Li et al., 2009; Liu et al., 2006; Rasamimari et al., 2007; Swenson et al., 2010; Wang et al., 2007; Yan et al., 2009).

Many adolescents who experience a childhood history of physical and sexual abuse suffer negative developmental outcomes. Some of the short-term effects include inappropriate sexual behaviours and promiscuity (Alexander et al., 2007; Black et al., 2009; Hellerstedt, Petersen-Hickey, Rhodes, & Garwick, 2006; Houck, Nugent, Lescano, Peters, & Brown, 2010; Wong et al., 2009). This association has been described in many life story interviews. Some women described feelings of emotional numbing and abuse-related distress as bridges between abuse experiences and increased numbers of sexual partners (Clum, Andrinopoulos, Muessig, & Ellen, 2009).

Several individual factors of adolescents' sexual initiation have also emerged from qualitative studies. Some of the factors that motivated adolescents to engage in sexual intercourse included fun (Low, Ng, Fadzil, & Ang, 2007; Ng & Kamal, 2006; Patrick et al., 2010), physical pleasure (Low et al., 2007; Ng & Kamal, 2006; Patrick et al., 2010) and experimentation (Low et al., 2007; Ng & Kamal, 2006; Patrick et al., 2010; Skinner et al., 2008), as well as in response to negative states, such as to forget their worries (Low et al., 2007; Ng & Kamal, 2006; Patrick et al., 2010), a lack of self-esteem (Clum et al., 2009; Patrick et al., 2010) and to escape boredom (Low et al., 2007; Patrick et al., 2010).

Other individual features such as education level (Alemu et al., 2007; Alexander et al., 2007; Mudassir et al., 2010; Fatusi & Blum, 2008; Minna et al., 2009; Tavares et al., 2009; Wang et al., 2007; Wong et al., 2009), self-esteem (Podhisita et al., 2001;

Spencer et al., 2002), satisfaction with life (Sun & Shek, 2010) and a favourable attitude toward premarital sex (Puffer, 2011; Wang et al., 2007; Wong et al., 2009; Yan et al., 2009) also predicted SRBs.

Table 2.1 lists some of the recent studies that include individual determinants of SRBs. Having a history of child sexual abuse is the strongest predictor.

Table 2.1: Evidence Table of Individual Determinants of Sexual Risk Behaviours

Author, Year	Objectives	Study design, level of evidence (Coleman, et al., 2005)	Outcomes	Results	Limitations
(Suzanne et al., 2009)	Factors of self-reported first sex	Cross sectional, IV	Early sex, i.e., < 16 years	Females more likely than males (OR 1.48)	Cross sectional; self-reported behaviour
(Tavares et al., 2009)	Factors of sex initiation	Cross sectional, IV	Sex-initiation	Age greater than 14 years (OR 2.13)	Public secondary school students
(Wong et al., 2009)	Personal and environmental factors and premarital sex	Case control, III	Recent sexual intercourse	Permissive attitude (OR 4.76); lower education (OR 2.85) and knowledge of SH (OR 1.34)	Selection of controls–bias; undetermined cause and effect and recall error
(Houck et al., 2010)	Association of childhood sexual abuse and sex risk	Cross sectional, IV	Sex behaviours	Child sexual abuse (OR 2.83)	Small sample size and unsure generalisability
(Avalos et al., 2010)	Substance use and risky sexual behaviour	Cross sectional, IV	SRB	Alcohol (IRR 2.8) and drug use (IRR 2.3)	No causal inferences

2.7.2 Interpersonal relationship-level influences

Interpersonal relationship-level influences are factors occurring as a result of relationships with family members and peers. Thirty-three articles addressed risk factors for SRBs within this level of influence. Adolescents' SRBs have been associated with familial factors, as many studies have reported that family structure is associated with SRBs. Adolescents from single parent families (Bonell et al., 2006; Kan, Cheng, Landale, & McHale, 2010; Lee et al., 2006; Liu et al., 2006; Mendle et al., 2009; Olubunmi, 2011; Suzanne et al., 2009; Podhisita et al., 2001; Ugoji 2009; Wang et al.,

2007) and those living within other familial systems, such as grandparents (Podhisita et al., 2001), were more likely to report being involved in sexual activity than those with intact two-parent households. One of the reasons for this difference was less monitoring by single parents, as monitoring is especially difficult when the priority for single mothers is to work hard to provide for the family (Joyce, Fenwick, Urassa, Zaba, & Stones, 2011). Thus, living with both parents in the same house has been shown to help prevent high risk sexual behaviours among adolescents (Langille, Hughes, Murphy, & Rigby, 2005). One study, however, found that living with fathers also reduced the likelihood of sexual experience among those aged 15-16 years (Hellerstedt et al., 2006).

Parental monitoring is a particularly important familial factor. Evidence has suggested that adolescents who perceive that their parents know where they are and who they are with outside of the home are substantially less likely to engage in SRBs (Borawski, Ievers-Landis, Lovegreen, & Trapl, 2003; Donenberg et al., 2002; Schwartz, Mason, Pantin, Wang, & Campo, 2009; Valle et al., 2005; Yang & Yen, 2009). Those who perceive their parents as less likely to monitor their behaviours have been shown to engage more often in risky sexual behaviours (Huang et al., 2010; Suzanne et al., 2009; Siziya et al., 2008; Twa-Twa et al., 2008; Whitaker et al., 2000). In addition, a higher sense of family connectedness has also been shown to prevent adolescents from engaging in risky sexual behaviours (Alexander et al., 2007; Markham et al., 2003; Olubunmi, 2011), while a lower sense of connectedness (Slap et al., 2003; Whitaker et al., 2000) is associated with increased sexual activity. Additional familial factors found to be associated with SRBs are lower parental education (Langille et al., 2005; Slap et al., 2003; Yang & Yen, 2009) and employment levels (Slap et al., 2003), parental trust (Borawski et al., 2003) and negotiated unsupervised time (Borawski et al., 2003).

The influence of peer pressure on SRB has been reported in several qualitative studies. Adolescents admitted that their first sexual experiences often occurred under

peer pressure (Abraham, 2003; Alemu et al., 2007; Borges & Nakamura, 2009; Skinner et al., 2008); 'everyone else was doing it,' thus they could not fit in with their peers unless they had sex as well. Moreover, the pressure exerted by boyfriends has been an issue in motivating female adolescents to initiate sex. As quoted from qualitative studies, "there're girls who have sex only because the boyfriend wants it" (Borges & Nakamura, 2009; Ng & Kamal, 2006; Skinner et al., 2008). Table 2.2 shows several associating factors of SRB within the interpersonal level. These factors include family connectedness, family structure and parental monitoring.

Table 2.2: Evidence Table of Interpersonal Determinants of Sexual Risk Behaviours

Author, Year	Objectives	Study design, level of evidence (Coleman, et al., 2005)	Outcomes	Results	Limitations
(Wight et al., 2000)	Parental influences on young people's sexual behaviour	Longitudinal, III	Early sexual activity	Low parental monitoring (OR 1.48)	Limited measures of family processes
(Markham et al., 2003)	Assoc. of family connectedness and sexual risk taking	Cross sectional, IV	Ever had sex	Greater family connectedness – lower risk of having sex (OR 0.97)	Selective bias –alternative high school students
(Valle et al., 2005)	Psychosocial predictors of early sexual debut	Cross sectional, IV	Early sexual debut	Family structure – single parent (OR 1.43)	No report on sexual preferences
(Suzanne et al., 2009)	Factors of self-reported first sex	Cross sectional, IV	Early sex, i.e., < 16 years	Decreased parental monitoring (OR 1.45)	Self-reported: over / under reported

2.7.3 Community-level Influences

Thirteen articles were located that addressed the community determinants of SRB. Community-level influences are factors that increase the risk of adolescents engaging in SRB based on the community and social environments in which individuals have experiences and relationships, such as schools and workplaces. Geographical location, such as living in either urban or rural areas, has been shown to influence such behaviour. Some studies have reported that adolescents living in rural areas are more

likely than non-rural adolescents to engage in risky sexual behaviours (Crosby, Yarber, Ding, DiClemente, & Dodge, 2000; Podhisita et al., 2001). However, other studies have documented differing findings (Rasamimari et al., 2007). The influence of pornographic materials as a risk factor of SRB has also been documented. Watching sex on TV predicts and may hasten adolescent sexual initiation (Alexander et al., 2007; Brown et al., 2006; Collins et al., 2004; Ran, Ven-Hwei, & Hsiaomei, 2010). School connectedness (Hellerstedt et al., 2006; Suzanne et al., 2009; Slap et al., 2003; Whitaker et al., 2000) and employment (Rich & Kim, 2002; Yan et al., 2009) have also been associated with SRBs in previous adolescent studies.

Table 2.3 shows the community determinants of SRB, which include urban residence, low school connectedness, previous employment and pornography viewing. Poor school connectedness is a strong predictor of SRB.

Table 2.3: Evidence Table of Community Determinants of Sexual Risk Behaviour

Author, Year	Objectives	Study design, level of evidence (Coleman, et al., 2005)	Outcomes	Results	Limitations
(Rasamimari et al., 2007)	Predictors of ever having had sex	Cross sectional, IV	Ever had sex	Geographic residence in urban area (OR 1.84)	Selection bias and sample notrepresentative
(Suzanne et al., 2009)	Factors of early sexual initiation	Cross sectional, IV	Early first SI	Poor school connectedness (OR 2.55)	Cross sectional and self-reported
(Yan et al., 2009)	Determinants of multiple sex partners	Cross sectional, IV	Lifetime number of sex partners	Work influences (OR 2.04)	Work included only those in entertainment
(Svedin, Akerman, & Priebe, 2011)	Impact of pornography on adolescent behaviour	Cross sectional, IV	Sexual debut < 15 years	Frequent user of pornography (OR 1.55)	No causal interpretation

2.7.4 Societal-level influences

Seven articles concentrated on societal risk factors of SRBs. Societal-level influences are macro-level factors that influence adolescents' SRBs and include religion, religiosity and cultural belief systems. In one study in Nepal, adolescents who

believed in a particular religion (Hindu) were more likely to have premarital sex compared to other religions practiced in the country (Adhikari & Tamang, 2009; Tavares et al., 2009). Higher levels of religiosity were also found to decrease the likelihood of SRB (Fatusi & Blum, 2008; Laksmana, 2003; Whitaker et al., 2000).

In terms of cultural norms, there are gender differences in monitoring young people's sexual behaviour. In Tanzania, for example, parental monitoring of the sexual activities of sons was minimal compared to that of daughters. "The boys are not asked because it is our tradition. A male child is not followed up in families" (Joyce et al., 2011). In Brazil, adolescents are subordinated to gender roles, traditionally attributed to male and female genders. Boys seem to feel free to initiate premarital sex, while girls sense that such a practice is not in agreement with their parents' wishes (Borges & Nakamura, 2009).

Table 2.4 shows the societal determinants of SRBs. Both religion and religiosity have been found to be significantly associated with SRBs.

Table 2.4: Evidence Table of Societal Determinants of Sexual Risk Behaviours

Author, Year	Objectives	Study design, level of evidence (Coleman, et al., 2005)	Outcomes	Results	Limitations
(Fatusi & Blum, 2008)	Predictors of early sexual initiation	Cross sectional, IV	Early sexual initiation	High religiosity – less likely to initiate sex (HR 0.59)	Limited causal conclusion and recall and social desirability biases
(Adhikari & Tamang, 2009)	Prevalence and factors of premarital sex	Cross sectional, IV	Premarital sex	Hindu religion (OR 1.89)	Only included college students
(Tavares et al., 2009)	Factors a/w sexual initiation and condom use	Cross sectional, IV	Sexual initiation	Catholic religion (OR 2.45)	Differences between gender and self-reporting biases
(Gold et al., 2010)	Religiosity and female adolescents' sexual and contraceptive behaviours	Cross sectional, IV	Number of lifetime partners, previous contraceptive use	High religiosity – less likely to have had sexual intercourse (OR 0.23)	Selection bias; did not distinguish religiosity from spirituality and new measure of religiosity used

2.8 Sexual-Risk Behaviour among Incarcerated Adolescents

Incarcerated adolescents are at a higher risk for SRBs than adolescents brought up in normal and stable psychosocial environments (Lederman, Dakof, Larrea, & Li, 2004). Various studies among incarcerated adolescents have found that they report initiating sexual intercourse at early ages, use condoms inconsistently and have sex under the influence of alcohol or drugs. Sixteen articles addressed SRBs among adolescents who were incarcerated within the institutional system, such as the juvenile justice and child welfare systems. Because of the limited number of studies, findings were gathered from publications from the 1990s through 2011. The results are presented in an evidence table (Table 2.5). The articles reporting determinants of SRBs among incarcerated adolescents included victims of sexual abuse and those who had used substances such as alcohol and marijuana.

Table 2.5: Evidence Table of the Literature Conducted on Sexual Risk Behaviours among Incarcerated Adolescents

Author, Year	Objectives	Study design, level of evidence (Coleman, et al., 2005)	Outcomes	Results	Limitations
(Polit, White, & Morton, 1990)	Association between childhood sexual abuse and premarital sex	Cross sectional, IV	Premarital sex	Victims of sexual abuse more likely to have engaged in voluntary sexual intercourse	Limited to females under the protection of public child welfare system
(Clarke, Abram, & Monteiro, 1990)	To assess the sexual behaviour of sexually active adolescent girls	Cross sectional, IV	Sexual history-first intercourse	Median age of first intercourse-13.2 years	Descriptive data – no associations made between independent variables and sexual behaviour
(Vermund, Alexander-Rodriguez, Macleod, & Kelley, 1990)	History of sexual abuse and subsequent high-risk sexual behaviour (manifested by a gonorrhoea or syphilis infection)	Case control, III	Gonorrhoea or syphilis infection	History of sexual abuse is associated with gonorrhoea or syphilis infection (OR 3.4)	Recall bias
(Magura, Shapiro, & Kang, 1994)	Condom use among minority male adolescents	Cross sectional, IV	Condom use	17% never used condoms	Selection bias-boys jailed in New York City
(Morris et al., 1995)	Determine associating factors of SRB	Cross sectional, IV	STI as an indicator of SRB	Female (RR 3.0); Black (RR 2.3); Sexual abuse (RR 1.9); Alcohol use (RR 1.8) and Injected drug use (RR 1.7)	Use of self-administered questionnaires-missing values; many had difficulty reading and had to be interviewed-differences in responses
(Canterbury et al., 1995)	Determine HIV-related risk behaviours	Cross sectional, IV	Multiple sex partners; condom use	75% had multiple sex partners; 25% never used condoms and 19% had at least one STD	Data based on medical records-query validity

Table 2.5, continued

Author, Year	Objectives	Study design, level of evidence (Coleman, et al., 2005)	Outcomes	Results	Limitations
(Awasthi & Pande, 1998)	Assess sexual behaviour patterns and associated factors	Cross sectional, IV	Premarital sex	7.9% of boys younger than 18 practiced premarital sex and substance use associated with irregular condom use	Selection bias-those involved in Integrated Child Development Scheme; cross sectional-causal inference
(Castrucci & Martin, 2002)	Relationships between substance use and risky sexual behaviours	Cross sectional, IV	Inconsistent condom use; multiple sex partners	Use of substances elevated the odds of having sex with multiple partners (OR 11.88) and inconsistent condom use (OR 3.06)	Interview method-social desirability
(Otto-Salaj, Gore-Felton, McGarvey, & Canterbury, 2002)	Examine substance use in relation to HIV risk behaviour	Cross sectional, IV	HIV risk behaviour	Higher levels of alcohol use predicted increased HIV risk behaviour	Structured interview-social desirability and inconsistencies
(Jaudin & Shamsudin, 2006)	Risk factors of premarital sex activities	Case control, III	Premarital sex	Pornographic movies (OR 27.8); pornographic books (OR 12.4); lack of parental interactions (OR 11.2) and working mothers (OR = 3.6)	Selection bias – controls were from one school in Kuala Lumpur-inaccurate selection when compared to cases who were incarcerated
(Rosengard et al., 2006)	Association of high-risk sexual behaviour with substance use (alcohol, marijuana)	Cross sectional, IV	Condom non-use	Marijuana use was associated with non condom use ($p < 0.05$)	Self-reported; oversimplified measures of SRB; cannot determine causality (cross sectional); non-random convenience sample

Table 2.5, continued

Author, Year	Objectives	Study design, level of evidence (Coleman, et al., 2005)	Outcomes	Results	Limitations
(Houck et al., 2006)	Profiles of adolescents at risk for HIV	Cross sectional, IV	Unprotected sex	Alcohol/ marijuana use in males	Cross sectional- cannot determine causality
(Romero et al., 2007)	Prevalence, development and persistence of risky sexual behaviour	Longitudinal, III	Risky sexual behaviour	> 60% engaged in ≥10 SRB at baseline; nearly 2/3 persisted in ≥10 SRB at follow-up	Actual assessment of SRB with infected partner not possible and study limited among subgroups, e.g., Hispanics
(Rowe, Wang, Greenbaum, & Liddle, 2008)	Predictors of HIV/STD risk level	Cross sectional, IV	HIV/STD risk level	Higher risk: older adolescents (beta = 0.34, p<0.05); female adolescents (beta=1.74, p<0.01) and Hispanics (beta = 1.14, p <0.05)	Self-reported information and unsure generalisability among adolescents in communities with different demographics
(Belenko et al., 2008)	STD prevalence and risk factors	Cross sectional, IV	STD	11.5% tested positive for Chlamydia; 4.2% for gonorrhoea and 13.2% for either or both. Risk factors for STD:ethnicity; risky sexual and drug-related behaviour	Only tested for chlamydia and gonorrhoea and data from urban environment only is not necessarily generalised to non-urban environment
(Steinberg et al., 2008)	Methamphetamine use and high-risk sexual behaviours	Cross sectional, IV	Condom use	Inconsistent condom use is twice the odds of methamphetamine use (OR 2.7)	Uncertain causality
(Hendershot, Magnan, & Bryan, 2010)	Association of marijuana use and HIV/STD risk behaviours	Cross sectional, IV	HIV/STD risk behaviours	Marijuana use- lower frequency condom use than non-users (p <0.05)	Unsure generalisability and use of ordinal measures as opposed to frequency counts to assess substance use

2.9 Theoretical Framework

From the literature review, three theoretical frameworks were identified to guide the investigator in her research. The WHO Risk and Protective Factors Affecting Adolescent Reproductive Health Framework and the Social Ecological Model were used to generate the conceptual framework, while Problem Behaviour Theory was used to help explain SRBs. The application of these frameworks is illustrated in the paragraphs below.

2.9.1 The WHO risk and protective factors affecting adolescent reproductive health framework

The risk and protective factors affecting adolescents' reproductive health in developing countries framework was developed by the Department of Child and Adolescent Health and Development, World Health Organisation (WHO) (Blum, 2005) (Figure 2.2), based on studies conducted in developing countries in sub-Saharan Africa, Latin America, and South East and South Asia (Blum, 2005). In this study, a new framework outlining protective and risk factors for adolescents' reproductive health was established based on a review of the WHO framework (Blum, 2005). The components of reproductive health included in the current study are sexual debut, the number of sexual partners, condom use, contraception, pregnancy and STIs (Blum, 2005). This framework has been selected for the precise factors associated with SRBs.

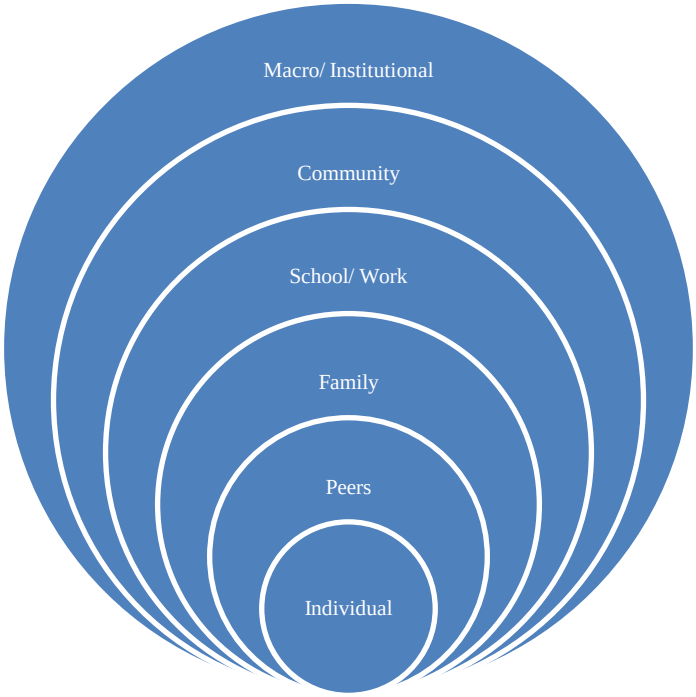

Figure 2.2: Factors Affecting Adolescents' Sexual/Reproductive-Non Contraception Use, Condom Avoidance, Early Sexual Debut and Multiple Sexual Partners

Source: Blum, R. W., & Mmari, K. N. (2005). *Risk and Protective Factors Affecting Adolescent Reproductive Health in Developing Countries*: World Health Organization.

2.9.2 The Social Ecological Model

The Social Ecological Model (SEM), or Ecological Systems Theory, examines a child's development within the context of the system of relationships that form his or her environment (Paquette & Ryan, 2001). Renamed the "Bio Ecological Systems Theory," this theory emphasises that a child's own biology is a primary influence stimulating her development (Paquette & Ryan, 2001). The factors associated with the child's maturing biology and other environmental layers, i.e., his immediate family, community environment and social landscape, fuel and steer his development (Paquette & Ryan, 2001). Changes or conflict in any one layer will influence the other layers (Paquette & Ryan, 2001). In a nutshell, this model examines the interrelatedness of the biological and social elements of a person's environment.

There have been numerous adjustments to the SEM in previous years. However, the first and most utilised is Urie Bronfenbrenner's Ecological Systems Theory, proposed in 1977 (Bronfenbrenner, 1997). The theory divides factors into five levels: microsystem, mesosystem, exosystem, macrosystem and chronosystem (Bronfenbrenner, 1997). Over the years, the SEM has become a comprehensive public health approach that addresses an individual's risk factors as well as norms, beliefs and social and economic systems (CDC, 2009c). Chronosystems are individual-level influences such as biological and personal history factors that increase the likelihood of an adolescent engaging in certain behaviours (Paquette & Ryan, 2001). Microsystems are interpersonal relationship-level influences, factors that increase a behaviour risk as a result of relationships with peers, intimate partners and family members (Paquette & Ryan, 2001). The mesosystem layer explains the connections between the structures of a child's microsystem, e.g., the connection between the child's teacher and his parents, between his church and his neighbourhood and so forth (Paquette & Ryan, 2001). Exosystems are community-level influences that increase risk based on an individual's community and social environments, experiences and relationships, such as schools and workplaces (Paquette & Ryan, 2001). Macrosystems are the outermost layer in a child's environment and include larger or macro-level societal-level influences, such as religious or cultural belief systems, societal norms and economic or social policies that create or sustain gaps and tensions between groups of people (Paquette & Ryan, 2001).

In this review, these systems have been simplified according to the CDC's social ecological approach, which classifies the systems into individual-level influences, interpersonal relationship-level influences, community-level influences and societal-level influences (CDC, 2009c) (Figure 2.3). Individual-level influences consist of individual features and those aspects of groups that comprise social identity, e.g., ethnicity, gender, and so forth (CDC, 2009c). Other components include psychological

and cognitive factors such as knowledge and beliefs (CDC, 2009c). Interpersonal relationship-level influences are the organisational factors that shape or structure the environment within which individual and interpersonal relations occur (CDC, 2009c). Examples include relationships with family members and peers (CDC, 2009c). Community-level influences refer to any setting that affects an individual, such as school or the workplace (CDC, 2009c). Societal-level influences refer to the cultural contexts that influence an individual (CDC, 2009c). These contexts include one's religion and the traditional values of a particular ethnic group (CDC, 2009c).

Individuals are responsible for instituting and maintaining the behaviour changes necessary to reduce risk and improve health (Dresler-Hawke & Whitehead, 2009; Langille, 2010). However, an individual's actions are determined to a large extent by his or her social environment as informed by the previously discussed ecological subsystems (Dresler-Hawke & Whitehead, 2009; Langille, 2010). Thus, the most effective approach leading to healthy behaviours is a combination of efforts at all levels, i.e., individual, interpersonal, community and societal (Dresler-Hawke & Whitehead, 2009; Langille, 2010). This ecological model will guide the development of the conceptual framework of this review.

This model was applied in a recent study examining the relationship between family and school functioning and sexual risks taken by high-risk Hispanic adolescents (Schwartz et al., 2009). Findings indicated that school functioning, including school connectedness, is related to sexual risk taking (Schwartz et al., 2009). Thus, with respect to the systems and levels of influence described above, this model was adapted to address the factors that put adolescents at risk for engaging in SRBs.

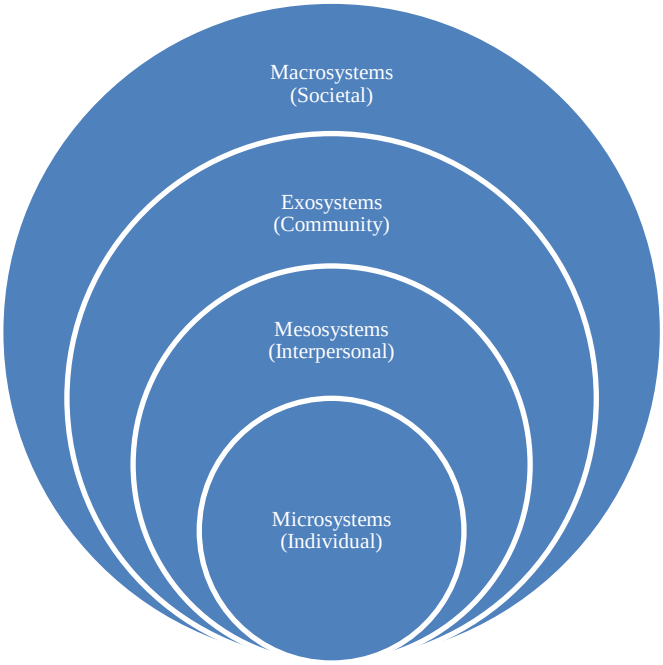

Figure 2.3: The Social Ecological Model

Source: Centers for Disease Control and Prevention (CDC). (2009c). *The Social-Ecological Model: A Framework for Prevention*. Retrieved September 9, 2009, from http://www.cdc.gov/violenceprevention/overview/social-ecologicalmodel.html

2.9.3 Problem Behaviour Theory

The Problem Behaviour Theory (PBT) is used to guide this study's explanation of SRBs among adolescents. PBT presents a social-psychological model to account for the development of problem behaviour (Jessor & Jessor, 1977), which is defined as any behaviour that society disapproves of and against which the response can range from mild to severe (Jessor & Jessor, 1977). The theory focuses on three systems of psychosocial influence: the Personality System, the Perceived Environment System and the Behaviour System (Jessor & Jessor, 1977). Within each system, explanatory variables reflect either the commencement or control of problem behaviour and jointly determine the chances of a problem behaviour occurring (Jessor & Jessor, 1977) (Figure 2.4).

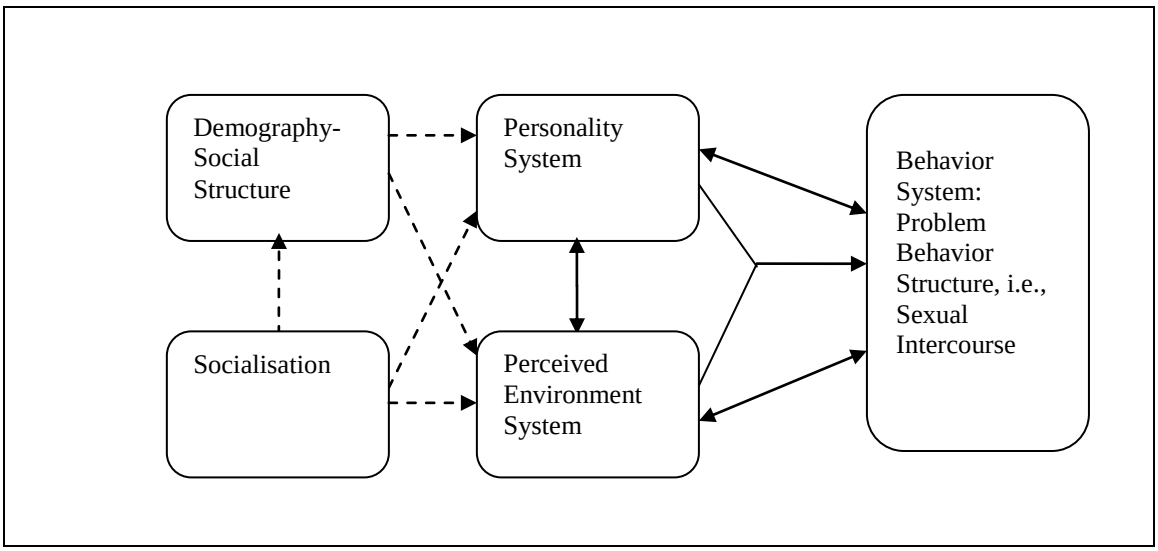

Figure 2.4: Pathways of Influence in the Problem Behaviour Theory

Source: Rew, L. (2005). *Adolescent health: A multidisciplinary approach to theory, research, and intervention*: Sage Publications, Inc.

Several studies have applied the SEM and the PBT to understand various health-risk behaviours among adolescents (Goebert et al., 2010; Madkour, Farhat, Halpern, Godeau, & Gabhainn, 2010; Moon & Rao, 2011; Ndugwa et al., 2010; Vazsonyi et al., 2010; Wong et al., 2009). However, very few studies exist that have utilised this theory and model in relation to sexual behaviours, particularly among Asian adolescents.

2.10 Conceptual Framework

Based on the SEM and the WHO's risk and protective factors affecting adolescent reproductive health in developing countries framework, a conceptual framework was constructed to guide the current study. Figures 2.5 and 2.6 show the relationship between risk factors, SRB and negative health outcomes as identified in this review. In Figure 2.6 all of the factors found in the literature review were included as study variables, except for those terms that are not presented in italics. However, the current study did not investigate the association between the negative outcomes, such as STIs and pregnancy/impregnation with SRBs but will only show their prevalences.

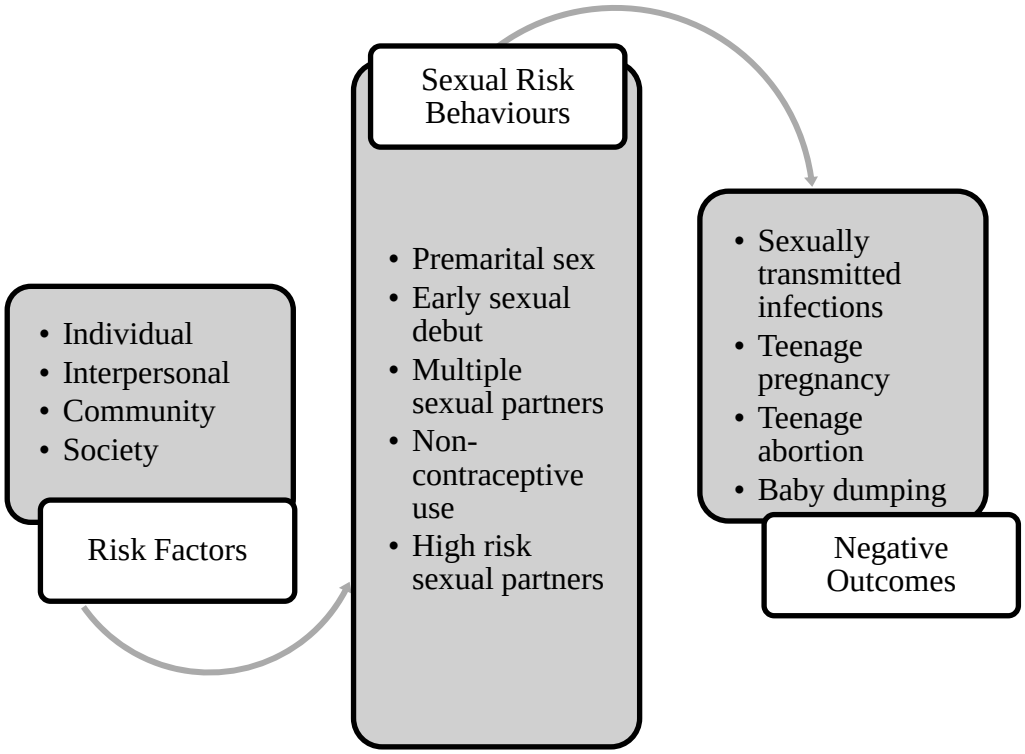

Figure 2.5: Diagram Showing the Relationship between the Risk Factors, SRBs and Negative Outcomes

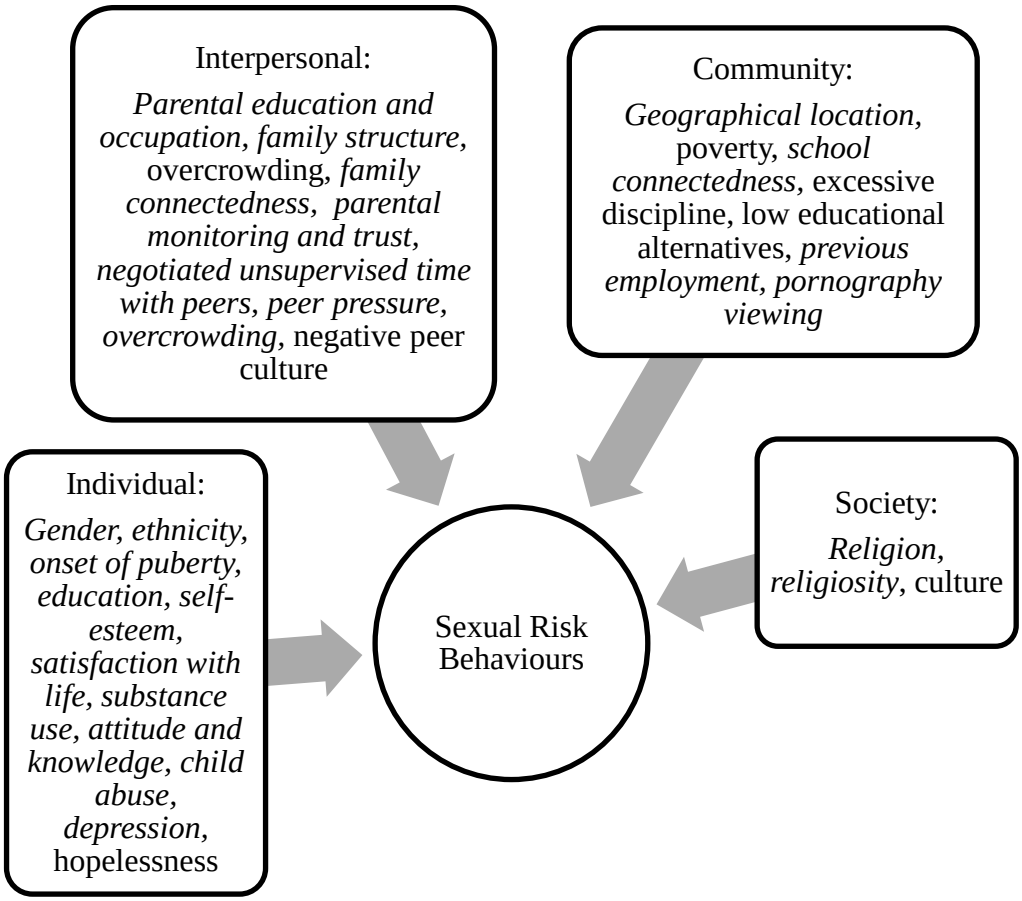

Figure 2.6: A Conceptual Framework Showing the Contributing Risk Factors of SRBs from the Literature Review

2.11 Limitations and Gaps in the Review

This chapter assembled various studies on adolescents' SRBs. Most of the factors relating to SRBs were identified from studies conducted among adolescents in the general population. This is because reported factors among institutionalised adolescents are limited. Thus, a number of studies on the incarcerated adolescent population are required to make significant comparisons. There were also some restrictions in terms of study methodology, as many studies were cross-sectional and only a few were found to have conducted mixed methods study designs. Moreover, a

number of areas were identified as requiring more in-depth studies, such as community and societal factors. Therefore, more studies covering these items are required for better assessment in the future. In addition to that, the investigator was unable to assess the extent to which factors are the most influential in explaining sexual risk behaviour. However, despite these limitations, many of the included studies were of large populations with majority demonstrating relatively similar determinants of sexual risk behaviour among adolescents.

2.12 Conclusion of Chapter Two

This review documented the prevalence of SRBs among adolescents around the world. It also puts the perspective of SRBs, its risk factors and the negative consequences of it. Overall, adolescent sexual activity has increased in certain regions, and many teens have begun to have sex before the age of 15. It can also be easily observed that most of the identified SRB risk factors occur at the individual level of the SEM Social Ecological Model. These risk factors include gender, age, the onset of puberty, substance use and a childhood history of physical and sexual abuse.

Chapter Three: Methodology

3.1 Introduction

This study utilised a mixed methods design, which involves the collection, analysis and combination of both quantitative and qualitative data within the context of a single study, thus enabling a more complete understanding of the research problem. The rationale for mixing methods is that neither the quantitative method nor the qualitative method alone could sufficiently capture the elements of the situation. However, when used in combination, quantitative and qualitative methods complement each other and allow for a more complete analysis (Creswell, 2008).

This study used a sequential mixed methods design consisting of two distinct phases (Figure 3.1). In the first phase, quantitative, numeric data were collected using a supervised self-administered questionnaire with the goal of identifying the determinants of selected variables on sexual risk behaviour among incarcerated adolescents within the Malaysian institutional system. This approach allowed for the selection of topics for in-depth investigation during the second phase. In the second phase, multiple cases were used to collect text data through in-depth interviews and essay writings to help explain why adolescents initiated sex and the circumstances in which sex occurred. The rationale for this approach is that the quantitative data and results provide a general picture of the research problem, while the analysis of the qualitative data allows the exploration of the adolescents' views in greater detail.

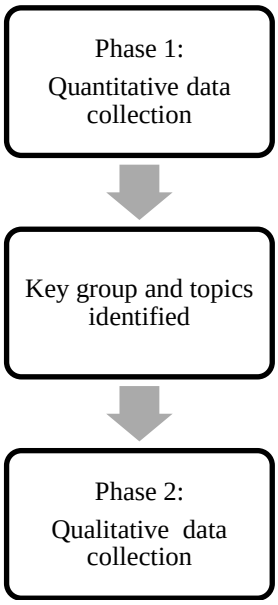

Figure 3.1: A Sequential Mixed Methods Design

3.2 Methods of the Quantitative Phase

3.2.1 Framework

3.2.1.1 Theoretical framework

The Problem Behaviour Theory (PBT) (Jessor & Jessor, 1977), Social Ecological Model (SEM) (Bronfenbrenner, 1994), and the WHO Risk and Protective Factors Affecting Adolescent Reproductive Health Framework (Blum, 2005) were used to guide the quantitative phase of this study. These frameworks, which were described in Chapter Two, were used to develop the conceptual framework in phases (Figure 3.2).

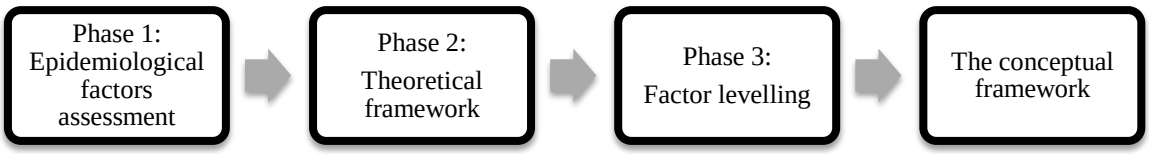

Figure 3.2: Development of the Conceptual Framework using the Theoretical Frameworks

The conceptual framework was developed from three sequential phases. The first phase was an epidemiological assessment in which priority problems in terms of

adolescents' health were assessed. Sexual risk behaviour (SRB) among adolescents was selected as the research topic. The second phase then identified associating factors of SRB from the literature review. Based on the PBT, SEM and WHO frameworks, the final phase classified the factors into individual, interpersonal, community, and social levels of influence to construct the conceptual framework.

3.2.1.2 The conceptual framework

The conceptual framework indicates the direction of the study as well as the relationships of the different constructs investigated: the individual, interpersonal, community and societal factors contributing to SRB among adolescents (Figure 3.3). Using this framework, a self-administered questionnaire was developed.

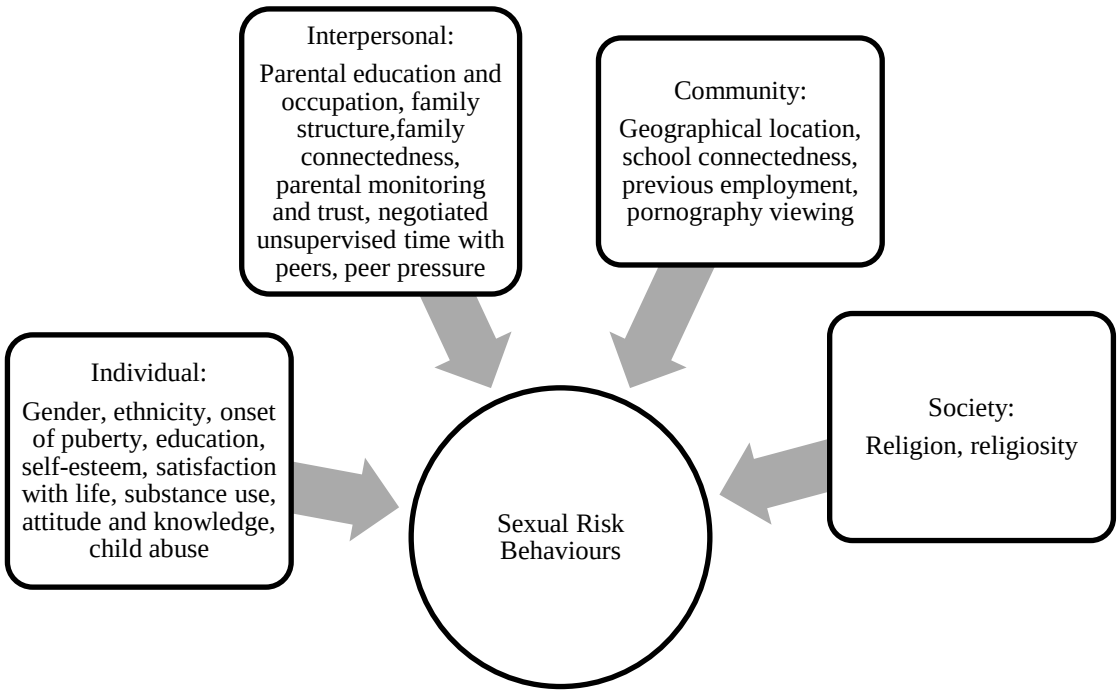

Figure 3.3: The Conceptual Framework

3.2.2 Study design

The quantitative phase was a cross-sectional study design conducted from the middle of October 2009 until May 2010. This design was chosen because in terms of exploring aetiology and collecting baseline data, cross-sectional studies are very practical (British Medical Journal, 2011; Murray, 2010).

3.2.3 Ethical considerations

This study was submitted to the University Malaya Medical Centre Ethics Committee (Grant Number: PS166/2009B) and the Social Welfare Department of Malaysia for review. Ethical approval and permission were obtained from both organisations prior to commencing the study. Prior to data collection, the principals of the institutions acting as the children's guardians were given an information sheet, and the details of the project were explained to them. Verbal informed consent was then requested. The principals had to decline the participation of children who were quarantined due to discipline problems. However, the principals were reassured that these children would not be discriminated against in their treatment or association with the health service in any way. Additionally, verbal consent was sought from the study participants before beginning the interview or essay writing process. Full information was provided to the study participants on the purpose and nature of the research before asking their consent. All the participants were informed that they had the right to refuse participation at any time without consequence. Also, all data were kept confidential, and no identifiable data will ever be released.

3.2.4 Setting

3.2.4.1 The study area: Peninsular Malaysia

Peninsular Malaysia, also known as West Malaysia, is the part of Malaysia located on the Malay Peninsula (Department of Information, Malaysia, 2011) (Figure

3.4), and it covers an area of 131,598 square kilometres (50,810 square miles) (Department of Information, Malaysia, 2011). In the north, it shares a land border with Thailand (Department of Information, Malaysia, 2011), to the south is the island of Singapore (Department of Information, Malaysia, 2011), across the Strait of Malacca to the west lies the island of Sumatra (Department of Information, Malaysia, 2011), and to the east, across the South China Sea and on the island of Borneo, is East Malaysia (Department of Information, Malaysia, 2011).

Figure 3.4: Location of Peninsular Malaysia on the Malay Peninsula

Source: Department of Information, Malaysia. (2011). *Geography*. Retrieved March 10, 2011, from http://pmr.penerangan.gov.my/

The peninsula consists of 11 states and two federal territories (Department of Information, Malaysia, 2011). The states are Johor, Kedah, Kelantan, Melaka, Negeri Sembilan, Pahang, Pulau Pinang, Perak, Perlis, Selangor, and Terengganu, and the federal territories are Kuala Lumpur and Putrajaya (Department of Information, Malaysia, 2011) (Figure 3.5)

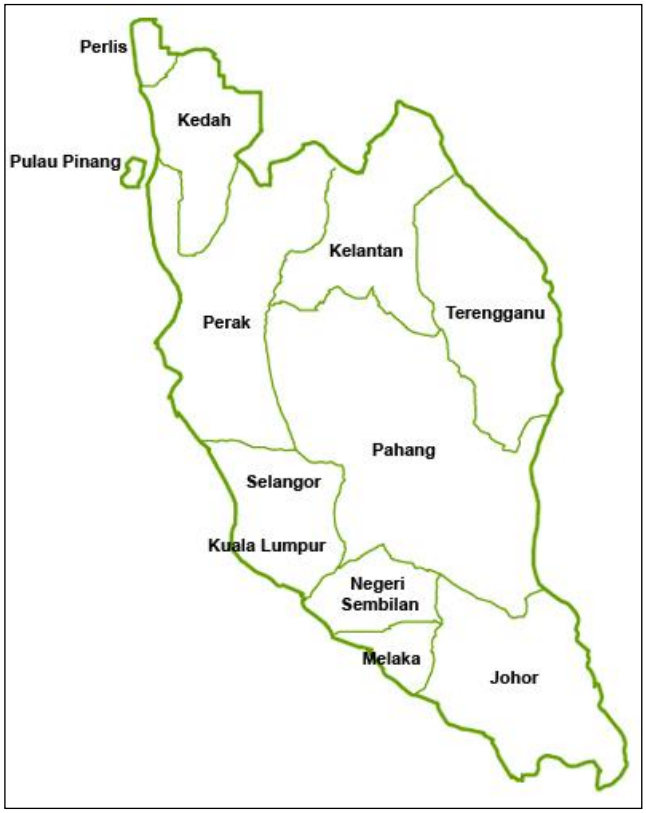

Figure 3.5: Location of the Peninsular States

Source: Department of Information, Malaysia. (2011). *Geography*. Retrieved March 10, 2011, from http://pmr.penerangan.gov.my/

The estimated total population of Peninsular Malaysia in 2011 was 22.6 million people (Rahim, 2011), and the percentage of adolescents is close to 19% (Rahim, 2011). Nearly 50% of the adolescent population is concentrated within the central and southern regions of the peninsula (Rahim, 2011) (Table 3.1).

Table 3.1: Adolescent Population in Peninsular Malaysia by Region

Regions in Peninsular Malaysia	Adolescent population
Northern	1,201,200 (28%)
East Coast	939,800 (22%)
Central	1,183,000 (27.7%)
Southern	945,900 (22.2%)

Source: Rahim, W. A. (2011). *Penduduk mengikut Umur dan Negeri, Malaysia, 2011*. In N. D. N. Farid (Ed.).

3.2.4.2 Welfare institutions: Background information

Data were collected from welfare institutions located across Peninsular Malaysia, which are governed by the Social Welfare Department (SWD) under the directive of the Ministry of Women, Family and Community Development of Malaysia (SWD, 2010a). After its establishment in 1964, the SWD has progressed in fulfilling its role in handling various problems by providing services offering shelter, prevention, and rehabilitation for social issues, as well as community development (SWD, 2010a).

Currently, there are 63 institutions under the authority of the SWD (SWD, 2007). According to the Child Act of 2001, the definition of a child is a person under the age of 18 years (Child Act 2001), and 28 institutions are available that can provide shelter and rehabilitation for children of that age (SWD 2007). The children's institutions can be divided into five types. Children's Homes provide care for children and teenagers who have been abandoned, neglected, orphaned or abused; Probation Hostels are rehabilitation centres for children that were regarded out of control or involved in unlawful activities; The Tunas Bakti School is a behaviour rehabilitation school approved for the care of and rehabilitation for children who are involved in crime as well as uncontrollable children; Taman Seri Puteri rejuvenates in particular girls who were exposed to morally wrong doings and the Tunas Harapan House is a home within a "family system" with foster parents for children without biological family although in this study, the Tunas Harapan House was not included (SWD, 2007).

These institutions are located in both urban and rural areas of the country (SWD, 2007). Based on their function, some institutions are found in isolated areas to ensure privacy and lessen the stigma that may be placed on the children (SWD, 2007). Depending on the case, a child is only admitted to an institution following a court order and as guided by the 2001 Child Act (Child Act 2001).

The Child Act of 2001, which has been applied throughout Malaysia, is an act to "consolidate and amend the laws relating to the care, protection and rehabilitation of children and to provide for matters connected therewith and incidental thereto" (Child Act 2001). Therefore, a child who was found by the Children's Court to be in need of care, protection, and rehabilitation will be placed in one of the following institutions/centres.

(a) Children's Homes

A Children's Home is an institution that offers substitute care for children from 0-18 years of age and is advertised as a place of safety (SWD, 2010b). Under Section 17 of the Child Act of 2001, children admitted into a home are orphans, children who require shelter and care, victims of child abuse/neglect, and children of persons under remand/imprisonment (SWD, 2010b). Placement at a Children's Home is a temporary measure pending the readiness of the child's family to accept the child or until the Welfare Officer succeeds in finding a suitable foster/adoptive family (SWD, 2010b). Each home has been designed to create a family life atmosphere for every child under its care. Thus, the programmes provided by the homes for children under their care include basic needs such as shelter, food, and clothing, guidance and counselling, education (including religious and moral), vocational training, recreation and medical services (SWD, 2010b).

(b) Probation Hostels

A Probation Hostel is a hostel established or appointed under Section 61 (1) of the Child Act of 2001 (SWD, 2010b). It is a place of residence for children required to reside there under Part X (Criminal Procedure in Court for Children) of the Act. These children were mostly involved in illegal activities such as theft, gambling and sex offences, and they have been placed in the government's custody while awaiting sentencing. While under remand, the hostel provides shelter, care, and guidance to these

children, who may be in transit to the Tunas Bakti School or under Probationary Order (SWD, 2010b). The rehabilitation period varies among the three groups of children who are admitted (SWD, 2010b). For children under remand, the duration is until the issuance of a court order; for those who are in transit to the Tunas Bakti School, the maximum period is two weeks; and for children under Probationary Order, the period is not more than 12 months (SWD, 2010b). The services provided by the hostel are care and shelter, counseling and guidance for individuals and families, academic and religious education, vocational training, and sports and recreation (SWD, 2010b).

(c) Tunas Bakti School

The Tunas Bakti School is an institution for behavioural rehabilitation (SWD, 2010b). It was launched under Section 65 (1) of the Child Act of 2001 for the rehabilitation and care of children who were uncontrolled and involved in crimes such as robbery pertaining to people, illicit drug use and the possession of weapons (SWD, 2010b). Children are admitted to the school after being ordered by the Children's Court according to the Child Act of 2001 (SWD, 2010b). The primary aim is to educate the children with a positive attitude, help them to develop a strong personality, and equip them with skills that could enable them to live independently within the community (SWD, 2010b). The rehabilitation period is three years (SWD, 2010b). However, children can be discharged after a year if approved by the Board of Visitors (SWD, 2010b). The Tunas Bakti School offers services such as rehabilitation and care, counselling, religious and moral education, academic classes (computer and reading programmes), vocational training, e.g., electrical and mechanical workshops, and outdoor activities (SWD, 2010b).

(d) Taman Seri Puteri

This institution was established under the provision of the Child Act of 2001 specifically to rehabilitate girls under the age of 18 who are exposed to immoral activities and are involved/involving themselves in prostitution (SWD, 2010b). Female adolescents are admitted following a court order and submission of application to the shelter (SWD, 2010b). The rehabilitation period is three years (SWD, 2010b). However, under certain conditions, the Board of Visitors may reduce the duration to a period of not less than twelve months (SWD, 2010b). The services provided by the Taman Seri Puteri include care and shelter, counselling and guidance, education, vocational training, and recreation (SWD, 2010b).

3.2.5 Sampling of welfare institutions

Twenty-two welfare institutions across Peninsular Malaysia were included in this study (Figures 3.6 and 3.7; Table 3.2). The inclusion criteria for selection were as follows: the institution was governed by the SWD of Malaysia, the institution was legally approved by the SWD to participate in the study, and the institution only admitted children (0-17 years) and adolescents (10-19 years). Welfare institutions were chosen for the study setting because the centres were located in concealed and isolated areas to preserve confidentiality.

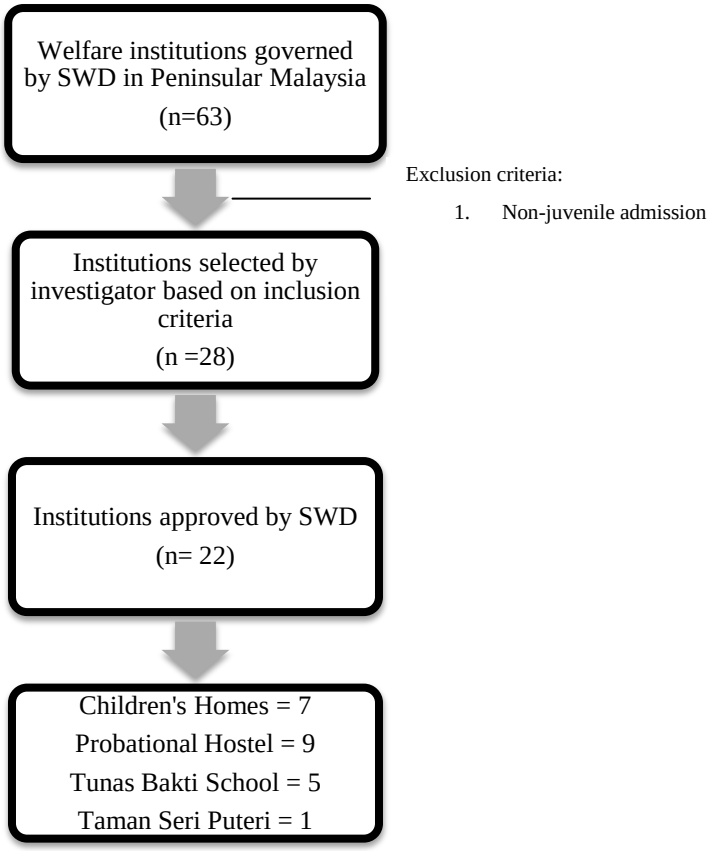

Figure: 3.6 Selection of welfare institutions

Table 3.2: Welfare Institutions and their Locations

No.	Type of welfare institution	Name of welfare institution	Location
1.	Children's Home	Rumah Budak Laki-laki Tun Abdul Aziz	Durian Daun, Melaka
		Rumah Kanak-kanak Rembau	Rembau, Negeri Sembilan
		Rumah Kanak-kanak Tengku Ampuan Fatimah	Kuantan, Pahang
		Rumah Kanak-kanak Arau	Arau, Perlis
		Pusat Perkembangan Kemahiran Kebangsaan Serendah	Serendah, Selangor
		Kompleks Penyayang BAKTI	Sungai Buloh, Bandar Seri Damansara, Kuala Lumpur
		Rumah Kanak-kanak Tengku Budriah	Cheras, Kuala Lumpur

Table 3.2, continued

No.	Type of welfare institution	Name of welfare institution	Location
2.	Probation Hostel	Asrama Akhlak Bukit Senyum	Bukit Senyum, Johor
		Asrama Akhlak Jitra	Jitra, Kedah
		Asrama Akhlak Bukit Baru	Bukit Baru, Melaka
		Asrama Akhlak Paya Terubung	Paya Terubung, Pulau Pinang
		Asrama Akhlak, Selibin	Ipoh, Perak
		Asrama Akhlak Rusila	Kuala Terengganu, Terengganu
		Asrama Akhlak Sentosa	Jalan Sentul, Kuala Lumpur
		Asrama Akhlak Dato' Keramat	Dato' Keramat, Kuala Lumpur
		Asrama Bahagia	Kg. Pandan, Kuala Lumpur
3.	Tunas Bakti School	Sekolah Tunas Bakti, Sungai Lereh	Sungai Lereh, Melaka
		Sekolah Tunas Bakti, Jerantut	Jerantut, Pahang
		Sekolah Tunas Bakti, Taiping	Taiping, Perak
		Sekolah Tunas Bakti, Marang	Marang, Terengganu
		Sekolah Tunas Bakti, Sungai Besi	Sungai Besi, Kuala Lumpur
4.	Taman Seri Puteri	Taman Seri Puteri Cheras	Kajang, Selangor

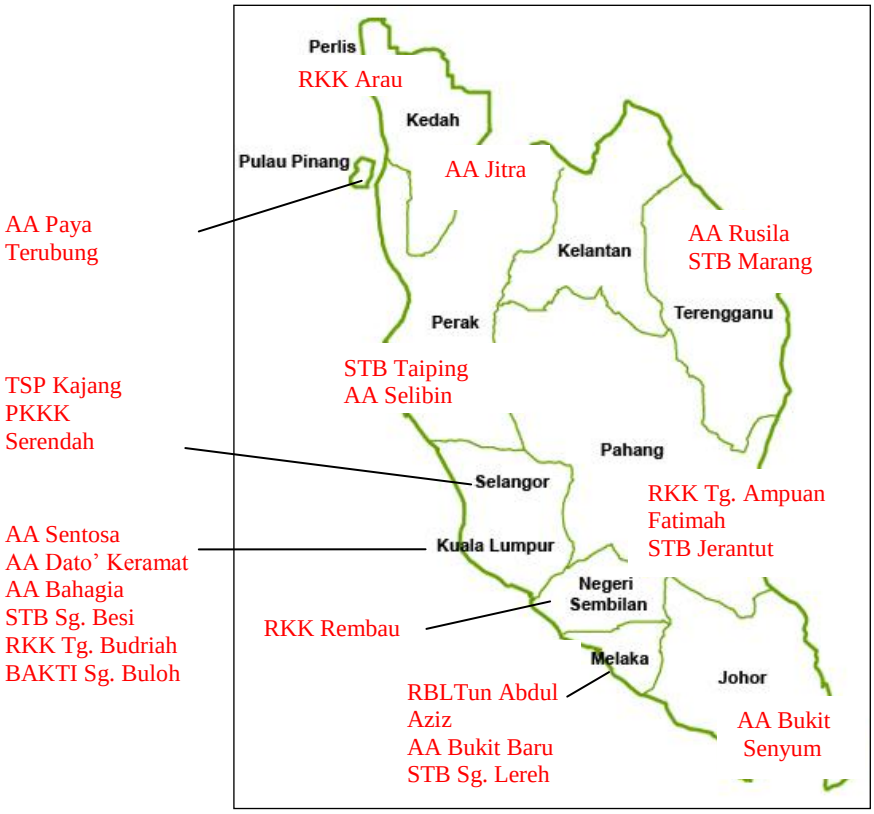

Figure 3.7: Location of Welfare Institutions in Peninsular Malaysia – Phase 1

3.2.6 Study population

For this project, it was decided that the study population would be adolescents residing within the Malaysian welfare institutions. An adolescent or respondent was defined as an individual who was present at the selected institution on the first visit for data collection. Adolescents were defined as a group of individuals, aged 12-19, who were supervised by wardens as well as welfare officers and who lived together within the institutional system and shared the basic necessities of life. An adolescent was considered an occupant if he or she had been admitted at any time prior to data collection in a particular institution.

These adolescents were selected to participate in this study for two reasons. First, in view of the circumstances that brought them to the institution, the adolescents were vulnerable and at a higher risk for health related problems, including sexually transmitted infections (STIs), drug use and abuse, teenage pregnancy, HIV infection, and pre-existing mental health disorders (Committee on Adolescence, 2001). Thus, any health programmes to be conducted in this setting could be justified. Second, selection of institutionalised residents was made to ensure identification of the predictors for SRBs. Identifying the determinants is important for understanding the reasons behind such behaviour, and it is unlikely that this information could have been provided by a representative sample (Skinner et al., 2008).

After ethical approval, a sample of adolescents was drawn from the 22 welfare institutions. The inclusion criteria included the following: (a) Malaysian citizenship, (b) age between 12 and 19 years, (c) single marital status, (d) resident trainees who were living in welfare institutions between 2009 and 2010, and (e) the ability to understand and communicate in either written or spoken Malay or English. Adolescents who had cognitive abnormalities or were quarantined for disciplinary problems were excluded from the study.

3.2.7 Study instrument

A self-administered questionnaire was utilised to collect quantitative data. The questionnaire was developed from April to October 2009 and its creation included literature reviews, question compilation, back-to-back translation and several methods of evaluation (Figure 3.8). The paragraphs below provide a full account of the procedure.

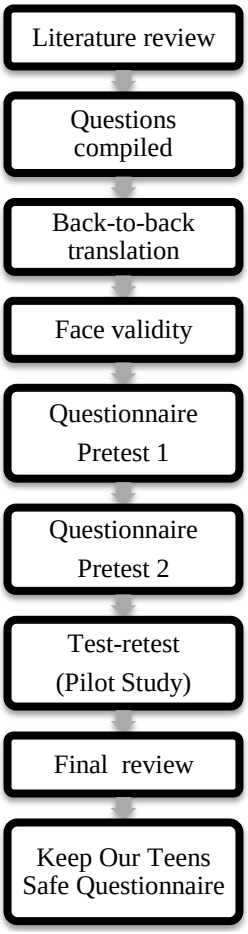

Figure 3.8: The process of questionnaire development

3.2.7.1 Literature review and question compilation

Based on the SEM (Bronfenbrenner, 1997) and the WHO Risk and Protective Factors Affecting Adolescent Reproductive Health in Developing Countries (Blum, 2005) frameworks, a conceptual framework of predictors for SRB was determined (Table 3.3). Questions that have been used previously for adolescents were collected

from the existing literature. All of the questions collected were combined and arranged according to the Home, Education, Activities, Drugs, Spirituality and Sexuality (HEADSS) categories for psychosocial assessment, with a few adjustments made for practicality (Cohen, MacKenzie, & Yates, 2003). Questions were then reviewed by the supervisor, who provided comments and suggestions on each question. All comments and suggestions were analysed by the researcher, and appropriate amendments were made.

Table 3.3: Questionnaire Development Framework

Level	Variables
Microsystem (Individual influences)	Gender Ethnicity Onset of puberty Education level Self-esteem Satisfaction with life Substance use (smoking, alcohol & drugs) Attitude toward premarital sex Knowledge of sexual health History of child abuse
Mesosystem (Interpersonal relationship influences)	Parental education Parental occupation Family structure Family connectedness Parental monitoring Parental trust Negotiated unsupervised time with peers Peer pressure
Exosystem (Community influences)	Geographical location School connectedness Previous history of employment Pornography exposure
Macrosystem (Societal influences)	Religion Religiosity

3.2.7.2 Back-to-back translation

There were three phases involved in the back-to-back translation of the questionnaire. In phase one, two professionals fluent in Malay and English translated the questions to Malay. Then, the researcher compared both versions and discussed with the translators any discrepancies found. The first Malay version was then formed. In the second phase, two English speakers who were blind to the study objectives translated

the questions into English. Comparisons were made between the original and the translated versions by thoroughly analysing each question. In the final phase, all of the questions were reviewed by a small committee consisting of the researcher, her supervisor, and a field supervisor. Consequently, a second Malay version of the questionnaire was produced.

3.2.7.3 Face validity

The face validity of the questionnaire was tested during its development by presenting the questionnaire to two experts for evaluation. The experts were two public health physicians working at two different organisations with extensive experience in public health research (Rus, 2009; Shamsudin, 2009). The questionnaire was reviewed to determine whether it appeared to be a good translation of the construct (i.e., face validity). To do this, each panel was given the questionnaire with spaces provided for their observations. These observations were then combined and reviewed, and appropriate corrections were made as necessary.

3.2.7.4 Questionnaire pretesting

A questionnaire pretesting was performed to certify that the Malay language version of the questionnaire was appropriate for Malaysian adolescents. Secondary schools were chosen as the setting for data collection. The approval to conduct the questionnaire pretest in the selected schools was received from the Ministry of Education (MOE), and ethical approval was received from the Medical Ethics Committee and the University Malaya Medical Centre. Two questionnaire pretests were performed in this evaluation component (Questionnaire Pretest 1 and 2).

(a) Questionnaire Pretest 1

The first questionnaire pretest was performed in August 2009 to observe and assess the adolescents' understanding of the Malay language after it was translated, the flow of the questionnaire and the duration of time it took to complete the questionnaire. After permission was granted by the MOE, subjects were recruited from among the students who were attending a public school in Kampung Kerinchi, Kuala Lumpur. The schools were chosen because of the similar characteristics to the actual subjects in terms of socio-demography, i.e., the majority were Malay and were of low socioeconomic status.

On the day of data collection, the headmistress and school counsellor were approached to explain the project. Students who were allowed to participate in the study were determined by the counsellor, as most classes were busy preparing for exams. Selected students were then gathered in a hall. The researcher explained the purpose of the study and ensured the students that confidentiality would be maintained. To increase privacy, only the researcher acted as the invigilator. The self-administered questionnaires were given to a total of 96 students between the ages of 12-16. Males made up 50.5% of the sample. At the end of the questionnaire, students were also asked to give their general comments on the questions asked. For this purpose, the alternative, "I did not understand this question" was added to each question to identify those questions that were not understood by the teenagers.

The data gathered from the first pretest were analysed using the Predictive Analytics Software 17 (PASW 17). The median time to complete the questionnaires for 33 of the students was 30 minutes (mean: 35 minutes, SD: 18.8). The quickest time for completing the questionnaire was 10 minutes, and the longest was 118 minutes. Thirty percent of the students managed to respond within the targeted time (30 minutes). Of the questions asked, the question on puberty was the least understood by the students

(19.8%) (Table 3.4). Of the 30 students who commented on the questionnaire, a large proportion observed that the questionnaire was acceptable (26.7%) (Table 3.5).

Table 3.4: Selected Questions in which More than 5% of Subjects Chose the Alternative Response, "I do not understand this question" (N = 96)

Questions	Frequency	Percentage (%)
At what age did you first notice that your breasts/scrotum increased in size?		
Understood the question	73	80.2
Did not understand the question	18	19.8
I think it is more important to be who I am than to fit in with the crowd.		
Understood the question	77	82.8
Did not understand the question	16	17.2
I say things I do not really believe because I think it will make my friends respect me more.		
Understood the question	79	84.9
Did not understand the question	14	15.1
**What method did you or your partner mostly use?*		
Understood the question	1	50
Did not understand the question	1	50
**The last time you had sexual intercourse, who was your partner?*		
Understood the question	1	50
Did not understand the question	1	50
**Have you ever used illegal substances prior to having sex? If yes, choose from these options.*		
Understood the question	1	50
Did not understand the question	1	50
**Have you ever had unprotected sex after taking illegal substances? If yes, choose from these options.*		
Understood the question	1	50
Did not understand the question	1	50
How old were you at your last birthday?		
Understood the question	86	90.5
Did not understand the question	9	9.5
Having sexual intercourse before marriage is not a good choice, but I can understand it.		
Understood the question	84	91.3
Did not understand the question	8	8.7
I am allowed to stay out past curfew as long as I call home first.		
Understood the question	90	93.8
Did not understand the question	6	6.2

*Questions applicable to subjects ever experienced sexual intercourse

Table 3.5: Comments given by the Students on the Questionnaire (N=30)

Comments by students	Frequency	Percentage (%)
Questions were acceptable	8	26.7
Some questions were too sensitive	7	23.3
Reduce questions on sexual behaviour	7	23.3
More questions on sexual behaviour	5	16.7
Others	3	10.0
Total	30	100.0

Initially, 110 questions were pretested. However, based on the results and discussion with the supervisor and expert reviewers, fourteen questions were corrected and three were removed, leaving a total of 107 questions for the subsequent questionnaire pretesting. Questions for which the alternative item, "I do not understand this question" were chosen by the subjects were again discussed, and these problematic items were replaced by appropriate language and/or culturally acceptable questions. Questions that were found to be too sensitive or inappropriate were immediately removed.

(b) Questionnaire Pretest 2

A second questionnaire pretest was conducted in September 2009 (two weeks following the first pretest) to reconfirm understanding of the Malay language and comprehension of the questions after corrections were made to the first pretest. Using convenience sampling, a total of nine subjects, two males and seven females (Table 3.6), were recruited from students who were attending a public school in Bukit Bandaraya, Bangsar, Kuala Lumpur. Similar to the first pretest, an alternative item, "I do not understand this question" was added to each question to identify those questions with problems. The results showed that all subjects understood each question in the questionnaire.

Table 3.6: Characteristics of Students Involved in the Second Questionnaire Pretest

Characteristics	Frequency	Percentage
Gender		
Male	2	22.2
Female	7	77.8
Age		
16	3	33.3
17	6	66.7
Ethnicity		
Malay	7	77.8
Chinese	1	11.1
Indian	1	11.1

3.2.7.5 Test-retest

A test-retest (pilot study) was conducted to determine the reliability of the questionnaire. The test-retest was conducted in a secondary school located in Kampung Kerinchi, Kuala Lumpur. All students between the ages of 13–17 years were invited to participate in the study. The researcher visited the school on two occasions in October 2009. As in the previous pretesting, all questions were in Malay.

Visit one: A form five class was selected by the principal of the school. A total of 31 students completed the self-administered questionnaire.

Visit two: Two weeks after the first visit, the class again completed the survey questions to determine the test-retest reliability of the questionnaire. However, on this visit, two students were absent and were excluded from the study.

In both visits, all questionnaires were checked for completeness at the time of completion in the classroom. Any missing data were identified and clarified with the student at that time.

Following the two visits, data were analysed using the PASW 17 software. The coefficient alpha (Cronbach's alpha), test-retest reliability (correlation coefficient) and kappa were used to determine the reliability of the variables used.

(a) Scales

A total of nine scales were included in the questionnaire, and the stability reliability (also known as test-retest reliability) was measured for each of the scales used (Belavendram, 2009). The results of the correlation coefficient are shown in Table 3.7. From the results, students appeared to report the predictors reliably over time. For the last two items, the "satisfaction with life" and "sexual risk behaviour" scales, Cronbach's alpha was used to measure the internal reliability (Belavendram, 2009). Both items were found to be reliable.

Table 3.7: Cronbach's Alpha and Correlation Coefficients for the Scales used in the Pilot Study

Scales	Test-retest reliability (correlation coefficient)	Cronbach's alpha
Parental Monitoring	0.71	-
Negotiated unsupervised time with peers (NUTP)	0.58	-
Parental trust	0.71	-
Family connectedness	0.61	-
School connectedness	0.50	-
Peer pressure	0.75	-
Rosenberg self-esteem	0.69	-
Attitude toward premarital sex	0.62	-
Satisfaction with life scale	-	0.71
Sexual risk behaviour	-	0.85

*The correlation coefficient is significant at the 0.01 level (2-tailed)
*An alpha of 0.60 and above is acceptable (Thah, 2010)

(b) Categorical Variables

Overall there were 22 categorical variables included in the questionnaire and kappa statistic was used to measure each variable's reliability. Kappa values ranged from 0.39 to 1.00, with a mean of 0.65 and a median of 0.64 (Table 3.8). Any variables with kappa values of 0.41 and above were included on the questionnaire (Viera & Garrett, 2005). In general, students reported predictors reliably over time, but several items, such as the multimedia questions, had to be examined further before including them in the final version of the questionnaire. The multimedia questions consisted of

five items and were finally dropped from the questionnaire after thorough discussion with the supervisor.

Table 3.8: Kappa Values for Each Categorical Variable

Variables	Measure of agreement (kappa value)	Approximate significance	Level of agreement
Family structure	1.00	< 0.001	Almost perfect agreement
Pubertal onset	0.68	< 0.001	Substantial agreement
Child sexual abuse	0.43	0.02	Moderate agreement
Child physical abuse	0.46	0.01	Moderate agreement
Do you believe in God?	0.63	< 0.001	Substantial agreement
How important is religion in your life?	0.68	< 0.001	Substantial agreement
Muslim-Pray	0.71	< 0.001	Substantial agreement
Pray daily	0.69	< 0.001	Substantial agreement
Ever smoked tobacco	1.00	< 0.001	Almost perfect agreement
Ever used illicit drugs	1.00	0.002	Almost perfect agreement
Ever drink alcohol	1.00	< 0.001	Almost perfect agreement
Ever had sex education	0.84	< 0.001	Almost perfect agreement
Ever exposed to pornography	0.93	< 0.001	Almost perfect agreement
Pornography companion	0.63	0.02	Substantial agreement
Early factor for pornography exposure	0.57	< 0.001	Moderate agreement
Have you ever had sexual intercourse?	0.88	< 0.001	Almost perfect agreement
Knowledge of sexual health	0.41	0.11	Moderate agreement
Multimedia questions:			
Multimedia-interested	0.56	< 0.001	Moderate agreement
Multimedia-TV	0.39	0.02	Fair agreement
Multimedia-internet	0.56	0.004	Moderate agreement
Multimedia-video games	0.65	0.001	Substantial agreement
Multimedia-magazines	0.41	0.03	Moderate agreement

3.2.7.6 Final review

Following the analysis of the pilot study, a final review was held that resulted in some changes to the questionnaire in terms of instructions, language, and the number of questions. Some questions were dropped after they were found to be insignificant and/or incompatible for adolescents. This resulted in a total of 103 questions being retained. Malay was chosen as the primary language because it is Malaysia's national language and more than 80% of the actual study subjects were Malay. Based on the entire evaluation, it was agreed that the questionnaire was compatible with Malaysian adolescents. Finally, the questionnaire was named the Keep Our Teens Safe (KOTS) questionnaire. This name was selected because the general aim of this study was to examine the determinants of sexual risk behaviour and to understand why teenagers behaved in such a way. This study will eventually lead to interventions to ensure the safety of adolescents in terms of their sexual and reproductive health.

3.2.7.7 The Keep Our Teens Safe (KOTS) questionnaire

The Keep Our Teens Safe (KOTS) questionnaire was grouped into 14 sections (Table 3.9) arranged according to the HEADSS psychosocial assessment for adolescents, i.e., from less to increasingly more sensitive sections. Each section measured or determined factors of SRBs.

Table 3.9: The KOTS Questionnaire: Sections, Examples of Variables, Sample Items, and Response Format

Section	Latent variables	No. of items	Sample item	Response format and scoring
1	Family structure	1	Before you were admitted to this institution, who did you live with most of the time?	4 response categories (Mother and father, Mother only, Father only, Others, specify)
2	Parental monitoring	6	My parent(s)/ guardian know where I am after school.	5 response categories (Never, Rarely, Sometimes, Most of the time, Always)
3	School connectedness	4	How do you feel about your school?	4 response categories (I like it a lot, I like it a bit, I do not like it very much, I do not like it at all)
4	Religiosity	4	How important is religion in your life?	4 response categories (Very important, Important, Not important, Not important at all)
5	Peer pressure	9	I think it is more important to be who I am than to fit in with the crowd.	4 response categories (Not at all true, Not very true, Sort of true, Very true)
6	Self-esteem (Rosenberg Self-esteem)	10	On the whole, I am satisfied with myself.	4 response categories (Strongly Agree, Agree, Disagree, Strongly disagree)
7	Satisfaction with life scale	5	In most ways, my life is close to my ideal.	4 response categories (Strongly agree, Agree, Disagree, Strongly disagree)
8	Substance use	4	Have you ever smoked (at least one or two puffs) cigarettes or tried any tobacco products such as cigars or shisha?	2 response categories (Yes, No)
9	History of child abuse	4	Has anyone ever touched your genitals in a sexual manner and against your will?	2 response categories (Yes, No)
10	Pornography exposure	4	Have you ever looked at any forms of pornography?	2 response categories (Yes, No)

Table 3.9, continued

Section	Latent variables	No. of items	Sample item	Response format and scoring
11	Attitudes toward premarital sex	4	It is alright for people my age to have sex before marriage if both people want to.	4 response categories (Strongly agree, Agree, Disagree, Strongly disagree)
12	Puberty, sexual and reproductive health	2	When did you first realise your body transformation, e.g., voice change in males and breast growth in females?	2 response categories: 1. Age in years 2. No changes yet
13	Sexual behaviour	12	Have you ever had sexual intercourse?	2 response categories (Yes, No)
14	Knowledge of sexual health	6 (with sub-items)	A person can get pregnant after having sexual intercourse once.	2 response categories (True, False)

The following sections describe the measures used in data analysis.

Dependent Variables

(a) Sexual initiation

Sexual initiation is defined as the act of ever had sexual intercourse (Sieverding et al., 2005). This variable was measured by asking respondents "Have you ever had sexual intercourse (sometimes this is called 'making love,' 'having sex,' or 'going all the way')?" Responses were "yes" or "no".

(b) Sexual-risk behaviour

SRBs are defined as sexual activities that may compromise a teenager's health by exposing him or her to the risk of unwanted pregnancies and infection with STIs and/or HIV (Brook, Brook, Pahl, & Montoya, 2002; Malhotra, 2008). Sexual activities include early sexual debut, unprotected sexual intercourse, multiple sexual partners (Bengel, 2002), and having sex with high-risk partners who are HIV positive, intravenous drug users or non-exclusive partners (Glen-Spyron, n.d.). SRBs were

measured through a scoring system of five items that was adapted from previous studies (Bachanas et al., 2002; Yi et al., 2010). The participants were first asked to indicate if they had ever had sex. If the answer was "Yes", they were questioned about the age at which they first willingly had sexual intercourse, how many sexual partners they have had in their lifetime, if they used any contraception the last time they had sex, and if they ever had sex with partners who had an STI, including HIV, or were intravenous drug users, sex workers, or same-sex partners.

For the purposes of this study, an aggregate variable of SRBs was derived that combined adolescents' reports of the following: ever initiating sex (1=Yes; 0=No), age at first sexual debut (1=under 16 years/early sexual debut; 0=16 years and above/late sexual debut), number of sexual partners in the participants' lifetime (0=1 partner; 1=more than two partners), contraception use (0=used contraception; 1=did not use contraception), and sex with high-risk partners (0=never had sex with high-risk partners; 1=had sex with high-risk partners) (Table 3.10).

Table 3.10: Scoring for Sexual Risk Behaviour Items

Items	Response	Scores
Sexual initiation	Yes	1
	No	0
Age at sexual debut	Early	1
	Late	0
No. of lifetime sex partners	More than 1 partner	1
	One partner	0
Contraception use	Yes	0
	No	1
High-risk sexual partner	Yes	1
	No	0

Scores ranged from 1–5, with higher scores (1 and above) indicating SRBs and a score of 0 indicating no SRBs. The reliability analysis of this variable shows a Cronbach's alpha value of 0.85.

Independent Variables

(a) Socio-demography

Information on a subject's geographic residence, gender, age, race, religion, job history, family structure, and family's education and occupation were obtained from the socio-demographic section.

Geographic residence was assessed with this statement: "Last address prior to admission". Adolescents were asked to name their village or town, district, and the state in which they were living prior to their admission to the welfare institution. This information was then used to classify the area (estate, FELDA settlement, village or town) and geographic location (urban or rural). The classification of living area was made using a standard coding system from the Statistics Department, Malaysia (Department of Statistics, Malaysia, 2009b, 2009c).

Race/ethnicity was assessed with the question: "What is your race?" Adolescents were given the option of choosing (1) Malay, (2) Chinese, (3) Indian, or (4) Other, as the population of Malaysia is largely composed of these three ethnic groups ("Population and Distribution and Basic Demographic Characteristic Report 2010", 2010).

Religion was ascertained by asking the question: "What is your religion?" Adolescents were given eight choices based on information from the Statistics Department, Malaysia: (1) No religion, (2) Muslim, (3) Christian, (4) Catholic, (5) Buddhist, (6) Hindu, (7) Sikh, or (8) Other (Department of Statistics, Malaysia, 2009d). Included in the socio-demography section was the subject's job history. A job is defined

as “a set of tasks and duties performed by one person”. Subjects were asked, “Have you ever worked?” Response options were either “Yes” or “No”.

Family structure was presented as four groups according to whether the respondent was living with the mother and father, the mother only, the father only, or with others. Family includes a parent or a guardian, or a member of the extended family who is a household member (Child Act 2001).

Information on the family’s education was obtained by asking, “What is your father and mother or guardian’s highest education?” Adolescents could answer this by choosing from the following options: (1) Never went to school, (2) Primary school, (3) Secondary school, (4) Higher education, (5) Other, or (6) Do not know. These options were adapted from a set of standards provided by the Department of Statistics, Malaysia (Department of Statistics, Malaysia, 2009a). “Primary school” is defined as education obtained in schools between the ages of 7-12. “Secondary school” is education obtained in schools between the ages of 13-17. “Higher education,” or “tertiary education,” is education continued after completing secondary school.

The family’s occupation was assessed by asking an open-ended question: “What is your father/mother/guardian’s current job (occupation) status?” An occupation is a set of jobs whose main tasks and duties are similar (Ministry of Human Resource, Malaysia, 2008). Based on the subject’s specified occupation, it was further categorised according to the Malaysia Standard Classifications of Occupations 2008 (Table 3.11) (Ministry of Human Resource, Malaysia, 2008).

Table 3.11: Malaysia Standard Classifications of Occupations 2008

Response categories	Occupations (MASCO)
1.	Managers
2.	Professionals
3.	Technicians and associate professionals
4.	Clerical support workers
5.	Service and sales workers
6.	Skilled agricultural, forestry and fishery workers
7.	Craft and related trades workers
8.	Plant and machine-operators and assemblers
9.	Elementary occupations

Source: Ministry of Human Resource, Malaysia. (2008). *Malaysia Standard Classification of Occupations, Principles of Classification of Occupations*. Malaysia: Ministry of Human Resource, Malaysia.

(b) The Parental Monitoring Assessment

Parental monitoring was assessed using The Parental Monitoring Assessment, which assesses an adolescent's perception of parental monitoring on a five-point Likert scale from (1) being "never" to (5) being "always" (Li, Feigelman, & Stanton, 2000; Small & Kerns, 1993). Respondents were then classified as having a low or high parental monitoring perception (Li et al., 2000; Small & Kerns, 1993). In the Malaysian setting, after adaptation and evaluation, this scale was found to be reliable, with a Cronbach's alpha value of 0.84. Permission to use this scale was granted by Professor Steven Small from the University of Wisconsin (Small, 2009).

(c) Negotiated Unsupervised Time with Peers

The negotiated unsupervised time with peers (NUTP) assessment was developed by Borawski et al. for a study entitled "Parental Monitoring, Negotiated Unsupervised Time and Parental Trust: The Role of Perceived Parenting Practices in Adolescent Health Risk Behaviours in 1993" (Borawski et al., 2003). The scale explored adolescent's perceptions of the degree and conditions under which parents/guardians manage their children's increasing requests for freedom and independence by using a four-item scale (Borawski et al., 2003). In their study, the four-item composite yielded

an alpha reliability of 0.70 (Borawski et al., 2003). For the current study, the scale was reliable with a correlation coefficient of 0.58.

(d) Family connectedness

The objective of the family connectedness scale was to assess the level of family connectedness/family or parental closeness, warmth, support, or responsiveness to adolescents' behaviour. This variable was assessed using measures adapted from a study on Correlations between Family Meals and Psychosocial Well-being among Adolescents (Eisenberg, 2004). The participants were categorised as experiencing low or high family connectedness based on their responses to the following two questions: "How much do you feel you can talk to your mother/father/guardian about your problems?" and "How much do you feel your mother/father/guardian cares about you?" In the present study, the items were reliable, with a correlation coefficient of 0.61.

(e) Education

The participants' education was assessed by the following questions: "Have you ever attended school?" and "What is the highest level of schooling you have completed?" Based on the response options, the highest level of schooling was then coded to primary, secondary or tertiary education.

The highest educational attainment of each subject was determined from the question: "What was your result for the following examinations?" Based on this question, the responses were coded as (1) UPSR, (2) PMR, or (3) SPM. The Ujian Pencapaian Sekolah Rendah (UPSR), or Primary School Achievement Test, is an assessment required for Year Six students before they can progress to the secondary level of education (Ministry of Education, Malaysia, 2011). The Penilaian Menengah Rendah (PMR), or Lower Secondary Evaluation, is an examination necessary for all Form Three students prior to streaming into the Science or Arts in Form Four (Ministry of Education, Malaysia, 2011). The Sijil Penilaian Menengah (SPM), or Malaysian

Certificate of Education, is an assessment required for all Form Five students before graduating from secondary school (Ministry of Education, Malaysia, 2011).

(f) School connectedness

School connectedness is described as one's feeling of closeness to school (Zdrowia, 2003). This variable was measured by a sum scale constructed from four items used to measure the degree to which adolescents' perceived positive support or caring from individual adults in their school setting. Adjusted from a study entitled "School Connectedness and Daily Smoking among Boys and Girls: The Influence of Parental Smoking Norms", the four items included were: (1) How do you feel about your school? (2) My school is/was a nice/fun place to be. (3) I feel that I am part of the school. (4) I feel my teachers were/are supportive and caring toward me (Rasmussen, Damsgaard, Holstein, Poulsen, & Due, 2005). Scores were then classified as indicating good or poor school connectedness. The scale was reliable according to Spearman coefficients, where the items varied between 0.39 and 0.53 and had a Cronbach's alpha value of 0.75 (Rasmussen et al., 2005). In the current study, the Cronbach's alpha value was 0.68.

(g) Religiosity

Religiosity is defined as the quality of being religious (Religiosity, 2011). The purpose of this scale was to measure the degree to which one believes and is involved in religion. Questions contained in the religiosity section were adapted from a study on the "Correlation between Adolescent Self Esteem, Religiosity and Perceived Family Support" (James, 2009). The four items were: (1) Do you believe in God? (2) How important is religion in your life? (3) I pray every day. (4) How often do you go to mosque/temple/church to perform prayers? A higher score indicates a high degree of religiosity.

(h) Peer pressure

The term peer pressure refers to social pressure by members of one's peer group to take a certain action, adopt certain values, or otherwise conform to be accepted (Peer pressure, 2011). The Peer Pressure Scale used in this study has nine items and was adopted and adapted from the National Institute of Child Health and Development's Study of Early Child Care and Youth Development (National Institute of Child and Human Development, 2005). The purpose of this scale was to measure the level of peer pressure among adolescents. In the present study, a correlation coefficient of 0.75 was established. Higher scores were classified into high peer pressure or low peer pressure.

(i) Self-esteem

Self-esteem or self-respect is a realistic respect for or favourable impression of oneself (Self-esteem, 2011). The Rosenberg Self Esteem (RSE) tool was used in the current study to measure each adolescent's level of self-esteem as being high or low (Crandall, 1973; Rosenberg, 1965; Wylie, 1974). Developed by Morris Rosenberg, RSE is a widely used self-esteem measure in social science research (Rosenberg, 1965). Originally developed for high school students in New York State, the scale is a ten-item Likert scale with items answered on a four-point scale from strongly agree to strongly disagree (Rosenberg, 1965). Many studies have been conducted to test the reliability of this instrument. Among them is a study of the Malay version of the RSE conducted in Seremban, Negeri Sembilan (Jamil, 2006) that reported that the scale was valid and reliable in the Malaysian setting (Cronbach's alpha of 0.8) (Jamil, 2006). Similarly, the current study also demonstrated that the scale was reliable, with a correlation coefficient of 0.69.

(j) Satisfaction with life scale

Life satisfaction is defined as a global assessment of a person's quality of life according to his chosen criteria (Shin & Johnson, 1978). The satisfaction with life scale (SWLS) was developed to measure a person's overall life satisfaction (Diener, n.d.). Validated by Diener, the item-total correlations for five SWLS items were: 0.31, 0.63, 0.61, 0.75 and 0.66, showing a good level of internal consistency for the scale (Diener, Emmons, Larsen, & Griffin, 1985). In a Malaysian setting, the scale was found to be reliable, with a Cronbach's alpha of 0.71. The scores were used to categorise subjects as satisfied with life or not satisfied with life.

(k) Substance use

Substance use is defined as the consumption of low or infrequent doses of alcohol and other drugs, sometimes called experimental, casual, or social use, such that damaging consequences are rare or minor (Inner City Fund [ICF] International, 2009). Three questions were self-developed by the investigator and were reliability tested during the pilot study. Substance use was assessed with the following questions: (1) Have you ever smoked (at least one or two puffs) cigarettes or tried any tobacco products such as cigars or shisha? (kappa = 1) (2) For the past one month, did you smoke? (kappa = 1) (3) Have you ever drunk alcohol? (kappa = 1) (4) Have you ever used illicit drugs? (kappa = 1) Based on the responses to these questions, the participants were categorised as either users or non-users.

(l) Child abuse

Child abuse includes all forms of physical and emotional ill-treatment, sexual abuse, neglect, and exploitation that results in actual or potential harm to the child's health, development, or dignity (WHO, 2011a). Within this broad definition, five subtypes can be distinguished: physical abuse, sexual abuse, neglect and negligent treatment, emotional abuse, and exploitation (WHO, 2011a). However, in the current

study, only child abuse was assessed from questions on child sexual and physical abuse. Questions for this variable were adopted and adapted from the Sexual and Physical Abuse Questionnaire (SPAQ) by Kooiman et al. (Kooiman, Ouwehand, & Kuile, 2002), which, after modification and evaluation, assessed certain events that may have occurred during an adolescent's early years, i.e., negative sexual experiences and being beaten or physically abused.

Child sexual abuse (CSA) has been defined as the involvement of a child in sexual activity that the child cannot comprehend, is unable to give informed consent to, or for which the child is not developmentally prepared or which violates the social taboos of society (WHO, 2004). The definition also refers to child maltreatment up to the age of 12 (Black et al., 2009). The adapted items included the following: (1) Has anyone ever touched your genitals in a sexual manner and against your will? (2) Has anyone ever forced you to touch his or her genitals in a sexual manner and against your will? (3) Has anyone ever forced you to have sexual intercourse against your will? (Kooiman et al., 2002). Participants who responded "Yes" to any of the questions were categorised as having had a history of child sexual abuse (Black et al., 2009).

Physical abuse of a child is defined as those acts ordered by a caregiver that can cause actual physical harm or have the potential for harm (WHO, 2002). Adolescents were assessed for this variable using the following question: "Have you ever intentionally been treated by someone in such a way that you suffered physical injury (for example: being beaten, stamped on, kicked or pushed)?" (Kooiman et al., 2002). The phrase physical injury means bruises, welts, broken nose, broken teeth, broken bones, cuts, burns, or loss of consciousness. Subjects who responded "Yes" to this question were coded as having had a history of child physical abuse.

(m) Pornography viewing

Pornography is defined as material that depicts erotic behaviour that is intended to cause sexual excitement (Pornography, n.d.). Questions on this variable were developed by the investigator and evaluated prior to use, with a kappa value of 0.46. Pornography viewing was assessed by the question, "Have you ever looked at any forms of pornography?"

(n) Attitudes toward premarital sex

Questions on this variable were adapted from a study entitled "Sexual attitudes, pattern of communication, and sexual behaviour among unmarried out-of school youth in China" (Wang et al., 2007). Modified into a four-item Likert scale, the scale assessed one's attitude toward premarital sex and was measured using the following statements: (1) It is alright for people my age to have sex before marriage if both people want to. (2) It is okay for people my age to have sexual intercourse as long as they have fallen in love. (3) Having sexual intercourse before marriage is not a good choice, but I can understand it. (4) Young people who have premarital sex should be punished. Each statement had items answered on a four-point scale from strongly agree to strongly disagree. In the present study, this scale was reliable, with a Cronbach's alpha of 0.85. Based on the scores, respondents were grouped according to having either permissible or non-permissible attitudes toward premarital sex.

(o) Pubertal onset

Puberty is the period where physiological changes occur in adolescence (Rew, 2005). The phase is marked by maturing of the genital organs, development of secondary sex characteristics, and by the first occurrence of menstruation in females (Rew, 2005). Based on this definition, pubertal onset was assessed with the open-ended question, "When did you first realise your body transformation? (e.g., voice change in males and breast growth in females)" This question, self-developed by the investigator

and evaluated prior to the actual study, was found to be reliable, with a kappa value of 0.68. Based on the period during which puberty normally occurs among adolescents, pubertal onset was then classified into early (7-8 years old), normal (9-13 years old) and late (14-19 years old) stages (Rew, 2005).

(p) Knowledge of sexual health

Knowledge of sexual health was assessed using questions adapted from the National Health and Morbidity Survey 3 (IPH, 2008) and the Teenage Knowledge of Contraception and Sexual Health: Questionnaire Study in West Yorkshire ("Teenage Knowledge of Contraception and Sexual Health: Questionnaire Study in West Yorkshire", 2002). Subjects were assessed using six questions/statements: (1) A person can get pregnant after having sexual intercourse once. (2) Have you ever heard of contraception? (3) Which of the following are types of contraception? (4) Do you know about sexually transmitted infections? (5) Which of the following are sexually transmitted infections? (6) From the list below, which of the following are symptoms of sexually transmitted infections? Using the median value, those who scored 0–10 were categorised as having an inadequate knowledge of sexual health, and those who scored 11 and above had an adequate knowledge of sexual health. In the present study, a moderate agreement kappa value of 0.41 was generated.

3.2.8 Sample size estimation

Sample size was estimated using the formula below (Box 3.1) and the information for calculation is shown in Table 3.12.

$$n = \frac{Z^2 P (1-P)}{d^2}$$

n = sample size
Z = statistic for a level of confidence
P = expected prevalence or proportion
d = precision

Box 3.1: Formula for Sample Size Calculation

Source: Naing, L., Winn, T., & Rusli, B. (2006). Practical issues in calculating the sample size for prevalence studies. *Archives of Orofacial Sciences, 1,* 9-14.

Table 3.12: Information Used to Calculate the Sample Size

Variable	Value
Z statistic for a level of confidence (Z)	2.58 (using 99% CI)
Expected prevalence (P)	0.04 (based on NHMS 3 results, the expected prevalence of sexual activity among adolescents between the ages of 13 – 19 years was 4.2%) (IPH, 2008)
Precision (d)	0.02 (half of P because P is below 0.1 (10%)

Sample size was calculated on the basis of the prevalence of sexual initiation reported in the National Health and Morbidity Survey 2006 (IPH, 2008). Box 3.2 shows the required sample size.

$$n = \frac{2.58^2 (0.04) (1-0.04)}{0.02^2}$$

n = 640

Box 3.2: Sample Size

The sample size was then inflated (above calculation) because it was assumed that the response rate would be 80%. Based on the formula for the sample size calculation, the minimum required sample size was 768 (WHO, n.d.). This sample size

calculation was also verified using the Open Epi Software for cross-sectional studies (Dean, Sullivan, & Soe, 2006) and the information provided in Table 3.13 (Kelsey & Whitemore, 1996). Overall, 1,082 participants were recruited, thus exceeding the minimum requirement for this study.

Table 3.13: Sample Size for Cross Sectional Studies

Information for calculation	Values
Two-sided significance level (1-alpha)	95
Power (1-beta, % chance of detecting)	80
Ratio of sample size, unexposed/exposed	1
Percent of unexposed with outcome	5
Percent of exposed with outcome (Li & Boulay, 2004; Wong et al., 2009)	11
Odds ratio	2.2
Risk/prevalence ratio	2.1
Risk/prevalence difference	5.5
Kelsey:	
Sample size – exposed	371
Sample size-unexposed	371
Total sample size	**742**

3.2.9 Sampling method

All subjects present at the welfare institution during data collection were recruited, although the recruitment process was based on the inclusion criteria. Anyone who did not fulfil the criteria was immediately excluded. This method was applied because the subjects were readily available, and only a small number of residents were placed in each institution.

3.2.10 Data collection

During the six-month period of data collection, all residents who fulfilled the inclusion criteria were given a set of the self-administered, structured KOTS questionnaires. The participants were informed of the background and purpose of the research and were assured that data would be kept confidential and that no identifiable data would be released. Additionally, they were also given detailed instructions on how to answer the questionnaire. After the participants fully understood the research procedures, they were allowed to answer. To ensure privacy, the participants were

placed in classrooms or halls and were asked to be seated one metre apart. This arrangement made it impossible for the participants to copy each other's answers on the questionnaire. In addition, any questions raised during data collection were only directed to the investigator and were not discussed among the residents. The questionnaire took approximately 30 minutes to complete. As soon as the participants completed the questionnaire, the booklets were handed to the investigator and immediately placed in a box.

Illiterate participants were identified prior to data collection. For this group of subjects, the data were collected via face-to-face interviews by the investigator herself. A separate analysis was performed for data acquired from interviews and from the self-answered questionnaires. Because there were no differences between the two groups, the data were then combined.

The data collection resulted in the recruitment of 1,089 trainees from the welfare institutions. However, seven trainees were excluded due to gross missing values and/or failure to fulfil the inclusion criteria.

3.2.11 Data screening procedure

The PASW 17.0 was used for the data screening. Exploratory data analysis was performed to assess data accuracy and missing values. Frequency tables and histograms were used to identify univariate outliers.

A small amount of missing data was present for some variables. Although measures were taken during data collection to avoid this issue, such as reminding the trainees to answer all of the questions, the problem remained. Because these were primary data and the information was confidential, the researcher was unable to fill in the missing values by contacting the trainees. To address the missing data, the researcher depended on an SPSS missing value analysis, described in the paragraphs below (Lab Data Screening: Missing Values, 2008).

Missing values from each variable were first identified from the frequency output. Then, to further classify whether the missing data was random or non-random, missing value analysis was performed. To determine if the subjects with missing values were different from the subjects without missing values, the expectation-maximisation (EM) estimation was checked. The significance value was greater than 0.05, indicating that the missing values were random.

With respect to the missing values, the researcher opted to leave them in place for two reasons: (1) the missing values were typically small, and (2) there were a few missing values on individual items. Thus, composites of the items could be created by averaging them together into one new composite variable that would not have missing values because it was an average of the existing data. Consequently, during statistical analysis, list wise deletion was used.

3.2.12 Data analysis

In the present analysis, 1,082 subjects were included. The data were analysed using the Predictive Analytics Software package (PASW 17.0, formerly known as SPSS) by IBM. This software was chosen because it is comprehensive, uncomplicated, and had the right analytical tools to obtain results for the current study.

The averages for sexual initiation, early sexual debut, multiple sexual partners, high-risk sexual partners, and unprotected sex were examined. Additionally, socio-demographic data and the history of each component of SRB were described by gender as follows:

1. Dispersion: Continuous variables were examined for standard deviation, minimum and maximum values and ranges.
2. Central tendency: Continuous variables were examined with both the means and medians.

3. Distribution: Continuous variables were examined using frequency tables, measures of skewness and kurtosis and histograms. Discrete variables (nominal and ordinal level) were examined using their frequency distribution (frequency counts and percentages).

Pearson's chi-squared test was used to test the statistical significance of the differences in sexual behaviour in different subgroups—sexual initiation and SRB. Multivariate analyses using binary logistic regression were performed to assess the effects of the independent variables on the risk of sexual initiation and SRB. Only variables with p-values of <0.05 from the bivariate association were included in the regression. The results were presented as unadjusted and adjusted odds ratios allowing assessment of the stability of the associations according to the inclusion of the independent variables. The interaction between gender and all other variables was tested by the multiplicative model logistic regression. This approach also resulted in logistic regression models for associating factors of sexual initiation and SRB (in general and by gender). Those variables not significant at a 5% level were excluded from the model.

Data analyses for the quantitative objectives are described as follows. First objective: To obtain descriptive information on SRBs among incarcerated adolescents within the welfare institutions. The data were analysed using descriptive statistics for the entire group as well as for each gender. Comparative analyses between male and female adolescents were performed using chi-squared tests in relation to their past SRBs experiences.

Second objective: To examine bivariate associations among the components of the SEM with ever having had sex. The data were analysed for the whole group using descriptive analysis. Bivariate associations between the predictor variables and ever having had sex were determined using chi-squared tests.

Third objective: To study the associating factors of ever having had sex using the components of the SEM. The data were analysed for the whole group using regression. Associating factors of ever having sex were determined using binary logistic regression (Backward: LR method).

Fourth objective: To examine the bivariate associations among the components of the SEM and SRB. The data were analysed using descriptive statistics for the whole group. Bivariate associations were performed using chi-squared tests.

Fifth objective: To determine the associating factors of SRBs. The data were analysed using regression. Predictor variables of SRBs were determined using binary logistic regression (Backward: LR method).

Sixth objective: To examine the bivariate associations among the components of the SEM and SRBs by gender. The data were analysed using descriptive statistics for each group. Bivariate associations and between gender comparisons were performed using chi-squared tests.

Seventh objective: To establish the associating factors of SRBs by gender. The data were analysed by gender using regression. Associating factors for SRBs were determined using binary logistic regression (Backward: LR method).

3.3 Methods of the Qualitative Phase

3.3.1 Study design

The qualitative phase employed a grounded theory approach as part of its study design. A grounded theory is a systematic qualitative procedure for generating a theory that explains concepts, processes, actions, or interactions (Creswell, 2008). Applying this theory to the study, in-depth interviews and written essays were utilised for collecting data. Categories or themes were then identified from the text to form a theory that explains the phenomenon being studied (Creswell, 2008). This design was chosen

for the following reasons. First, the constant comparative analysis enables identification of conceptual categories and their properties embedded in the data (Creswell, 2008). Second, the use of theoretical sampling ensures that categories are enriched through coding and integration (Creswell, 2008). These two procedures will lead to the development of a hierarchy of integrated categories.

3.3.2 Ethical considerations

The qualitative phase was described as part of the study protocol when it was submitted to the University Malaya Medical Centre Ethics Committee and the Social Welfare Department of Malaysia for review. Ethical approval and permission were obtained from both organisations to conduct this phase. Prior to data collection, wardens were told about the use of audiotapes to record the interview conversations and that the audiotapes would be held in reserve by the investigator. The investigator was also responsible for guaranteeing that information contained in the audiotapes was kept confidential.

3.3.3 Setting

The setting of the qualitative phase was similar to the quantitative phase. However, only institutions located within the central region of Peninsular Malaysia, specifically in Selangor and Kuala Lumpur, were included. Selangor is one of the 13 states of Malaysia. It is on the west coast of Peninsular Malaysia and is bordered by Perak to the north, Pahang to the east, Negeri Sembilan to the south and the Strait of Malacca to the west. Kuala Lumpur is located in the centre of Selangor state (Figure 3.8).

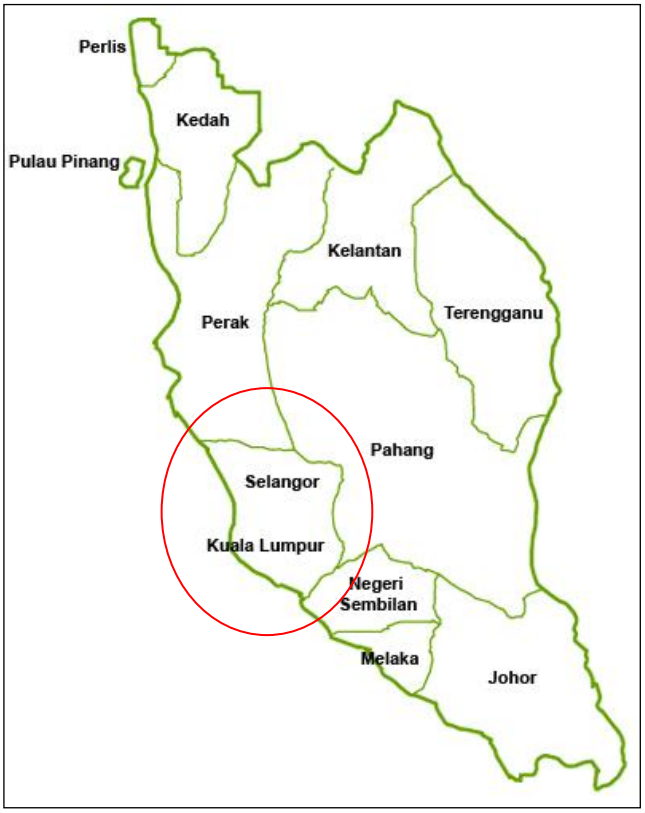

Figure 3.9: Location of Selangor State and Kuala Lumpur

3.3.4 Selection of institutions

All welfare institutions in Selangor and Kuala Lumpur that fulfilled the inclusion criteria were initially selected by the investigator (n=9). The list of institutions was then forwarded to the SWD for approval. Only four institutions were permitted for the second phase: Asrama Bahagia, Kampung Pandan, Kuala Lumpur; Asrama Datuk Keramat, Kuala Lumpur; Asrama Sentosa, Jalan Sentul, Kuala Lumpur; Sekolah Tunas Bakti, Sungai Besi, Kuala Lumpur and Taman Seri Puteri, Kajang, Selangor (Figure 3.9).

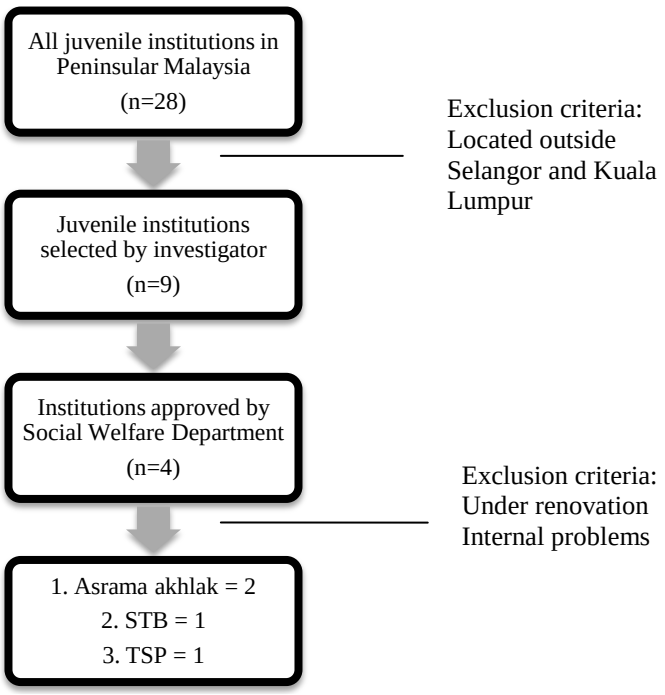

Figure 3.10 Selection of Institutions for Phase 2

3.3.5 Participatory observation

Prior to the recruitment of subjects, a participatory observation was conducted. The objective of this observation was to get to know the teenagers placed in the institutions, specifically the way they communicated, and their actions and their activities in a natural setting. During this exercise, the investigator spent one day each at Sekolah Tunas Bakti in Sungai Besi for male juvenile detainees, and Asrama Akhlak Bahagia in Kampung Pandan for females. The investigator chose to observe while the adolescents were engaged in their typical activities in their natural setting. The exercise assisted the researcher in forming good rapport and ensuring trust with the adolescents.

3.3.6 Sampling and sample size

Using the purposive sampling strategy of criterion sampling, cases were selected for interviews. Purposive sampling was considered the appropriate method to select the cases to answer the research question, "Why do adolescents initiate sexual intercourse?" This type of sampling has been known to be virtually synonymous with qualitative

research. Moreover, this part of the study involved searching for cases or individuals who specifically met certain criteria: (1) a reported age between 13–19, (2) single marital status, (3) Malaysian citizenship, and most importantly, (4) admitting to having had sexual intercourse. Sample size was not fixed prior to data collection. Purposive sample sizes are determined on the basis of theoretical saturation, i.e., the point in data collection when new data no longer brings additional insights to the research questions (Family Health International, 2005).

3.3.7 Recruitment of participants

Because of the sensitivity of this topic, cases for in-depth interviews could only be gathered after conducting a screening interview. It was important to be as discreet as possible because the information that had to be collected was highly confidential. Additionally, recent research on the accuracy of adolescents' reporting of sexual behaviour indicates good accuracy using face-to-face interviewing (Durant & Carey, 2000). The paragraphs below describe the process used to identify the participants.

To enrol participants in the study, all of the trainees were gathered in a room or hall while the investigator sat in a private room. Subjects were called in one-by-one for an individual interview. Then, a screening procedure followed (Figure 3.10). Some demographic information was collected and the teenagers were asked if they have ever been involved in consensual sexual intercourse. If they answered "Yes", the next step was to obtain their consent for an in-depth interview (IDI). This recruitment strategy was used to ensure that the later interview would only include adolescents who self-identified themselves as ever having initiated sex. The purpose and confidentiality of the interview was thoroughly explained. If a teenager consented to the IDI, an appointment was arranged, and the warden was informed of the date and time.

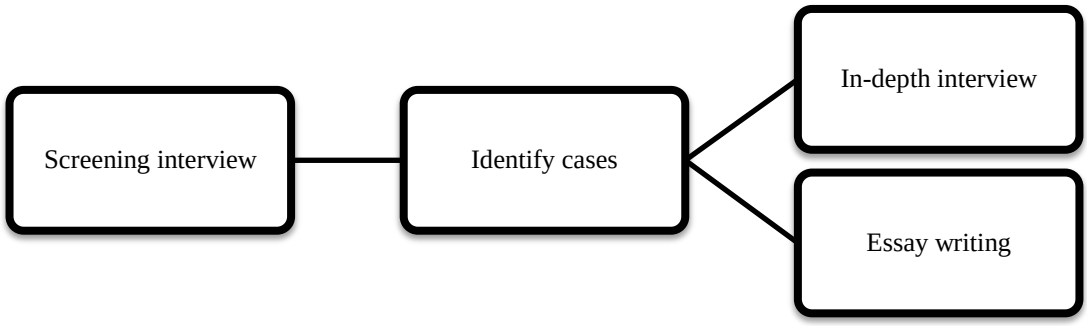

Figure 3.11 Enrolment of Adolescents as Participants

3.3.8 Data collection

3.3.8.1 In-depth interviews

The interviews were held in a private room in the presence of only the investigator and the subject. Prior to the dialogue session, the interviewer began with a 10 minute ice-breaking session to ensure that both parties were comfortable with each other; this process involved some self-introduction on both sides. Once the researcher felt that the subject was at ease, the audiotape was switched on, and the researcher explained the purpose of the dialogue and asked for consent. Although the warden was aware of the selected interviewee, the investigator had ensured participants of their confidentiality.

Based on the research questions that emerged during the quantitative component, a detailed study of the characteristics of adolescents who initiated sex and their perceptions of factors that influenced the initiation of sexual intercourse were explored. A Grounded Theory was adopted as the design framework to assist the investigator during the analysis of data ("The Grounded Theory Method of Qualitative Research", n.d.).

To ensure a smooth conversation, the interview was conducted using an interview guide with a set of procedures and guidelines for performing in-depth interviews. The guide was developed by the investigator herself based on a systematic review of the factors associated with sexual initiation and was set within the conceptual framework. The purpose of having this protocol was to assist both the researcher and the interviewees while in a dialogue, especially when probing questions were needed.

A portable voice recorder under the brand name “Sony” was used to audiotape the interview sessions. This device was chosen because it had features (direct connection digital recorder with 2GB built-in memory, an MP3 stereo recorder, and PC data storage capability) that were appropriate for use in this part of the study ("Sony ICDUX81F 2GB Direct USB MP3 Notetaker - Pink," n.d.). Each interview lasted between 45 and 60 minutes.

3.3.8.2 Essay writing

Literate subjects who were uncomfortable discussing sexual behaviour during the interview were given the option of writing essays. Included in this group were subjects who opted not to be interviewed at all during the screening process. The subjects were given four essay questions to write. An envelope containing an empty exercise book, some stationery, and the essay questions was distributed to the subject. Prior to handing out the package, the researcher met with the subject privately to explain the purpose, give precise instructions, and ensure confidentiality so that the subjects felt free to write. After they completed the essays, the subjects were instructed to place the book back in the envelope and return it to the warden/counsellor for safe keeping. The researcher collected the envelopes from the warden after one week.

Data collection, which included the in-depth interviews and essay writing, lasted for three months, from July through September 2010.

3.3.9 Transcription

Following data collection, the audiotapes were transcribed verbatim. The transcripts were maintained in the original language, i.e., Malay, by the researcher in Microsoft Office Word 2007. Data from the handwritten essays were also transferred to Microsoft Office Word 2007 in its original form. Then, using QSR International's Nvivo 8 software for qualitative data, detailed coding and analysis were completed in Malay. This software assisted in organising the data into a structured form.

3.3.10 Instruments

3.3.10.1 Interview protocol

An interview protocol is a sample document that contains procedures for in-depth interviews in the qualitative phase. It was developed essentially to guide the researcher in terms of the questions to ask and the information required to answer the research question.

Open-ended and probing questions were the core items of this interview protocol. As indicated by the conceptual framework, questions were organised according to the Home, Education, Activities, Drugs, Sexuality and Spirituality (HEADSS) psychosocial assessment. HEADSS, developed by Cohen, Mackenzie and Yates in 1991, is an interview instrument for exploring the issues in adolescents' lives (Cohen et al., 2003). This instrument has been widely used and is accepted among health practitioners as an appropriate tool for assessing adolescents' psychosocial functioning (Cohen et al., 2003). Little is known concerning its reliability and validity; however, in Australia, for example, the effectiveness of HEADSS has been shown in hospital and clinical settings and is recommended for use by the Royal Australasian College of Physicians and other health experts (Parker, Hetrick, & R Purcell, 2010). Moreover, it has been certified by the Australian General Practice Network as an

appropriate “youth friendly” assessment tool (Parker et al., 2010). Thus, this tool was selected as a framework to guide the researcher during the interview.

The interview protocol contains six headings based on HEADSS. Under each heading, probing questions were adopted and adapted from a variety of literature sources including HEADSS (Cohen et al., 2003). Additionally, sexual behaviour questions from previous qualitative studies and a WHO topic guide were also used as references (Ingham & Stone, n.d.; Skinner et al., 2008). The protocol was then translated into the Malay language.

Similarly, Malay was chosen as the medium of communication because Malay was the spoken language of the majority of the subjects. The questions were pretested by conducting a series of in-depth interviews with three subjects in welfare institutions. At the end of each interview, the interviewees were invited to give comments on the questions and asked how he or she felt during the session. An independent observer was also invited to attend one of the sessions to provide comments and suggestions on the conduct of the interviewer and on the questions asked. Following the pretesting, the researcher analysed the questions again, and produced a structured protocol that was believed to be appropriate for use in psychosocial interviews among adolescents in welfare institutions.

3.3.10.2 Essay writing questions

Four questions were constructed for essay writing. Three questions on sexual behaviour were adopted from a qualitative study conducted among Australian female adolescents (Skinner et al., 2008), and one general question regarding the participants’ biographical data was self-developed by the investigator. The questions are as follows:

1. Write about yourself, your family and friends.
2. Write about the first time you had sex.
3. Why did you first have sex when you did?

4. How did you feel after the first time?

All four questions were then translated into Malay for easy writing and expression by the subjects and for the investigator to gain knowledge of the writers' common lingo. These questions were initially developed to supplement the in-depth interviews after it was discovered that several participants were unable to communicate and respond comfortably to questions about sexual behaviour. There were several reasons for this discomfort. First, being a traditional country, the topic of sexual behaviour is not often openly discussed among Malaysians. Second, most of the participants, especially male adolescents, felt shy about telling their stories when questions about sexual behaviour were asked. Finally, the limited rapport and bonding between the researcher and some of the participants made them feel uncomfortable talking about sexual issues. This issue limited the information relayed from the participants to the researcher during the in-depth interviews.

Prior to each essay distribution, the researcher explained the questions to each participant to ensure their understanding. Because the questions were constructed using uncomplicated Malay and English words, all the participants had no uncertainties prior to answering them.

3.3.11 Analysis

Grounded Theory was used to analyse the combined text data gathered from the IDIs and essays. Developed in the 1960s by two American sociologists, Barney Glaser and Anselm Strauss, Grounded Theory is a way to develop a theory "from the bottom up" (The Grounded Theory Method of Qualitative Research, n.d.). In the initial stage of data analysis, categories are selected and named using the open coding process. This described the overall features of the phenomenon under study i.e. sexual initiation. Variables involved in the phenomenon are identified, labelled, categorised and related

together in an outline form. Next, the axial coding followed. In axial coding, data are grouped together in new ways and connections made between categories. It also involves explaining and understanding relationships between categories in order to understand why adolescents initiated sex. Finally, using selective coding, the core category is selected, identified and systematically related to other categories. Those relationships are validated, filled in and refined. Categories are then further developed and integrated before arriving to a Grounded Theory.

The data analysis was conducted concurrently with data collection. Initially, two or three sets of data drawn from reasonably homogeneous sources were analysed, resulting in an initial set of categories. This, in turn, guided the selection of new data, and so on, until, in the investigator's judgment, the meanings of additional data were accounted for by the categories already developed (no new themes emerged) ("The Grounded Theory Method of Qualitative Research", n.d.). It is at this point that the themes are declared "saturated". The sample size for the qualitative component depended on the saturated categories. Thus, the total number of subjects gathered was 29.

3.3.12 Data translation

The data were maintained in Malay except for the emergent themes to prevent the loss of true meaning while interpreting the results. Then, for the purpose of results presentation, only selected dialogues were translated by a designated translator.

3.3.13 Verification

In terms of interview reliability, the content was verified using repeated interviews with the adolescents. Repeated interviews were performed two weeks after the first interview, but only the sexual behaviour portion was verified due to time constraint and availability of adolescents.

3.3.14 Methodological triangulation

To determine the accuracy of the qualitative findings, a methodological triangulation was applied to the research objective, specifically, factors that influenced first sexual intercourse among incarcerated adolescents (Creswell, 2008; Risjord, Moloney, & Dunbar, 2001). To perform the triangulation, the investigator examined the qualitative findings and found evidence from the quantitative results to support the themes gathered.

3.4 Conclusion of Chapter Three

This chapter provides a detailed explanation of the study methodology. Separate methodologies were explained for quantitative and qualitative components. The quantitative component (Phase 1) is a cross-sectional design using a self-reported questionnaire. Data were collected in 22 public welfare institutions across Peninsular Malaysia from a total of 1,082 unmarried male and female adolescents between the ages of 12-19 living in these institutions. In the qualitative component (Phase 2), additional data were collected by in-depth interviews and essay writing at four welfare institutions in Kuala Lumpur and Selangor. In total, 29 adolescents who acknowledged to having had sexual intercourse were included in this second component (Phase 2).

Chapter Four: Results

4.1 Introduction

This chapter aims to present results of the study. In the initial part of this chapter a detailed descriptive statistics of the quantitative data is provided. Then, results were used to explore the direct and related factors that contributed to adolescents' sexual initiation. These factors are presented as narratives in the latter part of the chapter.

4.2 Quantitative Findings

4.2.1 Study population characteristics

This section provides a general profile and description of the respondents and the settings in which they were located during the current study. This profile facilitates an understanding of the results presented in subsequent sections. Table 4.1 shows the distribution of respondents by peninsular region. The adolescents were predominantly from the northern region.

Table 4.1: Distribution of Adolescents in Welfare Institutions by Peninsular Region

Peninsular Region	N	%
Northern Region	318	29.4
East Coast Region	290	26.8
Central Region	304	28.1
Southern Region	170	15.7

The adolescents were located in 22 welfare institutions scattered across the peninsula (Table 4.2). On average, there were 49 persons per institution. Institutions were further grouped according to type: Children's Home (RKK), Probation Hostel (AA), Tunas Bakti School (STB) and Taman Seri Puteri (TSP) (Table 4.3). The average number of adolescents in each institutional group was 271.

Table 4.2: Distribution of Adolescents by Welfare Institution

Welfare Institution	N	%
RKK Arau	147	13.6
AA Jitra	30	2.8
AA Paya Terubung	15	1.4
STB Taiping	107	9.9
AA Silibin	19	1.8
RKK Serendah	57	5.3
TSP Cheras	57	5.3
AA Sentosa	37	3.4
AA Dato' Keramat	9	0.8
RKK Tg. Budriah	25	2.3
RKK Kompleks Penyayang BAKTI	5	0.5
RKK Rumah Budak Lelaki Tun Abdul Aziz	44	4.1
STB Sg. Lereh	60	5.5
AA Bukit Baru	12	1.1
RKK Rembau	41	3.8
AA Bukit Senyum	13	1.2
STB Jerantut	90	8.3
RKK Tg. Ampuan Fatimah	13	1.2
STB Marang	157	14.5
AA Rusila	30	2.8
AA Bahagia, Kg. Pandan	60	5.5
STB Sg. Besi	54	5.0

Table 4.3: Distribution of Adolescents by Type of Welfare Institution

Welfare Institution by Type	N	%
Children's Home	332	30.7
Probation Hostel	225	20.8
Tunas Bakti School	468	43.3
Taman Seri Puteri	57	5.3

4.2.2 Socio-demographic characteristics

In total, 1,082 individuals comprised the study population included in the survey analysis. This figure represents 99.4% of the eligible respondents.

Most of the adolescents had lived in the northern region of the peninsula (Table 4.4). Table 4.5 shows the distribution of adolescents' residential area by state. The majority of adolescents resided in Selangor (16.0%), while only 0.2% lived in Sarawak, a state in east Malaysia. The percentage of respondents who reported previously living in towns was 66.7% (Table 4.6).

Table 4.4: Distribution of Adolescents' Residential Area by Peninsular Region

Peninsular Region	N	%
Northern Region (PM)	309	29.7
East Coast Region (PM)	220	21.2
Central Region (PM)	278	26.8
Southern Region (PM)	227	21.8
East Malaysia (Sabah and Sarawak)	5	0.5

Table 4.5: Distribution of Adolescents' Residential Area by State

Peninsular State	N	%
Johor	144	13.3
Kedah	79	7.3
Kelantan	47	4.3
Melaka	51	4.7
Negeri Sembilan	32	3.0
Pahang	120	11.1
Pulau Pinang	51	4.7
Perak	90	8.3
Perlis	89	8.2
Selangor	173	16.0
Terengganu	53	4.9
Federal Territory of Kuala Lumpur	104	9.6
Sabah	3	0.3
Sarawak	2	0.2

Table 4.6: Distribution of Adolescents' Residence by Living Area

Living Area	N	%
Estate	4	0.4
FELDA settlement	33	3.2
Village	303	29.7
Town	680	66.7

Table 4.7 shows the detailed distribution of socio-demographic characteristics of the participants by sex. Malays were the dominant majority within the institutions, at 86.9%. As expected, the majority were Muslims. In terms of gender, there were more females than males. The overall mean age of the participants was 15.7 years (SD=1.63, median=16.0), but male adolescents were statistically significantly older (mean=15.8, SD=1.77) than female adolescents (mean=15.6, SD=1.50), $t\ (1080) = 0.05$, $p < 0.001$. Most adolescents (64.0% of males and 68.6% of females) reported living in an urban area. Regardless of sex, more than half were living with both biological parents prior to their admission into the institutions.

Most of the participants had attended school, and 75.3% and 88.6% of male and female respondents, respectively, reported having received secondary education.

However, 7.9% of the respondents were illiterate. Most of the participants were previously employed (Table 4.7).

Table 4.7: Socio-demographic Characteristics of Adolescents

Characteristics	Overall (N=1,082) N %	Male (N=483) N %	Female (N=599) N %
Ethnicity			
Malay	939 (86.9)	410 (84.9)	529 (88.5)
Chinese	38 (3.5)	25 (5.2)	13 (2.2)
Indian	92 (8.5)	46 (9.5)	46 (7.7)
Other	12 (1.1)	2 (0.4)	10 (1.7)
Age group (years)			
12-14	258 (23.8)	116 (24.0)	142 (23.7)
15-17	699 (64.6)	288 (59.6)	411 (68.6)
18-19	125 (11.6)	79 (16.4)	46 (7.7)
Religion			
Islam	974 (90.1)	429 (88.8)	545 (91.1)
Buddhism	23 (2.1)	14 (2.9)	9 (1.5)
Christianity	17 (1.6)	9 (1.9)	8 (1.3)
Hinduism	59 (5.5)	26 (5.4)	33 (5.5)
Other	4 (0.4)	2 (0.4)	2 (0.3)
No religion	4 (0.4)	3 (0.6)	1 (0.2)
Geographical location			
Urban	680 (66.6)	281 (64.0)	399 (68.6)
Rural	341 (33.4)	158 (36.0)	183 (31.4)
Family structure			
Mother & father	587 (56.0)	264 (57.0)	323 (55.2)
Mother only	211 (20.1)	97 (21.0)	114 (19.5)
Father only	55 (5.2)	18 (3.9)	37 (6.3)
Mother or father & new partner	13 (1.2)	3 (0.6)	10 (1.7)
Other	182 (17.4)	81 (17.5)	101 (17.3)
Literacy status			
Literate	996 (92.1)	408 (84.5)	588 (98.2)
Illiterate	86 (7.9)	75 (15.5)	11 (1.8)
Highest level of education			
Primary education	154 (14.6)	97 (20.6)	57 (9.7)
Secondary education	875 (82.7)	354 (75.3)	521 (88.6)
Tertiary education	10 (0.9)	7 (1.5)	3 (0.5)
No education	19 (1.8)	12 (2.6)	7 (1.2)
Previous employment			
Yes	675 (63.6)	362 (77.0)	313 (52.9)
No	387 (36.4)	108 (27.9)	279 (72.1)

In terms of the education level of the parents, many of the adolescents reported that both their father and mother were educated up to the secondary level. While many reported knowing their father's occupation, just over 30% reported not knowing it.

Adolescents reported that their mothers were mostly unemployed. However, for working mothers, the majority were described as service and sales workers (Table 4.8).

Table 4.8: Education and Occupation of Adolescents' Parents

Characteristics	Overall (N=1,082) N %	Male (N=483) N %	Female (N=599) N %
Father's highest education			
Primary education	173 (16.4)	66 (14.1)	107 (18.3)
Secondary education	439 (41.7)	189 (40.5)	250 (42.7)
Tertiary education	72 (6.8)	37 (7.9)	35 (6.0)
No education	26 (2.5)	16 (3.4)	10 (1.7)
Do not know	343 (32.6)	159 (34.0)	184 (31.4)
Mother's highest education			
Primary education	161 (15.4)	66 (14.3)	95 (16.3)
Secondary education	444 (42.5)	166 (35.9)	278 (47.8)
Tertiary education	98 (9.4)	54 (11.7)	44 (7.6)
No education	42 (4.0)	19 (4.1)	23 (4.0)
Do not know	299 (28.6)	157 (34.0)	142 (24.4)
Father's occupation			
Managers	3 (0.3)	1 (0.2)	2 (0.4)
Professionals	26 (2.6)	9 (2.1)	17 (3.0)
Technicians & associate professionals	10 (1.0)	3 (0.7)	7 (1.2)
Clerical support	17 (1.7)	7 (1.6)	10 (1.8)
Service & sales	159 (15.9)	67 (15.4)	92 (16.3)
Skilled agricultural, forestry & fishery	50 (5.0)	24 (5.5)	26 (4.6)
Craft & related trades	89 (8.9)	45 (10.3)	44 (7.8)
Plant & machine-operators/ assemblers	119 (11.9)	63 (14.5)	56 (9.9)
Elementary Occupations	56 (5.6)	24 (5.5)	32 (5.7)
Armed forces	16 (1.6)	7 (1.6)	9 (1.6)
Self-employed	18 (1.7)	4 (0.9)	14 (2.5)
Unemployed	62 (6.2)	26 (6.0)	36 (6.4)
Do not know	323 (32.3)	139 (32.0)	184 (32.6)
Not applicable	52 (4.8)	16 (3.7)	36 (6.4)

Table 4.8, continued

Characteristics	Overall (N=1,082) N %	Male (N=483) N %	Female (N=599) N %
Mother's occupation			
Managers	1 (0.1)	1 (0.2)	0 (0.0)
Professionals	38 (3.7)	10 (2.2)	28 (4.9)
Technicians & associate professionals	8 (0.8)	5 (1.1)	3 (0.5)
Clerical support	24 (2.3)	8 (1.8)	16 (2.8)
Service & sales	189 (18.4)	80 (17.7)	109 (19.0)
Skilled agricultural, forestry & fishery	16 (1.6)	8 (1.8)	8 (1.4)
Craft & related trades	36 (3.5)	20 (4.4)	16 (2.8)
Plant & machine-operators/ assemblers	48 (4.7)	25 (5.5)	23 (4.0)
Elementary occupations	39 (3.8)	20 (4.4)	19 (3.3)
Armed forces	3 (0.3)	3 (0.7)	0 (0.0)
Self-employed	7 (0.7)	0 (0.0)	7 (1.2)
Unemployed	362 (35.3)	163 (36.1)	199 (34.7)
Do not know	232 (22.6)	101 (22.3)	131 (22.9)
Not applicable	22 (2.0)	8 (1.8)	14 (2.4)

4.2.3 General sexual behaviour patterns

Overall, 62.3% (95% CI 59.4-65.2) of adolescents reported that they had initiated sexual intercourse. On average, their sexual debut was at 14 years of age (range: 8-19 years). More females (68.1%) than males (55.0%) reported initiating sex (χ^2 (1) = 19.1, p < 0.001). As shown in Table 4.9, for the majority, their reason for initiating sex was their own personal choice. Adolescents who admitted to 'own personal choice' included those who initiated sex because they were bored, in love or curious, or did it for fun.

Table 4.9 Reasons for Initiating Sex

Reasons for initiating sex	Frequency	Percentage
Personal choice	429	71.3
Peer pressure	84	14.0
Family problems	26	4.3
Unwanted sexual activity	59	9.8
Other	4	0.7

The reported prevalences of SRB items are shown in Tables 4.10 and 4.11. Among those who had initiated sex, 76.0% had an early sexual debut, and female

adolescents were more likely than males to report this behaviour ($p < 0.05$). Having multiple sexual partners was also reported by respondents; over 60% have had sex with more than one partner in their lifetime. Out of the respondents who have initiated sex, 18.8% did not use contraception during their last sexual encounter, 15.6% of male adolescents reported not using contraception during their last sexual encounter, and 20.8% of females did not use it. Among the respondents, 30.2% reported having sex with high-risk partners, and this showed a significant gender difference ($p = 0.003$).

After scores for SRBs were calculated among those who had initiated sex (Table 4.11), over 55.0% of the adolescents were found to have practised SRB. There was a significant gender difference with reference to SRBs ($p < 0.001$): females were more likely to engage in SRBs than males (Table 4.12).

Table 4.10: Distribution of SRBs by Item

Variable	Frequency	Percentage	Range for true population 95% CI
Age of first sex (early sexual debut: < 16 years)	458	76.0	72.6-79.4
Multiple sexual partners	381	64.4	60.5-68.3
Not using contraception	120	18.8	15.8-21.8
Ever had sex with high-risk partners	187	30.2	26.6-33.8

Table 4.11: Distribution of SRBs after Scoring

Variable	Frequency	Percentage	Range for true population 95% CI
SRBs	527	55.1	52.0-58.3
Non-SRBs	430	44.9	41.8-48.1

Table 4.12: Reported SRBs by Gender

Characteristics	Overall (N=1,082) N %	Male (N=483) N %	Female (N=599) N %	p-value
Sexual debut				
Early	458 (76.0)	162 (71.4)	296 (78.7)	0.04
Late	145 (24.0)	65 (28.6)	80 (21.3)	
No. of lifetime sexual partners				
One partner	211 (35.6)	57 (26.5)	154 (40.8)	<0.001
More than one	381 (64.4)	158 (73.5)	223 (59.2)	
Contraception use				
Yes	520 (81.3)	211 (84.4)	309 (79.2)	0.10
No	120 (18.8)	39 (15.6)	81 (20.8)	
High-risk sexual partner				
Yes	187 (30.2)	89 (36.9)	98 (25.9)	0.003
No	433 (69.8)	152 (63.1)	281 (74.1)	
History of STI				
Yes	50 (8.6)	27 (12.3)	23 (6.3)	0.01
No	534 (91.4)	193 (87.7)	341 (93.7)	

Table 4.13 shows that just over 8.0% of adolescents reported having a history of STIs, with more males than females reported this history (χ^2 (1) = 6.21, p = 0.01). Additionally, 18.6% (95% CI 15.6-21.6) reported getting pregnant or impregnating a sexual partner. Among female adolescents who had been pregnant, 3.9% reported of having an abortion.

Table 4.13: Distribution of Negative Outcomes of SRBs

Variable	Frequency	Percentage	Range for true population 95% CI
History of STI	50	8.6	6.33-10.9
Pregnant/impregnated	117	18.6	15.6-21.6

4.2.4 Bivariate analyses of sexual initiation

Table 4.14 shows the association between individual components of the SEM and sexual experience. Age is related to sexual initiation. The proportion of those in mid- and late-adolescence engaging in sex is higher than the proportion of adolescents in the early age group (p < 0.001). Gender differences in the initiation of intercourse were significant, with more females than males acknowledged to ever having sex (p <

0.001). In terms of ethnicity, Malay adolescents appear to be somewhat more likely than other ethnicities to have sexual experiences. Education is also associated with sexual intercourse, with more adolescents in secondary school reported to having sex compared to those who received no education, primary and tertiary education.

Self-esteem is related to sexual experience. Of those engaging in sex, the proportion with low self-esteem was higher than the proportion with high self-esteem ($p < 0.001$). Having a history of substance use (such as tobacco, alcohol or illicit drugs) is significantly associated with sexual experience. The percentage of adolescents who have initiated sex and who have a history of using these substances is higher than those who did not use them.

Attitudes toward premarital sex are related to sexual intercourse. Of those adolescents who engaged in sex, the proportion having a non-permissible attitude toward premarital sex was higher than the proportion permitting premarital sex. Of those with inadequate knowledge of sexual health, the proportion of those ever had sex is lower compared to those who never had sex. A positive childhood history of sexual abuse also contributed significantly to sexual initiation.

Table 4.14: Bivariate Analyses between Individual Components and Sexual Initiation

Variable	Ever had sex		Never had sex		P	Crude OR	95% CI
	N	%	N	%			
Age							
Early	93	14.2	146	37.0		1.00	
Middle	459	70.2	228	57.7	< 0.001	3.16	2.33-4.29
Late	102	15.6	21	5.3	< 0.001	7.63	4.46-13.0
Gender							
Male	254	38.8	208	52.7		1.00	
Female	400	61.2	187	47.3	< 0.001	1.75	1.36-2.26
Ethnicity							
Malay	597	91.3	318	80.5	0.28	1.88	0.60-5.87
Chinese	23	3.5	14	3.5	0.46	1.64	0.44-6.10
Indian	28	4.3	57	14.4	0.25	0.49	0.15-1.66
Other	6	0.9	6	1.5		1.00	

Table 4.14, continued

Variable	Ever had sex		Never had sex		P	Crude OR	95% CI
	N	%	N	%			
Onset of puberty							
Early	4	0.7	1	0.3	0.38	1.00	
Normal	436	71.0	263	74.7	0.43	0.41	0.05-3.73
Late	174	28.3	88	25.0	0.53	0.49	0.05-4.49
Highest education level							
Primary	58	9.0	88	22.9	0.601	1.32	0.47-3.71
Secondary	575	89.1	283	73.5	0.006	4.06	1.51-10.9
Tertiary	6	0.9	2	0.5	0.06	6.00	0.92-39.2
No education	6	0.9	12	3.1	< 0.001	1.00	
Self-esteem							
Low	299	49.5	110	35.9	< 0.001	1.75	1.32-2.32
High	305	50.5	196	64.1		1.00	
Satisfaction with life							
Not satisfied	270	44.6	118	38.4	0.07	1.29	0.97-1.70
Satisfied	336	55.4	189	61.6		1.00	
Ever smoked							
Yes	532	81.6	236	60.1	< 0.001	2.95	2.22-3.91
No	120	18.4	157	39.9		1.00	
Ever drank alcohol							
Yes	351	53.8	79	20.2	< 0.001	4.62	3.45-6.18
No	301	46.2	313	79.8		1.00	
Ever used illicit drugs							
Yes	283	43.3	54	13.7	< 0.001	4.80	3.47-6.65
No	370	56.7	339	86.3		1.00	
Attitude toward premarital sex							
Permissible	175	29.0	22	7.3	< 0.001	5.19	3.25-8.29
Non-permissible	429	71.0	280	92.7		1.00	
Knowledge of sexual health							
Inadequate	412	63.8	294	79.9	< 0.001	0.44	0.33-0.60
Adequate	234	36.2	74	20.1		1.00	
History of child sexual abuse							
Yes	445	68.1	94	24.0	< 0.001	6.78	5.10-9.01
No	208	31.9	298	76.0		1.00	
History of child physical abuse							
Yes	226	34.7	121	30.7	0.188	1.20	0.92-1.57
No	426	65.3	273	69.3		1.00	

Table 4.15 provides the proportions and significance values for sexual experience by interpersonal components. There were no significant differences for parent's occupation, father's education, negotiated unsupervised time with peers and

family connectedness. Other variables in this component are significantly associated with sexual initiation.

Table 4.15: Bivariate Analyses between Interpersonal Components and Sexual Initiation

Variable	Ever had sex		Never had sex		P	Crude OR	95% CI
	N	%	N	%			
Father's highest education							
Primary education	107	16.9	64	16.5		1.00	
Secondary education	300	47.2	125	32.1	0.058	1.44	0.99-2.09
Tertiary education	41	6.5	28	7.2	0.649	0.88	0.49-1.55
No education	17	2.7	8	2.1	0.600	1.27	0.52-3.11
Do not know	170	26.8	164	42.2	0.013	0.62	0.43-0.90
Mother's highest education							
Primary education	115	18.1	43	11.3		1.00	
Secondary education	292	46.0	143	37.5	0.10	0.76	0.51-1.14
Tertiary education	63	9.9	29	7.6	0.47	0.81	0.46-1.43
No education	22	3.5	20	5.2	0.01	0.41	0.20-0.83
Do not know	143	22.5	146	38.3	<0.001	0.37	0.24-0.56
Father's occupation							
Managers	2	0.3	1	0.3		1.00	
Professionals	19	3.1	7	1.9	0.89	1.20	0.09-16.2
Technicians & associate professionals	6	1.0	4	1.1	0.47	1.63	0.43-6.17
Clerical support	11	1.8	6	1.6	0.90	0.90	0.18-4.55
Service & sales	105	17.2	49	13.4	0.90	1.10	0.27-4.55
Skilled agricultural, forestry & fishery	36	5.9	13	3.5	0.64	1.29	0.44-3.74
Craft & related trades	61	10.0	27	7.4	0.41	1.66	0.50-5.49
Plant & machine-operators/ assemblers	82	13.5	31	8.4	0.59	1.36	0.45-4.11
Elementary occupations	41	6.7	15	4.1	0.41	1.59	0.53-4.74
Armed forces	10	1.6	6	1.6	0.41	1.64	0.51-5.30
Self-employed	15	2.5	3	0.8	0.76	1.20	0.38-3.77
Unemployed	40	6.6	20	5.4	0.23	0.53	0.19-1.50
Do not know	148	24.3	168	45.8	0.80	1.17	0.36-3.75
Not applicable	33	5.4	17	4.6	0.18	3.00	0.61-14.9

Table 4.15, continued

Variable	Ever had sex		Never had sex		P	Crude OR	95% CI
	N	%	N	%			
Mother's occupation							
Managers	0	0.0	1	0.3		1.00	
Professionals	29	4.7	7	1.8	0.89	1.30	0.08-15.2
Technicians & associate professionals	4	0.6	4	1.0	0.10	8.29	0.66-105
Clerical support	17	2.8	5	1.3	0.62	2.00	0.13-32.0
Service & sales	129	20.9	57	14.8	0.15	6.80	0.51-91.5
Skilled agricultural, forestry & fishery	8	1.3	7	1.8	0.22	4.53	0.40-50.9
Craft & related trades	23	3.7	12	3.1	0.53	2.29	0.17-31.0
Plant & machine-operators/ assemblers	36	5.8	11	2.9	0.29	3.83	0.32-46.7
Elementary occupations	23	3.7	16	4.2	0.14	6.55	0.54-79.2
Armed forces	1	0.2	2	0.5	0.41	2.88	0.24-34.5
Self-employed	6	1.0	1	0.3	0.27	3.93	0.35-43.8
Unemployed	236	38.3	120	35.6	0.77	1.45	0.13-16.2
Do not know	94	15.3	130	33.9	0.65	1.82	0.14-23.3
Not applicable	10	1.6	11	2.9	0.13	12.0	0.49-295
Family structure							
Mother & father	384	60.1	191	50.1		1.00	
Mother only	117	18.3	86	22.6	0.02	0.68	0.49-0.94
Father only	26	4.1	28	7.3	0.01	0.46	0.26-0.81
Mother or father & new partner	9	1.4	4	1.0	0.85	1.12	0.34-3.68
Other	103	16.1	72	18.9	0.06	0.71	0.50-1.01
Parental monitoring							
Low	382	62.9	146	47.2	< 0.001	1.90	1.44-2.50
High	225	37.1	163	52.8		1.00	
Parental trust							
Perception that parents do not trust	284	47.0	110	35.8	0.001	1.59	1.20-2.11
Perception that parents trust	320	53.0	197	64.2		1.00	
Negotiated unsupervised time with peers (NUTP)							
Less NUTP	251	41.6	137	44.9	0.34	0.87	0.66-1.15
More NUTP	352	58.4	168	55.1		1.00	
Family connectedness							
Low	71	11.7	41	13.3	0.49	0.87	0.57-1.31
High	534	88.3	267	86.7		1.00	
Peer pressure							
High	321	53.0	121	39.2	< 0.001	1.75	1.32-2.31
Low	285	47.0	188	60.8		1.00	

Table 4.16 shows that all variables in the community component are significantly associated with sexual initiation.

Table 4.16: Bivariate Analyses between Community Components and Sexual Initiation

Variable	Ever had sex		Never had sex		P value	Crude OR	95% CI
	N	%	N	%			
Geographical location (residence)							
Urban	381	61.2	280	75.3	< 0.001	0.52	0.39-0.69
Rural	242	38.8	92	24.7		1.00	
School connectedness							
Poor	317	49.1	128	33.5	< 0.001	1.91	1.47-2.49
Good	329	50.9	254	66.5		1.00	
Previous employment							
Yes	448	69.5	213	54.8	< 0.001	1.88	1.45-2.44
No	197	30.5	176	45.2		1.00	
Viewed pornography							
Yes	602	92.0	246	62.8	< 0.001	6.87	4.84-9.75
No	52	8.0	146	37.2		1.00	

Table 4.17 shows the univariate analyses of sexual experience by societal components. Among adolescents who have initiated sex, more than 90% were Muslims and were more likely than Buddhists, Christians, Hindus and others to have reported sexual intercourse. As expected, adolescents with low religiosity were more likely to initiate sex than those with high religiosity.

Table 4.17: Bivariate Analyses between Societal Components and Sexual Initiation

Societal components	Ever had sex		Never had sex		P value	Crude OR	95% CI
	N	%	N	%			
Religion							
Islam	611	93.4	340	86.1		1.00	
Buddhism	14	2.1	8	2.0	0.95	0.97	0.21-14.9
Christianity	4	0.6	11	2.8	0.01	0.20	0.04-3.52
Hinduism	21	3.2	34	8.6	< 0.001	0.34	0.08-4.72
Other	2	0.3	0	0.0	0.10	0.01	0.00
No religion	2	0.3	2	0.5	0.56	0.56	0.08-3.97
Religiosity							
Low degree	407	78.1	248	70.9	0.02	1.47	1.08-2.00
High degree	114	21.9	102	29.1		1.00	

There is a relationship between sexual initiation and all of the SEM components. However, there were a few variables within the SEM that were not significantly associated with sexual experience.

4.2.5 Multivariate logistic regression analyses of sexual initiation

The significant factors from the univariate analyses were entered into logistic regression performed in SPSS. The results from the logistic regression analysis showed that six variables determined sexual initiation among the sampled adolescents, with individual factors contributing the most (Table 4.18). The strongest factor was a childhood history of sexual abuse, followed by a permissive attitude toward premarital sex and pornography viewing. Other factors included the use of substances, such as illicit drugs and alcohol, and being female. The interactions were verified for this model, and there was no evidence that other interactions should be included.

Table 4.18: Multivariate Logistic Regression Analyses for initiating Sex

Variable	**Multivariate modelling**			
	B	**Exp (B)**	**P**	**95% CI**
Gender				
Female	0.56	1.75	0.02	1.11-2.74
Male		1.00		(ref.)
Ever drank alcohol				
Yes	0.59	1.80	0.02	1.10-2.94
No		1.00		(ref.)
Ever used illicit drugs				
Yes	0.62	1.85	0.03	1.07-3.22
No		1.00		(ref.)

Table 4.18, continued

Variable	Multivariate modelling			
	B	**Exp (B)**	**P**	**95% CI**
Attitude toward premarital sex				
Permissible	1.47	4.34	< 0.001	2.17-8.70
Non-permissible		1.00		(ref.)
History of child sexual abuse				
Yes	1.69	5.41	< 0.001	3.52-8.32
No		1.00		(ref.)
Ever viewed pornography				
Yes	1.04	2.84	< 0.001	1.65-4.89
No		1.00		(ref.)

The sample size included in the logistic regression is less than the total sample of 1,082 because of missing data for some variables. Other variables that were entered included age, ethnicity, highest level of education, self-esteem, smoking, father's and mother's highest education, parental monitoring, parental trust, peer pressure, geographical origin, SRH knowledge, previous employment, family structure, religion and religiosity.
The Hosmer-Lemeshow goodness-of-fit chi-squared test = 8.99 (df = 8), p = 0.34 and the significant area under the curve was 0.85 (p < 0.001, CI = 0.83-0.88) (Chan, 2004).

Using the logistic model to predict the outcome of a new adolescent engaging in sexual intercourse, the probability could be calculated as follows:

The equation: Probability (Sexual initiation) = $1/1+e^{-z}$

The value of Z:

Z = -6.51 + 0.27 (Age) + 0.56 (Gender=1) + 0.59 (Ever drank alcohol=1) + 0.62 (Ever used illicit drugs=1) + 1.47 (Permissible attitude toward premarital sex=1) + 1.69 (History of child sexual abuse=1) + 1.04 (Ever viewed pornography=1).

Based on the research objective, it was shown that there is an association between components of the SEM and sexual experience. However, all of the associating factors were within the individual domain.

The alternative hypothesis for this research objective was that every component of the SEM was associated with sexual experience. However, the analysis showed that only six of the individual domains were associated with sexual initiation. Therefore, the hypothesis is partially supported.

4.2.6 Bivariate analyses of sexual risk behaviours

Tables 4.19-4.22 provide the significance values and proportions of SRBs according to individual, interpersonal, community and societal components. There is a significant association between SRBs status and age. The proportion of adolescents engaged in SRBs in mid-adolescence is higher than the proportion of adolescents from other age groups (χ^2 (2) = 65.3, p < 0.001). A higher proportion of female adolescents displayed SRBs than males (χ^2 (1) = 15.5, p = < 0.001). Among those who have engaged in SRBs, Malays were more prevalent compared to other ethnic groups. Of those adolescents who engaged in SRBs, the proportion with a secondary level of education was higher than those with other levels of education (χ^2 (3) = 40.8, p < 0.001). Adolescents who had an early onset of puberty reported a lower likelihood of SRBs than adolescents who reached puberty at a normal or later age. Hence, there is no significant relationship between SRBs status and the onset of puberty (χ^2 (3) = 0.57, p = 0.75).

The analysis also revealed that psychological factors such as self-esteem and satisfaction with life are associated with SRBs. More adolescents with low self-esteem engaged in SRBs than adolescents with normal self-esteem (χ^2 (1) = 16.3, p < 0.001). Furthermore, more adolescents who were not satisfied with their lives engaged in SRBs compared to those who were satisfied with their lives (χ^2 (1) = 5.69, p = 0.02).

The proportion of adolescents engaging in SRBs and using substances was higher than the proportion of SRB adolescents who were not using substances (p < 0.001 for smoking, alcohol and illicit drugs). The proportion of adolescents who engaged in SRBs and had a permissive attitude toward premarital sex was lower than those who engaged in SRBs but did not permit premarital sex.

There was a significant association between knowledge of sexual behaviour and SRBs status, with more SRB adolescents having an inadequate knowledge of SRH than an adequate knowledge (χ^2 (1) = 35.8, p < 0.001). In terms of child abuse, only a history of childhood sexual abuse was found to be significantly associated with SRBs status, with more adolescents engaging in SRBs also reporting a history of childhood sexual abuse (χ^2 (1) = 150.14, p < 0.001). No significant association for childhood physical abuse was observed in this study.

Table 4.19: Bivariate Analyses between Individual Components and SRBs

Variable	Non-SRB		SRB		P value	Crude OR	95% CI
	N	%	N	%			
Age							
Early adolescence	149	34.7	74	14.0		1.00	
Middle adolescence	253	58.8	370	70.2	< 0.001	2.95	2.14-4.06
Late adolescence	28	6.5	83	15.7	< 0.001	5.97	3.58-9.95
Gender							
Male	216	50.2	198	37.6		1.00	
Female	214	49.8	329	62.4	< 0.001	1.68	1.30-2.17
Ethnicity							
Malay	349	81.2	486	92.2	0.16	2.44	0.71-8.39
Chinese	15	3.5	16	3.0	0.39	1.87	0.45-7.69
Indian	59	13.7	21	4.0	0.48	0.62	0.17-2.34
Others	7	1.6	4	0.8		1.00	
Onset of puberty							
Early	1	0.3	3	0.6	0.47	2.34	0.24-22.8
Normal	279	72.3	360	72.1	0.97	1.01	0.75-1.36
Late	106	27.5	136	27.3		1.00	
Highest education level							
Primary	92	22.0	45	8.6	0.67	1.27	0.49-30.8
Secondary	312	74.5	470	89.9	0.01	3.92	1.38-11.1
Tertiary	2	0.5	3	0.6	0.20	3.90	0.49-30.8
No education	13	3.1	5	1.0		1.00	
Self-esteem							
Low	123	36.4	247	50.6	< 0.001	1.79	1.35-2.38
High	215	63.6	241	49.4		1.00	
Satisfaction with life							
Not satisfied	129	38.1	226	46.4	0.02	1.40	1.06-1.87
Satisfied	210	61.9	261	53.6		1.00	

Table 4.19, continued

Variable	Non-SRB		SRB		P value	Crude OR	95% CI
	N	%	N	%			
Ever smoked							
Yes	264	61.7	428	81.5	< 0.001	2.74	2.04-3.68
No	164	38.3	97	18.5		1.00	
Ever drank alcohol							
Yes	99	23.2	283	53.8	< 0.001	3.85	2.90-5.10
No	327	76.8	243	46.2		1.00	
Ever used illicit drugs							
Yes	71	16.6	224	42.6	< 0.001	3.73	2.74-5.07
No	357	83.4	302	57.4		1.00	
Attitude toward premarital sex							
Permissible	31	9.3	144	29.6	< 0.001	4.12	2.71-6.25
Non-permissible	303	90.7	342	70.4		1.00	
Knowledge of SRH							
Adequate	317	79.1	317	60.6	< 0.001	2.45	1.82-3.30
Inadequate	84	20.9	206	39.4		1.00	
History of child sexual abuse							
Yes	123	28.8	362	68.7	< 0.001	5.42	4.10-7.17
No	304	71.2	165	31.3		1.00	
History of child physical abuse							
Yes	134	31.2	176	33.5	0.45	0.90	0.69-1.18
No	295	68.8	349	66.5		1.00	

All variables except negotiated unsupervised time with peers and family connectedness were found to be significantly associated with SRBs status (Table 4.20). More adolescents whose father and mother had secondary education engaged in SRBs compared to those whose father and mother had primary education levels. There is also evidence of a significant association between parents' occupation and SRBs status (father: χ^2 (13) = 62.57, p = < 0.001, and mother χ^2 (13) = 73.7, p = < 0.001).

The proportion of SRB adolescents who lived with both biological parents was higher than the proportion of SRB adolescents living in other types of family arrangements. There were more SRB adolescents with low parental monitoring compared to SRB adolescents with high parental monitoring (χ^2 (1) = 11.2, p = 0.001),

and there is evidence of a significant association between parental trust and SRBs status (χ^2 (1) = 10.9, p = 0.001). The proportion of SRB adolescents with high peer pressure was higher than the proportion with low peer pressure (χ^2 (1) = 7.11, p = 0.01).

Table 4.20: Bivariate Analyses between Interpersonal Components and SRBs

Variable	Non-SRB		SRB		P value	Crude OR	95% CI
	N	%	N	%			
Father's highest education							
Primary education	70	16.5	89	17.2		1.00	
Secondary education	141	33.3	246	47.6	0.10	1.37	0.94-1.20
Tertiary education	30	7.1	34	6.6	0.70	0.89	0.50-1.60
No education	10	2.4	12	2.3	0.94	0.39	0.39-2.31
Do not know	172	40.7	136	26.3	0.02	0.62	0.42-0.91
Mother's highest education							
Primary education	48	11.6	94	18.3		1.00	
Secondary education	160	38.6	240	46.6	0.19	0.77	0.51-1.14
Tertiary education	32	7.7	51	9.9	0.47	0.81	0.46-1.43
No education	20	4.8	17	3.3	0.03	0.43	0.21-0.90
Do not know	155	37.3	113	21.9	< 0.001	0.37	0.24-0.57
Father's occupation							
Managers	1	0.2	2	0.4		1.00	
Professionals	7	1.7	16	3.2	0.03	0.16	0.03-0.83
Technicians & associate professionals	4	1.0	5	1.0	0.54	0.43	0.03-6.41
Clerical support	7	1.7	8	1.8	0.36	0.49	0.11-2.26
Service & sales	53	13.2	92	18.7	0.15	0.27	0.04-1.64
Skilled agricultural, forestry & fishery	13	3.2	30	6.1	0.09	0.25	0.05-1.22
Craft & related trades	29	7.2	52	10.5	0.13	0.37	0.10-1.35
Plant & machine-operators/ assemblers	35	8.7	68	13.8	0.33	0.50	0.12-2.20
Elementary occupations	18	4.5	32	6.5	0.16	0.38	0.10-1.45
Armed forces	8	2.0	6	1.2	0.19	0.42	0.11-1.55
Self-employed	3	0.7	14	2.8	0.17	0.38	0.10-1.51
Unemployed	23	5.7	31	6.3	0.07	0.29	0.07-1.12
Do not know	181	45.1	108	21.9	0.001	0.13	0.04-0.46
Not applicable	19	4.7	29	5.9	0.11	0.33	0.08-1.29

Table 4.20, continued

Variable	Non-SRB		SRB		P value	Crude OR	95% CI
	N	%	N	%			
Mother's occupation							
Managers	1	0.2	0	0.0		1.00	
Professionals	9	2.2	25	5.0	0.01	5.56	1.70-18.2
Technicians & associate professionals	4	1.0	4	0.8	0.41	2.00	0.38-10.5
Clerical support	6	1.4	16	3.2	0.01	5.33	1.45-19.7
Service & sales	62	14.8	110	22.0	0.01	3.55	1.36-9.26
Skilled agricultural, forestry & fishery	7	1.7	7	1.4	0.33	2.00	0.50-8.00
Craft & related trades	13	3.1	18	3.6	0.08	2.77	0.87-8.78
Plant & machine-operators/ assemblers	14	3.3	28	5.6	0.01	4.00	1.32-12.2
Elementary occupations	16	3.8	22	4.4	0.08	2.75	0.90-8.37
Armed forces	2	0.5	0	0.0	0.02	2.96	1.16-7.52
Self-employed	1	0.2	5	1.0	0.84	0.91	0.35-2.35
Unemployed	132	31.6	195	39.1	0.08	0.30	0.07-1.12
Do not know	137	32.8	62	12.4	0.05	10.0	0.97-103
Not applicable	14	3.3	7	1.4	0.12	0.33	0.08-1.29
Family structure							
Mother & father	208	50.1	316	60.9		1.00	
Mother only	95	22.9	93	17.9	0.01	0.64	0.46-0.90
Father only	31	7.5	19	3.7	0.003	0.40	0.22-0.73
Mother or father & new partner	4	1.0	6	1.2	0.98	0.99	0.28-3.54
Other	77	18.6	85	16.4	0.08	0.73	0.51-1.04
Parental monitoring							
Low	170	49.9	301	61.6	0.001	1.61	1.22-2.13
High	171	50.1	188	38.4		1.00	
Parental trust							
Perception that parents do not trust	123	36.3	233	47.8	0.001	1.61	1.21-2.14
Perception that parents trust	216	63.7	254	52.2		1.00	
Negotiated Unsupervised Time with Peers (NUTP)							
Less NUTP	150	44.5	203	41.7		1.00	
More NUTP	187	55.5	284	58.3	0.42	1.12	0.85-1.49
Family connectedness							
Low	48	14.1	54	11.1		1.00	
High	292	85.9	433	88.9	0.19	1.32	0.87-2.00
Peer pressure							
High	143	41.9	250	51.3	0.01	1.46	1.11-1.93
Low	198	58.1	237	48.7		1.00	

All components in the community-influence level of the SEM were found to be significantly associated with sexual-risk behaviours (Table 4.21). There is evidence of a significant association between geographical location and SRBs status (χ^2 (1) = 19.3, p < 0.001). The proportion of SRB adolescents with poor school connectedness is higher than those with good school connectedness (χ^2 (1) = 20.7, p < 0.001). The proportion of SRB adolescents who were previously employed and have viewed pornography is also higher than those who have never been employed and have never viewed pornography.

Table 4.21: Bivariate Analyses between Community Components and SRBs

Variable	Non-SRB		SRB		P	OR	95% CI
	N	%	N	%			
Geographical location (residence)							
Urban	302	74.4	306	60.6		1.00	
Rural	104	25.6	199	39.4	< 0.001	1.89	1.42-2.51
School connectedness							
Poor	146	36.0	260	64.0	< 0.001	1.84	1.41-2.40
Good	270	50.8	261	49.2		1.00	
Previous employment							
Yes	235	55.7	358	68.7	< 0.001	1.75	1.34-2.28
No	187	44.3	163	31.3		1.00	
Viewed pornography							
Yes	277	64.9	488	92.6	< 0.001	6.78	4.63-9.93
No	150	35.1	39	7.4		1.00	

There is evidence of a significant association between the components of the societal-influence level of the SEM (religion and degree of religiosity) and SRBs status (Table 4.22).

Table 4.22: Bivariate Analyses between Societal Components and SRBs

Variable	Non-SRB		SRB		P	OR	95% CI
	N	%	N	%			
Religion							
Islam	371	86.3	498	94.5		1.00	
Buddhism	8	1.9	9	1.7	0.72	0.84	0.32-2.19
Christianity	11	2.6	3	0.6	0.02	0.20	0.06-0.73
Hinduism	36	8.4	15	2.8	<0.001	0.31	0.17-0.58
Other	1	0.2	1	0.2	0.84	0.75	0.05-11.9
No religion	3	0.7	1	0.2	0.23	0.25	0.03-2.40
Religiosity							
Low degree	269	71.9	327	77.5	0.07	1.34	0.98-1.85
High degree	105	28.1	95	22.5		1.00	

A relationship was found between SRBs and all of the SEM components. Yet, there were a few variables within the SEM that were not significantly associated with SRBs.

4.2.7 Multivariate logistic regression analyses of sexual risk behaviour

Table 4.23 shows the variables that are correlated with SRBs among the sampled adolescents and the individual factors that contributed the most. The strongest factor was attitude toward premarital sex, followed by childhood history of sexual abuse and pornography viewing. Having an adequate knowledge of sexual health seemed to contribute to SRBs compared to those with inadequate knowledge. In terms of family structure, those living with both parents were more likely to engage in SRBs. Other contributing factors include female gender and having consumed alcohol. Interactions were verified for this model, and there was no evidence that other interactions should be included.

Table 4.23: Multivariate Logistic Regression for SRBs among Adolescents

Variable	Multivariate modelling			
	B	**Exp (B)**	***P***	**CI**
Gender				
Female	0.64	1.90	0.003	1.24-2.93
Male		1.00		(ref.)
Ever consumed alcohol				
Yes	0.75	2.12	0.001	1.33-3.36
No		1.00		(ref.)
Attitude toward premarital sex				
Permissible	1.35	3.85	<0.001	2.14-6.95
Non-permissible		1.00		(ref.)
Knowledge of sexual health				
Adequate	0.51	1.66	0.02	1.10-2.51
Inadequate		1.00		(ref.)
History of child sexual abuse				
Yes	1.34	3.82	<0.001	2.58-5.66
No		1.00		(ref.)
Ever viewed pornography				
Yes	0.94	2.55	0.001	1.46-4.45
No		1.00		(ref.)
Family structure				
Mother only		1.00		(ref.)
Mother & father	0.69	1.98	0.005	1.23-3.20
Father only	-0.14	0.87	0.76	0.36-2.12
Mother or father & new partner	-0.25	0.78	0.78	0.14-4.32
Others	0.01	1.01	0.99	0.55-1.84

The sample size included in the logistic regression is less than the total sample of 1,082 because of missing data for some variables. Other variables that were entered included age, ethnicity, highest level of education, self-esteem, satisfaction with life, smoking, drugs, peer pressure, school connectedness, previous employment, parental monitoring, geographical origin, religion and parental trust.
The Hosmer-Lemeshow goodness-of-fit chi-squared test = 14.3 (df = 8), p = 0.07, and the significant area under the curve was 0.83 (p = <0.001, 95% CI = 0.80-0.86).

Using the logistic model to predict the outcome of a new adolescent engaging in SRB, the probability could be calculated as follows:

The equation: Probability (SRBs in adolescent) = $1/1+e^{-z}$

The value of Z:

Z = -6.600 + 0.24 (Age) + 0.64 (Female=1) + 0.749 (Ever drank alcohol=1) + 1.348 (Permissible attitude toward premarital sex=1) + 0.508 (Adequate knowledge of sexual health=1) + 1.340 (Child sexual abuse=1).

Based on the research objective, it was shown that there is an association between the components of the SEM and SRBs. However, most of the associating factors were within the individual domain.

The alternative hypothesis for the research objective was that every component of the SEM was associated with SRBs. However, the analysis showed that only factors from the individual, interpersonal and community domains were associated with SRBs. Therefore, the hypothesis is partially supported.

4.2.8 Bivariate analyses of sexual risk behaviours by gender

Table 4.24 shows a summary of variables for the individual-influence level of the SEM that were found to be significant according to gender. For males, the variables that were significantly associated with SRBs were age, highest level of education, satisfaction with life, smoking, illicit drug use, attitudes toward premarital sex, knowledge of sexual health and a history of childhood sexual abuse. For females, the variables found to be significantly associated with SRBs were age, ethnicity, highest level of education, self-esteem, illicit drug use, attitudes toward premarital sex, knowledge of sexual health and a history of childhood sexual abuse.

Table 4.24: Bivariate Analyses between Individual Components and SRBs by Gender

Variable	Male adolescents					Female adolescents				
	Non-SRB		SRB			Non-SRB		SRB		
	N	%	N	%	P	N	%	N	%	P
Total sample	216	52.2	198	47.8		214	39.4	329	60.6	
Age group										
Early	78	36.1	18	9.1	<0.001	71	33.2	56	17.0	< 0.001
Middle	120	55.6	129	65.2		133	62.1	241	73.3	
Late	18	8.3	51	25.8		10	4.7	32	9.7	
Ethnicity										
Malay	179	82.9	175	88.4	0.11	170	79.4	311	94.5	< 0.001
Chinese	10	4.6	10	5.1		5	2.3	6	1.8	
Indian	27	12.5	12	6.1		32	15.0	9	2.7	
Other	0	0.0	1	0.5		7	3.3	3	0.9	
Onset of puberty										
Early	1	0.5	1	0.6	0.72	0	0.0	2	0.6	0.53
Normal	120	65.9	110	61.8		159	77.9	250	77.9	
Late	61	33.5	67	37.6		45	22.1	69	21.5	
Highest education										
Primary	58	27.4	26	13.3	0.001	34	16.4	19	5.8	< 0.001
Secondary	147	69.3	162	83.1		165	79.7	308	93.9	
Tertiary	0	0.0	3	1.5		2	1.0	0	0.0	
No education	7	3.3	4	2.1		6	2.9	1	0.3	
Self-esteem										
Low	51	33.8	72	39.8	0.26	72	38.5	175	57.0	< 0.001
Normal	100	66.2	109	60.2		115	61.5	132	43.0	
Satisfaction with life										
Not satisfied	47	31.1	79	43.6	0.02	82	43.6	147	48.0	0.34
Satisfied	104	68.9	102	56.4		106	56.4	159	52.0	
Ever smoked										
Yes	172	80.4	195	98.5	<0.001	92	43.0	233	71.3	<0.001
No	42	19.6	3	1.5		122	57.0	94	28.7	
Ever consumed alcohol										
Yes	62	29.1	139	70.2	<0.001	37	17.4	144	43.9	< 0.001
No	151	70.9	59	29.8		176	82.6	184	56.1	
Ever used illicit drugs										
Yes	46	21.5	122	61.6	<0.001	25	11.7	102	31.1	< 0.001
No	168	78.5	76	38.4		189	88.3	226	68.9	

Table 4.24, continued

Variable	Male adolescents					Female adolescents				
	Non-SRB		SRB			Non-SRB		SRB		
	N	%	N	%	p	N	%	N	%	P
Attitude toward premarital sex										
Permissible	24	16.0	77	42.5	<0.001	7	3.8	67	22.0	< 0.001
Non-permissible	126	84.0	104	57.5		177	96.2	238	78.0	
Knowledge of sexual health										
Inadequate	155	78.3	121	61.7	<0.001	162	79.8	196	59.9	< 0.001
Adequate	43	21.7	75	38.3		41	20.2	131	40.1	
History of child sexual abuse										
Yes	42	19.6	95	48.0	<0.001	81	38.0	267	81.2	< 0.001
No	172	80.4	103	52.0		132	62.0	62	18.8	
History of child physical abuse										
Yes	71	33.0	73	36.9	0.41	63	29.4	103	31.5	0.61
No	144	67.0	125	63.1		151	70.6	224	68.5	

Table 4.25 shows the variables of the interpersonal-relationship level of the SEM that were found to be significantly associated with SRBs by gender. In male adolescents, the variables found to be significantly associated with SRBs were parental education level, mother's occupation and peer pressure. In females, the variables found to be significantly associated with SRBs were parental education level, family structure, parental monitoring, parental trust and family connectedness.

Table 4.25: Bivariate Analyses between Interpersonal Components and SRBs by Gender

Variable	Males					Females				
	Non-SRB		SRB			Non-SRB		SRB		
	N	%	N	%	P	N	%	N	%	P
Total sample	216	52.2	198	47.8		214	39.4	329	60.6	
Father's highest education										
Primary	29	13.7	32	16.6	0.01	41	19.4	57	17.6	0.02
Secondary	69	32.5	89	46.1		72	34.1	157	48.5	
Tertiary	17	8.0	16	8.3		13	6.2	18	5.6	
No education	6	2.8	7	3.6		4	1.9	5	1.5	
Do not know	91	42.9	49	25.4		81	38.4	87	26.9	
Mother's highest education										
Primary	21	10.0	36	18.8	0.01	27	13.2	58	18.0	0.002
Secondary	67	31.9	76	39.6		93	45.4	164	50.8	
Tertiary	24	11.4	22	11.5		8	3.9	29	9.0	
No education	8	3.8	6	3.1		12	5.9	11	3.4	
Do not know	90	42.9	52	27.1		65	31.7	61	18.9	
Father's occupation										
Managers	1	0.5	0	0.0	0.18	0	0.0	2	0.6	<0.001
Professionals	4	2.0	5	2.8		3	1.5	11	3.5	
Technicians & associate professionals	3	1.5	0	0.0		1	0.5	5	1.6	
Clerical support	5	2.5	2	1.1		2	1.0	6	1.9	
Service & sales	29	14.4	31	17.3		24	12.0	61	19.4	
Skilled agricultural, forestry & fishery	8	4.0	11	6.1		5	2.5	19	6.1	
Craft & related trades	19	9.5	23	12.8		10	50	29	9.2	
Plant & machine-operators/ assemblers	24	11.9	31	17.3		11	5.5	37	11.8	
Elementary occupations	10	5.0	11	6.1		8	4.0	21	6.7	
Armed forces	4	2.0	1	0.6		4	2.0	5	1.6	
Self-employed	1	0.5	3	1.7		2		11		
Unemployed	10	5.0	10	5.6		13	6.5	21	6.7	
Do not know	75	37.3	43	24.0		106	53.0	605	20.7	
Not applicable	8	4.0	8	4.5		11	5.5	21	6.7	

Table 4.25, continued

Variable	Males					Females				
	Non-SRB		SRB			Non-SRB		SRB		
	N	%	N	%	P	N	%	N	%	P
Mother's occupation										
Managers	1	0.5	0	0.0	0.01	0	0.0	0	0.0	<0.001
Professionals	4	1.9	6	3.2		5	2.4	19	6.1	
Technicians & associate professionals	3	1.4	2	1.1		1	0.5	2	0.6	
Clerical support	0	0.0	7	3.8		6	2.9	9	2.9	
Service & Sales	30	14.3	41	22.0		32	15.4	69	22.0	
Skilled agricultural, forestry & fishery	4	1.9	2	1.1		3	1.4	5	1.6	
Craft & related trades	8	3.8	8	4.3		5	2.4	10	3.2	
Plant & machine-operators/ assemblers	8	3.8	15	8.1		6	2.9	13	4.2	
Elementary occupations	10	4.8	9	4.8		6	2.9	13	4.2	
Armed forces	2	1.0	0	0.0		0	0.0	0	0.0	
Self-employed	0	0.0	0	0.0		1	0.5	5	1.6	
Unemployed	77	36.7	66	35.5		55	26.4	129	41.2	
Do not know	57	27.1	28	15.1		80	38.5	34	10.9	
Not applicable	6	2.9	2	1.1		8	3.8	5	1.6	
Family structure										
Mother & father	108	51.2	120	62.5	0.20	100	49.0	196	59.9	0.003
Mother only	50	23.7	33	17.2		45	22.1	60	18.3	
Father only	9	4.3	9	4.7		22	10.8	10	3.1	
Mother or father & new partner	1	0.5	1	0.5		3	1.5	5	1.5	
Other	43	20.4	29	15.1		34	16.7	56	17.1	

Table 4.25, continued

Variable	Males					Females				
	Non-SRB		SRB			Non-SRB		SRB		
	N	%	N	%	P	N	%	N	%	P
Parental monitoring										
Low	92	59.7	126	68.9	0.08	78	41.7	175	57.2	0.001
High	62	40.3	57	31.1		109	58.3	131	42.8	
Parental trust										
Perception that parents do not trust	56	36.8	64	35.2	0.75	67	35.8	169	55.4	<0.001
Perception that parents trust	96	63.2	118	64.8		120	64.2	136	44.6	
Negotiated Unsupervised Time with Peers (NUTP)										
Less NUTP	68	45.3	76	41.8	0.51	82	43.9	127	41.6	0.63
More NUTP	82	54.7	106	58.2		105	56.1	178	58.4	
Family connectedness										
Low	13	8.5	26	14.3	0.10	35	18.7	28	9.2	0.002
High	140	91.5	156	85.7		152	81.3	277	90.8	
Peer pressure										
High	73	47.7	116	63.7	0.003	70	37.2	134	43.9	0.14
Low	80	52.3	66	36.3		118	62.8	171	56.1	

Table 4.26 shows the differences between the genders in terms of the community-level variables of the SEM that are associated with SRBs. For male adolescents, only one variable was found to be significantly associated with SRBs: pornography viewing. For females, the variables found to be significantly associated with SRBs were geographical location, school connectedness, previous employment and pornography viewing.

Table 4.26: Bivariate Analyses between Community Components and SRBs by Gender

Variable	Males					Females				
	Non-SRB		SRB			Non-SRB		SRB		
	N	%	N	%	P	N	%	N	%	P
Total sample	216	52.2	198	47.8		214	39.4	329	60.6	
Geographical location (residence)										
Urban	133	67.9	116	62.0	0.23	169	80.5	190	59.7	<0.001
Rural	63	32.1	71	38.0		41	19.5	128	40.3	
School connectedness										
Poor	74	35.2	102	52.6	<0.001	72	35.0	158	48.3	0.002
Good	136	64.8	92	47.4		134	65.0	169	51.7	
Previous employment										
Yes	141	66.8	171	87.7	<0.001	94	44.5	187	57.4	0.004
No	70	33.2	24	12.3		117	55.5	139	42.6	
Viewed pornography										
Yes	141	65.9	188	94.9	<0.001	136	63.8	300	91.2	<0.001
No	73	34.1	10	5.1		77	36.2	29	8.8	

Table 4.27 displays the variables for the societal level of the SEM that were found to be associated with SRBs by gender. Neither of the two variables at the societal level of the SEM was associated with SRBs in male adolescents. However, for female adolescents, religion was associated with SRBs.

Table 4.27: Bivariate Analyses between Societal Components and SRBs by Gender

Societal components	Males					Females				
	Non-SRB		SRB			Non-SRB		SRB		
	N	%	N	%	P	N	%	N	%	P
Total sample	216	52.2	198	47.8		214	39.4	329	60.6	
Religion										
Islam	192	88.9	181	91.4	0.60	179	83.6	317	96.4	<0.001
Buddhism	5	2.3	5	2.5		3	1.4	4	1.2	
Christianity	5	2.3	1	0.5		6	2.8	2	0.6	
Hinduism	12	5.6	10	5.1		24	11.2	5	1.5	
Other	0	0.0	0	0.0		1	0.5	1	0.3	
No religion	2	0.9	1	0.5		1	0.5	0	0.0	
Religiosity										
Low degree	134	67.0	129	72.1	0.29	135	77.6	198	81.5	0.33
High degree	66	33.0	50	27.9		39	22.4	45	18.5	

4.2.9 Multivariate Logistic Regression Analyses of Sexual-Risk Behaviours by Gender

4.2.9.1 Male adolescents

The predictors of SRBs among male adolescents included the use of illicit drugs, a permissible attitude toward premarital sex, a history of childhood sexual abuse and pornography viewing (Table 4.28). From the findings, it was observed that pornography viewing was the strongest factor. Male adolescents who viewed pornography were more likely to engage in SRBs compared to those who never viewed it (OR = 3.23, 95% CI = 1.32-7.87). A permissible attitude toward premarital sex was also a strong contributor to SRBs. Male adolescents who favoured premarital sex were 2.70 times more likely to engage in SRBs than those who did not favour the behaviour. The interactions were verified for this model, and there was no evidence that other interactions should be included.

Table 4.28: Multivariate Logistic Regression Analyses for SRBs among Male Adolescents

Variable	Multivariate modelling			
	B	**Exp (B)**	***P***	**CI**
Ever used illicit drugs				
Yes	0.94	2.57	0.001	1.47-4.48
No		1.00		(ref.)
Attitude toward premarital sex				
Permissible	0.10	2.71	0.002	1.44-5.09
Non-permissible		1.00		(ref.)
History of child sexual abuse				
Yes	0.97	2.63	0.001	1.49-4.66
No		1.00		(ref.)
Viewed pornography				
Yes	1.17	3.23	0.01	1.32-7.87
No		1.00		(ref.)

The sample size included in the logistic regression is less than the total sample of 483 because of missing data for some variables. Other variables that were entered included age, highest level of education, satisfaction with life, smoking, drinking alcohol, knowledge of sexual health, peer pressure, school connectedness and previous employment.

The Hosmer-Lemeshow goodness-of-fit chi-squared test = 6.78 (df = 8), p = 0.56, and the significant area under the curve was 0.814 (p = < 0.001, 95% CI = 0.77-0.86).

Using the logistic model to predict the outcome of a new male adolescent engaging in SRBs, the probability could be calculated as follows:

The equation: Probability (SRB in male adolescent) = $1/1+e^{-z}$

The value of Z:

Z = -8.50 + 0.42 (Age) + 0.94 (Ever used illicit drugs=1) + 0.10 (Permissible attitude toward premarital sex=1) + 0.97 (Child sexual abuse=1) + 1.17 (Ever viewed pornography=1).

Based on the research objective, it was shown that there is an association between components of the SEM and SRBs in male adolescents. The alternative hypothesis for this research objective was that every component of the SEM was associated with SRBs in males. However, the analysis showed that only factors from the

individual and community domains are associated with SRBs. Therefore, the hypothesis is partially supported.

4.2.9.2 Female adolescents

Among females, nine variables contributed to SRBs (Table 4.29). Some variables were found to be similar to the outcome of the logistic regression of SRBs in males, such as a permissive attitude toward premarital sex and a history of childhood sexual abuse. However, there were additional factors associated with SRBs in females, including secondary education, low self-esteem, drinking alcohol, lack of parental trust, high family connectedness, an adequate knowledge of sexual health and living in rural areas. With reference to education, female adolescents with secondary education were more likely to engage in SRBs compared to those educated up to the primary level. The interactions were verified for this model, and there was no evidence that additional interactions should be included.

Table 4.29: Multivariate Logistic Regression Analyses for SRBs among Female Adolescents

Variable	**Multivariate modelling**			
	B	**OR**	***P***	**CI**
Highest level of education				
Primary		1.00		(ref.)
Secondary	1.17	3.21	0.01	1.32-7.80
Self-esteem				
Low	0.572	1.77	0.02	1.08-2.91
High		1.00		(ref.)
Ever drank alcohol				
Yes	0.92	2.50	0.002	1.42-4.41
No		1.00		(ref.)

Table 4.29, continued

Variable	Multivariate modelling			
	B	**OR**	***P***	**CI**
Attitude toward premarital sex				
Permissible	1.36	3.89	0.006	1.46-10.3
Non-permissible		1.00		(ref.)
History of child sexual abuse				
Yes	1.70	5.49	0.00	3.33-9.05
No		1.00		(ref.)
Knowledge of sexual health				
Adequate	0.76	2.14	0.01	1.24-3.71
Inadequate		1.00		(ref.)
Parental trust				
Perception that parents do not trust	0.52	1.69	0.04	1.02-2.80
Perception that parents trust		1.00		(ref.)
Family connectedness				
High	0.97	2.64	0.01	1.30-5.37
Low		1.00		(ref.)
Geographical location				
Rural	0.68	1.97	0.02	1.13-5.44
Urban		1.00		(ref.)

The sample size included in the logistic regression is less than the total sample of 599 because of missing data for some variables. Other variables that were entered included age, ethnicity, smoking, illicit drugs, family structure, parental monitoring, school connectedness, previous employment and religion.

The Hosmer-Lemeshow goodness-of-fit chi-squared test = 11.6 (df = 8), p = 0.17, and the significant area under the curve was 0.85 (p = 0.000, CI = 0.81-0.88).

Using the logistic model to predict the outcome of a new female adolescent engaging in SRBs, the probability could be calculated as follows:

The equation: Probability (SRBs in female adolescent) = $1/1+e^{-z}$

The value of Z:

Z = -3.58 + 1.17 (Secondary education=1) + 0.57 (Low self-esteem=1) + 0.92 (Ever consumed alcohol=1) + 1.36 (Permissible attitude toward premarital sex=1) + 1.70 (Child sexual abuse=1) + 0.76 (Adequate knowledge of sexual health) + 0.52

(Perception that parents do not trust) + 0.97 (High family connectedness) + 0.68 (Originated from rural area).

Based on the research objective, it was shown that there is an association between components of the SEM and SRBs in female adolescents.

The alternative hypothesis for this research objective was that every component of the SEM was associated with SRBs in females. However, the analysis showed that only factors from the individual, interpersonal and community components are associated with SRBs. Therefore, the hypothesis is partially supported.

4.3 Summary of Results of Phase 1

Overall, 62.3% of high-risk adolescents have engaged in consensual sexual intercourse. Many individual factors such as female gender, the use of illicit drugs, a permissible attitude toward premarital sex, childhood sexual abuse and pornography viewing were significantly associated with sexual initiation. The strongest association for sexual initiation is adolescents with a history of childhood sexual abuse.

A history of childhood sexual abuse was also identified as a strong contributor to SRBs. Based on gender analysis, pornography viewing was the strongest determinant for males, but there were different variables associated with SRBs for females – secondary education, low self-esteem, consuming alcohol, lack of parental trust, high family connectedness, adequate knowledge of sexual health and living in rural areas.

4.4 Qualitative Findings

4.4.1 Introduction

More than 50% of the adolescents in the initial survey reported a history of sexual intercourse. The qualitative methods were designed to explore the direct and related factors that contributed to adolescents' sexual initiation. Questions were asked

regarding their first sexual experience, including details about their sexual partner, the location of sexual intercourse, contraception use, and the impact of the experience.

First section focuses on participatory observations conducted prior to meeting the adolescents for data collection, describing the general characteristics of the adolescents who have had sexual intercourse. This will be followed by descriptions of the primary findings of the in depth interview: (1) the related pathways of adolescents' sexual initiation, and (2) adolescents' perceptions of the factors that influenced their initiation of sexual intercourse. There will also be an analysis of the findings based on the questions posed regarding their first sexual experience. Finally, using methodological triangulation, the validity of the qualitative findings, i.e., regarding adolescents' sexual initiation, will be examined.

4.4.2 Participatory observations

Two participatory observations were performed in different settings with the general aim to develop a good rapport between the investigator and the adolescents, hence facilitates the IDI.

4.4.2.1 Participatory Observation 1

The first observation or inspection took place on May 30, 2010, and lasted for one hour. It was held by the investigator at an institution that provides correctional facilities for male juveniles. The observation was narrated according to the investigator's original field notes below.

Upon the investigator's arrival at the school library, the male adolescents were waiting for an *ustaz*, or male religious teacher, to teach them religious education. The session was to be held in another room that was separated from the reading and book area. There were approximately 20 people in the room. After five minutes, a few more

arrived and the room became packed. Many of them were Malay; only two to three individuals were of other ethnic backgrounds, specifically Chinese and Indian. All of the adolescents looked to be in mid-adolescence, and some wore green, blue, yellow, or orange T-shirts with long pants.

The adolescents formed smaller groups, as they tended to gather within their own cliques. However, some insisted on sitting on their own and reading or simply doing nothing. There was a great deal of noise as they started to talk amongst themselves. It was very difficult for the investigator to hear the details of their conversations, as nearly everyone was talking. Nevertheless, the language and content of their discussion was easily understood.

The majority spoke in the Malay language. The language style that they used did not differ significantly from that of adults. There were perhaps one or two words used by certain groups of adolescents who may have been involved in *rempit* or illegal motorcycling activities. One particular group spoke louder than the others. They were gossiping and laughing about a younger adolescent who was fined by the welfare officers. In addition, one of them even re-enacted the incident, which was followed by a loud roar from the group members. At the same time, other groups of adolescents stopped their conversations to listen to this one particular group. A few minutes later, one boy who had overheard the conversation approached the group. He wore an angry expression and asked the group members why they were making fun of him. They, however, simply ignored him and carried on with their conversation. Then, one boy whispered to his group of friends, who nodded in response to his idea.

About fifteen minutes later, an officer came to inform them that the ustaz was running a bit late due to unavoidable circumstances. Everyone dispersed and took their individual places. The school counsellor then took over the session while awaiting the ustaz. The room instantly became quiet as soon as the counsellor started her session.

The one-hour observation gave the investigator an opportunity to learn the adolescents' lingo as well as understand their behaviour in a setting in which they are being supervised by welfare officers. The adolecent's spoken language seemed quite easy to understand, as they have mainly used the national language. There were one or two words that were unfamiliar; however, these could be clarified and learned as the day progressed. The manner in which the adolescents behaved was appropriate for their age; however, some of them appeared to be hyperactive, as they were unable to sit for more than a few minutes.

As indicated, the aim of this participatory observation was for the investigator to understand the adolescents' language and behaviour prior to conducting the in-depth interview. Based upon the observation, a smooth interview could be anticipated by the investigator with no major language barriers for each session. Additionally, their behaviour would be under reasonable control, as sessions would be performed individually in private rooms. There were also some concerns regarding the underreporting of information due to gender issue. Nevertheless, the investigator's background in medicine provides an advantage as she is able to use her skills and treat the adolescents like any other members of the male gender whom she had treated.

4.4.2.2 Participatory Observation 2

The second observation was conducted by the investigator in a probation hostel for girls where the residents were either awaiting court hearings or were sentenced to undergo rehabilitation for uncontrolled behaviours. This session was performed by the investigator on May 31, 2010, and lasted for one hour. The narrated observation below is from the investigator's original field notes.

Upon reaching the hostel at approximately 9:45 am, the investigator was introduced to the warden in charge, who welcomed the researcher and explained about the hostel and its residents. The investigator, in turn, explained her purpose for visiting on that day. She was then taken to the gazebo, where a group of female adolescents were doing some hostel tasks. The investigator was introduced to the adolescents as only "a visitor," and they were informed that she was there to observe their routines and maybe have dialogue with them.

The investigator settled at one of the benches in the gazebo. From this vantage point, she could see that there were 10 adolescents of mixed ethnicity, all of whom were within the same age group—mid-adolescence. Most were wearing the traditional dress, *baju kurung*, while others wore a T-shirt and long pants. The Muslims were easily identified, as they all wore head scarves. Each individual was performing a different task, e.g., collecting rubbish, sweeping the corridor, mopping the floor, etc. One of the welfare officers supervised the group and gave orders on what needed to be performed. The adolescents followed the orders and were focused on their tasks.

A few minutes later, the supervisor was called to the office and the girls were left unattended. Realising this, three of them started to form a group. They seemed rather cheerful and started to talk. The conversation was very loud and details could be heard although the investigator was sitting a few metres from the group. The conversation was referring to their roommate whom they were not particularly fond of. Because the conversation was very loud and sounded interesting, it somehow attracted another girl to the group. She approached them and joined in. The other girls were still focused on their work.

The investigator was still observing the group of trainees when suddenly an Indian girl approached her. The Indian girl said "hi" and seemed very friendly towards the investigator. The Indian girl asked the investigator who she was and what she was

doing there. The investigator explained that she was only a visitor and that she had come to learn about the place. Then, the investigator started to ask the girl some questions about her background and why she was placed at the school. She was very opened about herself and, although she was an Indian, her Malay language was excellent. Both the investigator and the Indian girl were able to converse without encountering any language barriers. Their conversation was halted when one of the adolescents was shouting to warn the others that the officer in charge was coming. Then, everyone dispersed and continued with their work. The Indian girl thanked the investigator for listening to her problems and stated that she wished that she could see the investigator again.

Yet again, the aim of this exercise was for the investigator to further understand the culture of adolescents living in welfare institutions as well as to prepare for the in-depth interviews. After the one-hour session, the investigator felt very confident in her ability to communicate with the adolescents. The reasons for this included the fact that both the investigator and adolescents were of the same gender (female); therefore, there should be no problems with feelings of discomfort, as most females are able to talk and open up.

4.4.3 General characteristics of adolescents who have initiated sexual intercourse

A total of 29 adolescents participated in the qualitative component of the study (Table 4.30). More than 50% were males and 48.3% were females. The majority were raised in urban areas. The median age of the participants was 16 years (range=14–19 years), and the median age of sexual initiation was 14 years (range=10–17 years). Just over 80.0% had their sexual debut before the age of 16.

The majority of participants were Malay (79.0%), while Chinese and Indian accounted for 10.5% each. Almost 80.0% did not complete secondary education, and only one participant managed to complete her education to the secondary level. The

majority grew up with their biological parents (44.4%), while the remainder grew up with their mother or father and her/his new partner (18.5%), extended family (18.5%), a single parent (7.4%), or an adoptive family (11.2%). Additionally, 48% came from broken homes. Based on the description of their guardian's occupation, more than half (57.7%) were from the lowest socioeconomic class, i.e., routine and manual occupations. Most of the adolescents were admitted to the institutions for uncontrolled behaviour, defined as adolescents with hyperactivity, defiant and violent behaviour.

Table 4.30: Characteristics of Adolescent Participants (n = 29)

Characteristic	Frequency	%
Gender		
Male	15	51.7
Female	14	48.3
Age (years)		
10-14	3	10.3
15-17	21	72.4
18-19	5	17.3
Ethnicity		
Malay	25	79.0
Chinese	2	10.5
Indian	2	10.5
Religion		
Muslim	25	86.2
Hindu	2	6.90
Buddhist	2	6.90
Age at first coitus (years)		
Under 16 years	24	82.8
16 years and above	5	17.2
Divorced parents		
Yes	12	52.0
No	11	48.0
Grew up with (most of the time)		
Both biological parents	12	44.4
Mother or father and new partner	5	18.5
Single parent	2	7.40
Extended family	5	18.5
Adoptive family	3	11.2
Number of siblings		
< 5	13	52.0
≥ 5	12	48.0

Table 4.30, continued

Characteristic	Frequency	%
Secondary education status		
None	3	10.3
Incomplete	25	86.2
Completed	1	3.50
Geographic location		
Urban	24	88.9
Rural	3	11.1
Socioeconomic status		
Class 1 (Managerial and professional occupation)	2	7.70
Class 2 (Intermediate occupations)	8	30.8
Class 3 (Routine and manual occupations)	15	57.7
Class 4 (Unemployed)	1	3.80
Type of welfare institution		
Probation Hostel	11	37.9
Tunas Bakti School	15	51.7
Taman Seri Puteri	3	10.4
Reasons for admission		
Theft	6	22.3
Illicit drugs (abuse and dealer)	4	14.8
Uncontrolled behaviour	13	48.1
Other	4	14.8

4.4.4 Adolescents' Sexual Initiation

4.4.4.1 Pathways Related to Adolescents' Sexual Initiation

The findings revealed that to understand the reasons for sexual initiation, the related and connected pathways must be understood. The analysis revealed four general thematic clusters that offer insight into the circumstances that indirectly influenced adolescents' initiation of intercourse. These themes were individual, family, peer, and school (Table 4.31).

Table 4.31: Related Pathways of Adolescents with Previous History of Sexual Intercourse

Themes	Sub-themes	No. of coded responses
Individual	Substance use	15
	Religiosity issues	13
	Juvenile employment	11
	Pornography viewing	4
	Lived on own	4
Family	Domestic violence and abuse	15
	Not feeling close	13
	Lack of time spent with parents	12
	Poor religiosity	9
	Unlawful activities	8
	Unfair treatment	7
	Divorce and multiple marriages	5
School	Lack of interest	10
	Disciplinary problems	7
Peers	Friends who used substances	13
	Friends who loiter	15
	Peer pressure	10

Theme 1: Individual Circumstances

An individual circumstance is a concept that is related to the adolescent's personal social life. Five sub-themes emerged—substance use, juvenile employment, religiosity, pornography viewing, and living on their own. These sub-themes were reported by adolescents as follows.

a) Sub-theme: Substance use

A number of respondents mentioned the use of substances such as tobacco, illicit drugs, and alcohol. In particular, they reported the influence of friends on their decision to begin smoking cigarettes. The inability of tobacco to provide sufficient satisfaction, coupled with pressure by their friends, led them to use other substances, such as alcohol and illicit drugs. One suggested that:

> "I was naughty, loiter[ed], and took drugs. At first, it was just hanging out and smoking cigarettes, then I tried drugs and got addicted to it" (Male, 18).

Another respondent noted that:

> "I started smoking when I was seven. Many teenagers started at that age" (Male, 17).

b) Sub-theme: Religiousness issues

Several adolescents reported religiousness issues such as incomplete daily prayers or never going to the mosque. Some admitted to not praying at all. According to two adolescents:

> "Before I came here (Tunas Bakti School), I never prayed. I prayed, but it was certainly not complete. I performed *Subuh* (early morning) and *Zuhur* (afternoon) prayers, then I skipped *Asar* (late afternoon) prayers and prayed *Maghrib* (evening) and *Isyak* (night). Sometimes, if I have the time I'll pray, if not, I don't. It's always like that" (Male, 18).

> "I hardly pray. I'll pray when I'm in the mood" (Female, 14).

Some teenagers did not believe in praying and seeking help from God:

> "I have never prayed. I don't even have praying apparel. I'm a troubled teenager, I know I should be near to God; instead, the more troubled I become. I didn't believe in praying. I didn't believe in prayers. For me, whatever I asked for was not granted, so I gave up. That's why I didn't pray" (Female, 18).

> "I don't ask anything from God. For me, I live by the day. End of story. That's my style. If yesterday I had a bad day, I will hope for a better day today. I tried to be a good person but it's always the same. It's not like I ask to be stubborn" (Male, 18).

For some, going to the mosque was for meeting friends and playing tricks on people.

> "The worst thing I did at the mosque was I stole car rims. Sometimes my friends and I purposely punctured motorcycle tires or removed spark plugs" (Male, 18).

c) Sub-theme: Juvenile employment

Eleven adolescents reported being involved in juvenile employment. Some preferred to work because of the large amount of income generated. As two respondents stated:

> "I've been following my grandfather to work since I was small. I got a lot of money when I worked" (Male, 17).

> "I've been doing timber work for many years. The job was heavy, but the money was good" (Male, 17).

Earning their own income was another way for adolescents to acquire the things that their caregivers found it difficult to provide for them, such as video games and mobile phones. Additionally, being able to earn an income encouraged them to stop their schooling. As one adolescent noted:

> "It was very difficult to get the things that I wanted. So, I worked at the poultry factory, where I earned RM 900. That made me stop school when I was in Form 3" (Male, 16).

d) Sub-theme: Pornography viewing

Pornography viewing was admitted by a few adolescents who mostly confessed to watching it at home with their partners or friends. According to two teenagers:

> "I watched pornography on the Internet and on DVDs at home with my girlfriend" (Male, 16).

> "I watched porn videos with my friends. I like watching those sorts of videos" (Female, 18).

Others preferred to watch pornography at cybercafés with friends. One teenager said:

> "I watched blue (pornography) movies on the Internet, usually with friends, at the cybercafé" (Male, 17).

e) Sub-theme: Lived independently

Four teenagers reported living independently. For them, moving out of their homes could be therapeutic when facing problems with parents or guardians. For instance, two teenagers said:

> "I followed my father's friend to work at an estate in Perak. I followed because I wanted to support myself. Also, my step dad could not care less about me. Though he's not my real father, he should be taking care of me. But I feel like I am lost and neglected" (Male, 19).

> "I moved out of my parents' place and rented a house with a friend. I did that because I could not stand living with my stepfather" (Female, 15).

Theme 2: Family Circumstances

Family circumstances were an important theme, and seven sub-themes emerged as factors that indirectly influenced adolescents' sexual initiation. These sub-themes, as well as their illustrations, are presented below.

a) Sub-theme: Domestic violence and abuse

More than half of the adolescents described witnessing domestic violence and abuse toward their mother, and this was, for them, a major concern. Several adolescents spoke of their mother being beaten by their stepfather:

> "Mama wanted to run away, and then my stepfather pulled her hair and stepped on her" (Female, 16).

> "I was at a school camp for three days. When I came home, I saw that my mum's ear was swollen. I cannot accept my abusive stepfather" (Female, 15 years).

Child abuse, i.e., sexual and/or physical abuse, as well as neglect, was repeatedly mentioned by the teenagers:

> "I woke up, and he was already beside me. I was too afraid to scream. I just let him caress me. It was my sister's nightmare that scared him away" (Female, 18).

> "My stepfather scares me. When I first got my period, he molested me. I tried to scream, but he covered my mouth; it was the day my mother was organising a party at home" (Female, 15).

> "My father poured boiling water on me when I was just a baby. Then, when I was bigger, he either used a cane, belt, steel bar, or a hose to hit me" (Female, 16).

Being neglected by parents was also an issue. One teenager stated:

> "Although he was just a stepfather, he should be taking care of me. Instead, he totally ignored me" (Male, 19).

b) Sub-theme: Not feeling close

Reflecting on the context of the family problems experienced, 13 adolescents spoke about not feeling close to their family members. They felt that there were no feelings of intimacy with their parents, guardian, or siblings:

> "My dad is a bit difficult. It's hard to get close to him. He gets angry a lot" (Male, 17).

> "My siblings are not close to me. They can play among themselves because they are still small" (Male, 18).

> "My stepfather is like a stranger to me. I don't feel connected to him. I am already used to living with my grandmother" (Male, 16).

One adolescent admitted that he considered his friends to be better company than his own caregiver.

> "I rarely spent time with my adopted mother. For me, I'd rather be with my friends" (Male, 17).

c) Sub-theme: Lack of time spent with parents

Twelve teenagers stated that their parents did not spend a substantial amount of time with them. The lack of time spent with parents because of their work commitments encouraged the adolescents to be with their friends:

> "My dad is always working. He's hardly at home, even on Saturdays" (Male, 18).

> "My father works in Johor. He only comes home once a month. We hardly speak" (Male, 17).

> "My father works very far from home and he can't come home. So it's just like he doesn't exist. When my father is not around, it's like my mother is not around either" (Male, 16).

d) Sub-theme: Poor religiosity

Nine adolescents reported on their family members' poor religiosity. Family members also allegedly did not follow their religious requirements. Several respondents noted:

> "My father doesn't pray. He is a gambler, a womaniser, and he drinks alcohol" (Female, 16).

> "If my mother feels like praying, she will pray. The same goes for my father" (Male, 18).

One teenager identified the lack of religious education that was supposed to be provided by responsible caregivers:

"I was never taught by my parents about religion" (Male, 16).

e) Sub-theme: Unlawful activities

Eight adolescents informed me of their family's unlawful activities, which included theft, illicit drug use, child trafficking, and rape.

"When I was three, my mother became a drug addict" (Male, 19).

"My stepfather wanted to sell my brother, and he wanted to rape my sister" (Female, 16).

"My older brother was stealing cars. That's why I followed him" (Male, 16).

f) Sub-theme: Unfair treatment by parents/guardians

Another important sub-theme that emerged from the family circumstances was unfair treatment by parents or guardians. Not being fair or giving more to siblings somehow pushed the adolescents to retaliate to show that they were being mistreated. A few respondents stated that they were not given the same attention as their siblings:

"I've always been jealous of my brother. Since I was small, it was difficult to get whatever I asked for, but my older brother always got everything he wanted. Also, my father was always proud of my siblings, but he doesn't care about me" (Male, 16).

"My siblings and I, we stayed at our grandparents' house. They had other grandchildren in the house, our cousins, but we were never treated equally. They got more pocket money than us. If there was a crisis among us, my siblings and I had to give in" (Female, 14).

"My mother was always defending my siblings if I fought with them. If my siblings asked for anything, they would get it, but not me" (Female, 14).

"Sometimes I looked at the way my father joked around with my sisters. I never got that from him, not since I became a teenager. Anyway, my sister is already a

teenager, too. Sometimes, when we watch TV, everybody else will sit in front with my dad and I will just sit at the back" (Female, 18).

g) Sub-theme: Divorce and multiple marriages

Matters concerning divorce and multiple marriages among the adolescents' biological parents have somehow contributed to their family problems. Several adolescents noted that they were unhappy because of their parents' failed marriages.

"I ran away from home because my parents were not together anymore" (Female, 14).

"I'm angry at my mother. She keeps changing husbands" (Female, 16).

Theme 3: School Circumstances

The adolescents who participated in the in-depth interviews raised issues related to school. Two sub-themes were identified: lack of interest and disciplinary problems.

a) Sub-theme: Lack of interest

Ten adolescents reported their lack of interest in school, which was attributed to various factors, including the teacher's lack of attendance at class. One respondent noted:

"I didn't like school because there were no teachers at my school. They hardly came into our classrooms to teach. Many of my friends go to school just to play and fight" (Male, 16).

Some of the adolescents have a very poor understanding of the importance of schooling. Two of them stated:

"When I was in school last time, I could not concentrate. So, I just came for the sake of meeting my friends" (Male, 16).

"I stopped schooling because I lost interest in learning. Besides, for Penilaian Menengah Rendah (PMR), I got a D for one subject and the rest were all Es. I can read, but I'm just not interested" (Male, 18).

Another teenager admitted to not going to school so that he could help his father: "I stopped schooling and worked because I didn't want to put any extra burden on my father" (Male, 19).

b) Sub-theme: Disciplinary problems

Seven adolescents reported being involved in disciplinary problems while at school. One adolescent was suspended for truancy:

"I got suspended because I skipped school and went to cybercafés with my friends" (Male, 16).

Other respondents disrespected their school teachers and got involved in school fights:

"I got into school trouble because I was so angry at my teacher. He accused me of stealing my friend's mobile phone. So, I beat him up. I was in Form 2 when it happened" (Male, 16).

"Suspension from school became the usual thing for me. I fought with other students at school, and nearly every day I was caned by the discipline teacher. He finally gave up, and I had to stay out of school" (Male, 18).

Theme 4: Peer Circumstances

Having peer issues was a common theme among the participants, and several sub-themes emerged: friends who used substances, friends who loitered, and peer pressure. These issues are described in the paragraphs below.

a) Sub-theme: Friends who used substances

A number of teenagers stated that they had friends who used substances such as tobacco, illicit drugs, and alcohol.

"When I first started using drugs, it was because I followed my friends" (Male, 16).

"Last time, I used to follow my friends to town, and we drank at the club" (Male, 16).

b) Sub-theme: Friends who loiter

Having friends who loitered was cited by 15 adolescents. Many spoke of spending a great deal of time hanging out with their friends outside their homes. For instance, some adolescents stated:

"Every night I would go out and spend time at my boyfriend's place. We didn't do anything, just hung out" (Female, 14).

"I felt bored at home. I told my mother that I'm going for extra lessons. Instead, I hung out with my friends" (Male, 18).

"My parents sent me for religious classes. However, I went to the park to socialise with my friends. I was only in preschool at that time" (Male, 16).

"I liked to hang out with my friends at night. We performed 'wheelies' [performed crazy stunts on motorbikes], sang at karaoke clubs, or played snooker" (Male, 18).

"When I started secondary school, I had many friends who taught me some stuff. From there on, I learned how to take the bus, taxi, and eventually I knew my way around the city. Shopping malls were one of the places where I lingered with my friends" (Female, 18).

c) Sub-theme: Peer Pressure

A number of respondents confessed to being easily influenced by their friends:

"When I was younger, I was easily influenced by my friends" (Male, 16).

"I followed my friends. Whatever my friends did, I wanted to try, too. It's always like that at that age. I felt the need to try the things that my friends were doing, and I followed them" (Female, 17).

Two adolescents stated that they would feel like an outsider if they did not conform to what their group of friends was doing:

> "I told my friend 'no', but he kept begging and begging. I didn't want to feel like an outcast and disappoint him. So I just followed him" (Male, 17).

> "Sometimes I hung out with my friends when they went out with their dates. My friends then introduced me to a man, and I coupled with him" (Female, 18).

Other adolescents were influenced by their friends' suggestions:

> "My friend told me if I wanted to be a hardworking employee, I have to try *syabu*. So I tried it, and it really worked for me" (Male, 18).

> "A friend told me that if I feel tension, cigarettes can settle my problem" (Female, 15).

4.4.4.2 Perceptions of Factors that Influenced Sexual Initiation

The in-depth interviews and essay questions explored adolescents' perceptions of the factors that influenced their decisions to initiate sex by posing questions such as, "Why did you first have sex when you did?" In exploring their perceptions, 10 main themes emerged, including the use of sex as an expression of love, a partner's influence, an inability to control one's sex drive, family issues, a history of child sexual abuse, curiosity, stress relief, a partner gave in, peer pressure, the influence of drugs, and others. The graph in Figure 4.1 illustrates the number of participants for each emerging theme.

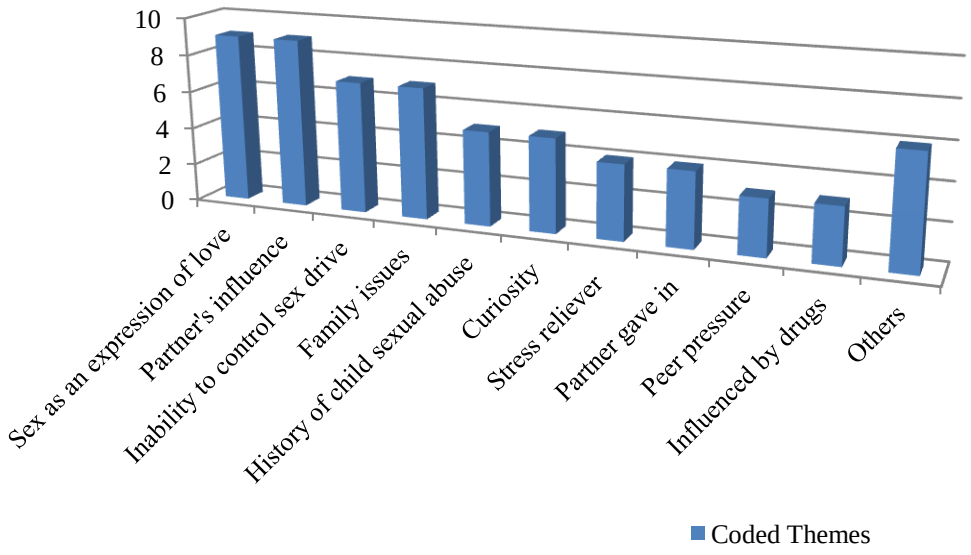

Figure 4.1: Graph Illustrating the Number of Participants for Each Emerging Theme

Theme 1: Sex as an expression of love

Several adolescents described "sex as an expression of love", and this was their motive for initiating sexual intercourse. They believed sex to be the highest possible form of expressing their affection and commitment. For some, it was felt that it could strengthen their relationship as well as 'mark' their spouse. Some female adolescents confessed that they gave in to sex to show their affection towards their partner.

> "When I first got together with this guy, I fell in love with him. So, I just gave in" (Female, 17).

> "I knew him as a friend, then we fell in love. I was in love with him, and that is why I did it (had sex)" (Female, 15).

Two male respondents believed that having sex ensured that their spouses would belong to them for eternity. It also made them feel loyal.

> "I don't want her to be close to anybody else. I want to be responsible to her. So I did it to her" (Male, 16).

"At that time, I thought I could be loyal to her as well" (Male, 16).

Theme 2: Partner's influence

Some adolescents described their sexual partners as a prime factor influencing their decision to have sex, stating that the way in which their partner convinced them either through words or physical action led them to have sex. The female study participants expressed how they were manipulated by their sex partner into having sex.

> "He went there, and we got to know each other. After a few minutes, he invited me to his house…I don't know why I went to his house when I'd only known him for a day" (Female, 18).

> "He made me feel comfortable with him, like he made me not feel afraid of him. So, he somehow assured me, and I felt calm" (Female, 18).

> "I didn't want it, but he forced me. If he asked for anything and I didn't give in to him, he would just get sulky and send me home. So, I just did it, and I didn't think about it" (Female, 15).

> "I don't know how, but I was so influenced by him, and we ended up having sex" (Female, 15).

> "I don't know how to say this, but I guess I was influenced by his words and suddenly I was doing it with him" (Female, 15).

> "The words of men are…his words were just very sweet" (Female, 16).

One male respondent blamed his sexually aroused partner for their intercourse.

"I don't know. She was randy as well. It was her fault" (Male, 18).

Theme 3: Inability to control sex drive

The study participants acknowledged their inability to control their sexual urges as a factor that led them to have sex. Some found it difficult to control this urge, especially when influenced by phone sex, caressing, and pornographic material.

"Then, after a while, I just catered to him that way. I kept doing it (phone sex), and then I got hooked on it (phone sex). At first, I just wanted to do it just like that, then when I met him, I wanted something more" (Female, 18).

"There are two reasons. First, it's because of my own desire. Second, I enjoy watching that sort of video (pornographic)" (Female, 18).

"After that, he only managed to kiss and hold my hands because I felt uneasy. But, I liked it when he did that. I felt the desire to do more than just kissing and holding hands, but I was too anxious to tell him" (Female, 18).

"I am not normal. When I'm outside, I'm always turned on, 24 hours" (Male, 18).

"I'm the type that can't look at women. When I look at them once, I want to look at them more" (Male, 18).

Theme 4: Family issues

Family issues refer to a difficult situation or condition faced by the adolescent that relates to family members. Family includes biological and non-biological parents and siblings. Both male and female adolescents reported that having family issues was a factor in their initiation of sexual intercourse.

Female adolescents in particular reported that they felt neglected and uncared for by their families.

"I was fed up with my family. I was always scolded. They (my parents) were just taking care of my other siblings only, and they didn't care about me" (Female, 14).

"He (father) didn't care about me. So, I just didn't give a damn about it. That's why I was brave enough to do it (sex)" (Female, 18).

Domestic violence was also reported as a reason for initiating sex.

> "Sometimes my family goes through a stressful time. When I go to work, I don't know what my mother is going through. The other day, I had a religious camp in school for three days and two nights. When I came back, I saw my mother's ear was bruised. I don't know why…the reason he was beating my mother. My mother didn't do anything" (Female, 15).

Some felt like outsiders, as if their family was not supportive of them.

> "My step mom always says that my uncle's family tends to talk in a slanderous way about me, and they all hate me. Sometimes during the Eid celebration, all the other family members will gather around and bad-mouth me behind my back. This is all because my grandmother used to take better care of me than of her own children when I am not even related by blood to this family. I was just adopted by my step mom" (Female, 15).

> "Well, when I think about it, my mother and sister were always reminding me about me getting raped all the time" (Female, 16).

One Muslim male adolescent felt that his family was not meeting the requirements of their religion. Therefore, he felt that this was also acceptable for him.

> "My family is dysfunctional. My brother always brings a girl back home. My mom lets him be with that girl because he has been with her since they were in Form 3" (Male, 16).

Theme 5: History of child sexual abuse

Female teenagers also reported commencing sex due to unfortunate circumstances, such as being sexually abused. A past history of sexual abuse made the girls feel defenceless, especially when they are constantly reminded of the event by close family members.

> "After I was raped, my sister and mother kept reminding me of the issue, and I got so annoyed with them. So, I just did it (sex)" (Female, 16).

"...because I was raped by that man. I felt traumatised, stressed, and everything" (Female, 15).

Therefore, when they were offered sex, they simply complied without hesitation: "Since then, I felt like what's the point of me keeping quiet and not doing anything? I've already lost my virginity" (Female, 17).

"I would do it voluntarily. What's the point of keeping quiet when I no longer have my virginity? So, I would just enjoy it then" (Female, 17).

Theme 6: Curiosity

It was also observed that curiosity among the adolescents had an influence on their sexual initiation, particularly among males, who used the experience as a way to learn.

"I had sex because I was curious about it. And when I did it, then I knew what sex was about" (Male, 19).

Their inquisitiveness about sex drove them to give it a try.

"In my whole life, I have never had sex. It was my first time, and I wanted to try it" (Male, 17).

Theme 7: Stress relief

The analysis also revealed that stress relief was a reason for the adolescents to engage in sex. For instance, according to one adolescent:

"Sometimes when she is facing any sort of problem, she will call me for sex. When I have any problems, I will call her as well" (Male, 17).

Others reported friends as their source of stress.

"My friend told my other friends that I was raped and spread the story. They made fun of me and called me a slut. So, I got quite stressed. Then, they said I am not good anymore because I'm no longer a virgin. Well, it wasn't my choice. I simply got sick of their ridicule, then, in the end, I just decided to simply destroy myself" (Female, 15).

"Stress. Sometimes when I feel like getting into a fight with my friends or simply just shouting at them, I'll go to her (sex partner's) house" (Male, 17).

Theme 8: Partner gave in

A number of male adolescents reported that their partners willingly gave in to sex. For example:

"But I don't know. I don't know why. She wanted it with me. I don't know why she did those things to me. She didn't force me, she wanted it herself. At that time I didn't know anything" (Male, 19).

"The girl was sexually excited herself. So, we did it. I was quite casual about it" (Male, 17).

Other adolescents reported that their partners gave in, simply complying with their requests.

"She is the type who listens to what I say. If I tell her not to go out, then she doesn't go out. If I tell her not to cheat, then she will not cheat. If I say anything she will follow me. If I ask her to do it (sex), then let's do it. She's like that" (Male, 18).

"When I follow her, she just treats me nicely, and when I tell her something she will listen. She listens to me, and so we did it" (Male, 16).

Theme 9: Peer pressure

Adolescents also attributed their sexual initiation to their peers, and it was generally believed that the sexual activities of their peers were very influential. Spending most of their time with friends who have sex influenced them to do it as well.

"I had sex because I wanted to try it. Initially, I hung out with some kids at the Dataran Merdeka. When I first knew them, I was OK, but after a while I was so lost in my own world that I forgot to come home. So, I did it (sex) because of my friends" (Male, 15).

"I started having sex because I became very social and was influenced by my friends" (Male, 15).

"Many of my friends said that having sex makes you feel good. That is why I'm doing it. I was influenced by them" (Male, 16).

Theme 10: Influenced by drugs

Some adolescents initiated sex because they were under the influence of drugs.

"She put some drugs in my drink. She said the drugs could help to sustain me sexually" (Male, 17).

"I felt turned on after I took cannabis or marijuana" (Male, 17).

"It was definitely under the influence of ice (drug)" (Male, 17).

Using illicit drugs somehow made them feel sexually aroused and their conscience slipped as a result.

"During that two-day period, I was smoking ice. I didn't realise I'd taken it. He said on the telephone that he was coming. So I wrote there 'come over,' and we did it (sex)" (Female, 15).

Other themes

Other themes that emerged with respect to initiating sex included pornography, poor religious beliefs, an open opportunity, immature thinking, and spontaneity. Related quotations are illustrated in Table 4.32.

Table 4.32: Other Themes That Influenced Sexual Initiation among Adolescents

Themes	Illustrative quotations
Pornography viewing	*"*I enjoy watching pornographic videos" (Female, 18)
Poor religious beliefs	"God has never answered my prayers. That is why I became like this. I'm too stressed" (Female, 15)
Taking chances	"The time when we were alone was an opportunity" (Male, 19)
Immature thinking	"And I was not thinking deep enough" (Male, 19)
	"I'm always making poor decisions" (Male, 16)
Sex is spontaneous	"Sex can easily happen" (Male, 16)
Educated on sexual health	"I don't know. My friend and I were only 13. I think we did it because the school taught us how. So, we decided to try" (Female, 16)

4.4.4.3 Summary of adolescents' sexual initiation

Figure 4.2 shows a possible causal structure related to the risk factors affecting adolescents' sexual initiation. This causal structure consists of two broad domains. A distal domain composed of factors which have indirectly led to sexual initiation while a proximal domain involves factors that are very much linked to sex. Distal domains, such as individual, family, peers, and school, were found to be related to adolescents' sexual initiation. Problems within these domains led to proximal factors of sexual initiation, such as individual, interpersonal, and community factors. It was found that factors within the individual and interpersonal domains were the two most important influences on sexual initiation among adolescents. Six factors were of particular interest: sex as an expression of love, a partner's influence, uncontrolled sex drive, family issues, a history of child sexual abuse, and curiosity. Problems involving family forced the adolescents to seek happiness outside of their homes. This happiness could be acquired from friends or partners with whom they tended to spend more time. For the adolescents with a high curiosity level, having a close partner enabled them to translate their affection into physical action, i.e., sexual intercourse. Additionally, the vulnerability of at-risk adolescents, e.g., those with a history of child sexual abuse, made them feel defenceless

and made it difficult to control their sexual urges, thus making them liable to comply with their partner's request for sex.

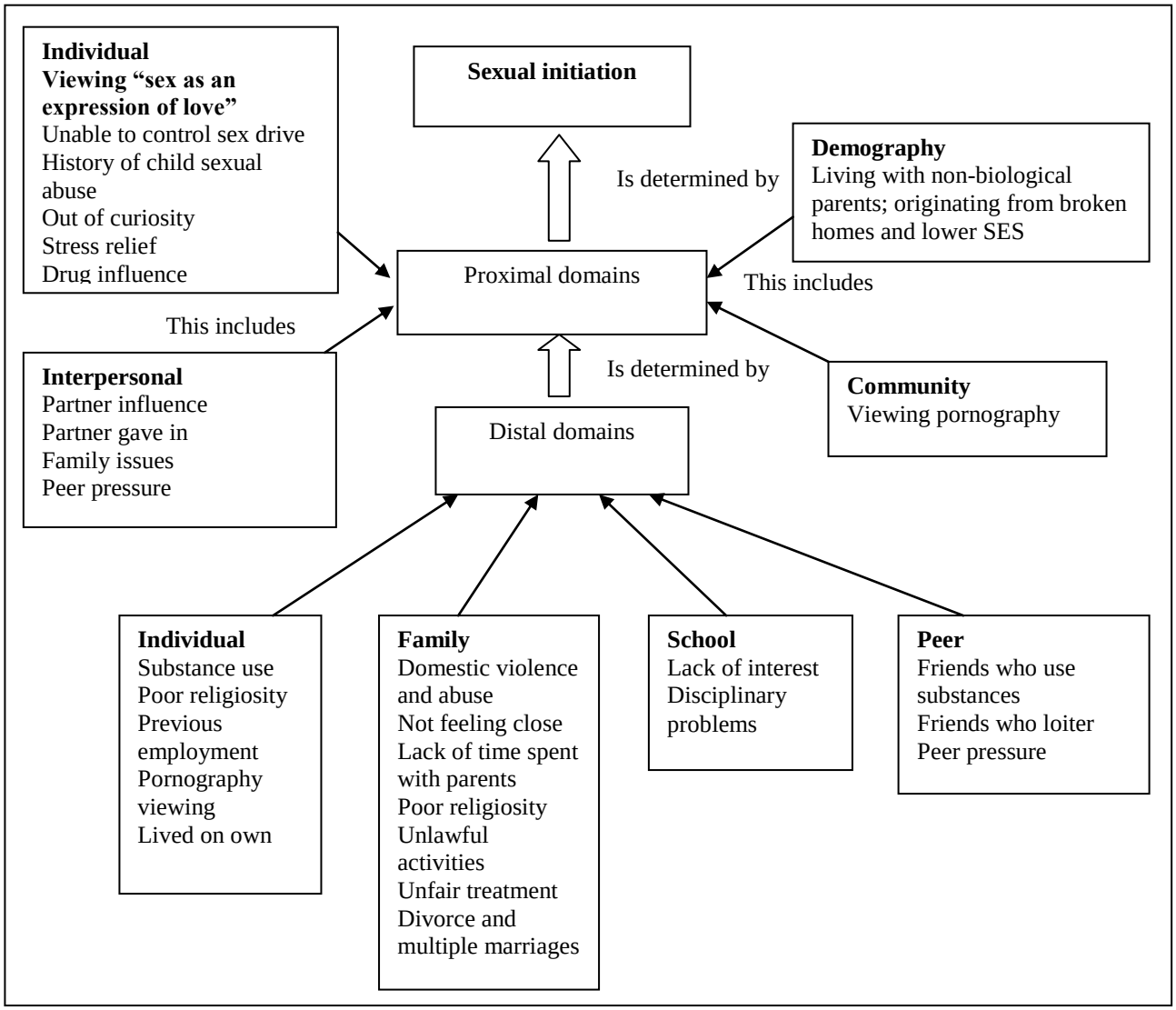

Figure 4.2: A possible causal structure related to the risk factors affecting adolescents' sexual initiation

4.4.5 First Sexual Experience

This section will illustrate the adolescents' first sexual experience, including information on their first sexual partner, the location of the sexual intercourse, contraception use, and the impact of the experience.

4.4.5.1 First Sexual Partners

The profile of the adolescent's first sexual partner was explored by gender. The profile was based on the partner's age and the type of relationship that he/she had. Table

4.32 provides a summary of the themes that emerged.

Table 4.32: Profile of the Adolescent's First Sexual Partner

Gender	Themes	No. of coded responses
Female	Older male sex partner	5
	A friend	8
Male	Female sex partner of similar age	4
	A friend	9
	Outlier:	
	Older female sex partner	2
	Younger female sex partner	2

4.4.5.2 Age of first sexual partner

In terms of age, female adolescents identified an older sexual partner. One respondent noted:

> "I was in Form 2 and my boyfriend, whom I had sex with, was a bit older than me" (Female, 15).

Other adolescent girls noted that they preferred to have sex with an older, more mature male counterpart.

> "I was only 17 and he was 26 when we first had intercourse" (Female, 18).
>
> "The first time I had sex was with a Malay man. He was in his thirties and I was only 14. He was already working" (Female, 15).

In contrast, male adolescents identified their first sexual partner as being about the same age as they were.

> "My girlfriend was the same age as I. We were both 15 when we first had sex" (Male, 16).
>
> "I first had sex when I was in Form 3. She was my schoolmate, and we were about the same age" (Male, 18).

"I met her during a school camp, and we became a couple after a while. She was just my age, very friendly and honest. When I turned 15, we had sex" (Male, 16).

However, some boys first had sexual intercourse with older or younger female counterparts.

"I met her at my workplace; she brought me to her home and treated me like her own son. When we had sex, she was already 33 and I was only 15" (Male, 19).

"The girl was six years older than me. I coupled with her for a month before we slept together" (Male, 17).

"She was a student from a boarding school, and she was younger than me. I didn't want her to be close to other guys. So I slept with her" (Male, 16).

4.4.5.3 Type of relationship with first sexual partner

Both genders indicated that their first sexual encounter was with somebody with whom they were close. For females, their sexual partners were described as boyfriends.

"He was my first boyfriend, and we were both in the same class. We were in Form 2 when we had sexual intercourse" (Female, 16).

"I first had sex with my second boyfriend. Initially, we were just friends. Then, we fell in love" (Female, 15).

"We have been a couple for nearly six months. He was about my age, and I knew him from school" (Female, 16).

Most male adolescents also described their first sexual partner as someone whom they had known for quite some time.

"I have known this girl for seven years. At first, we were just friends, but then I fell in love with her and, one day, we had sex" (Male, 15).

"After knowing her for a while, we became a couple. At first, I only sent her X-rated messages. Then, we met at the park and we did it" (Male, 15).

"I was in a relationship with this girl for more than three months before we first had sex" (Male, 17).

4.4.5.4 Location of first sexual experience

"Where did girls and boys have their first sexual experience?" The home and family context emerged as a prime location for their first sexual intercourse. This location was identified by 13 male and female adolescents:

"We had sex at her place. Her family was in the house when we were doing it" (Male, 16).

"I was just about to enter my classroom when he invited me to his house. He said he wanted to show me where his house was. So I followed him, and we did it" (Female, 16).

"I was very naive at that time. The school was teaching us about sexual health, and he wanted to try. So, we did it at his friend's house. It hurt, actually, and there was some blood. I was terrified. But it was only that one time, and the intercourse didn't last that long. I was in pain for about an hour after that" (Female, 16).

However, some adolescents also described places outside of the home environment. Three adolescents indicated such places:

"We did it in an empty house near my place" (Female, 14).

"There were two rooms in the cybercafé. We could sleep or lie down in the room, and there was a DVD player as well. So, we did it (intercourse) in one of the rooms" (Male, 17).

"I met her at the park, and I asked her if she would like to have sex. She said yes, and we did it there" (Male, 15).

4.4.5.5 Contraception use

More than half of the participants admitted to not using any form of contraception during their first act of sexual intercourse. Some of the reasons for not using contraception were:

> "I didn't wear it because I did not feel anything. Also, my partner didn't say anything about wearing a condom because she was very aroused as well" (Male, 16).

> "I had it in my pocket all the time though. However, when the time came, I purposely removed it. It's difficult to say, but it felt different when I wore it. The thing really annoyed me" (Male, 18).

> "I just hit it without thinking" (Male, 18).

> One teenager obviously did not know what contraception was:

> "Yes, I used contraception when we did it. It was a blanket" (Male, 17).

4.4.5.6 The impact of first sexual intercourse

Various thoughts were expressed in terms of their feelings and behaviour when the participants were asked the question, "What were the impacts or consequences (feelings and attitude) of your first sexual intercourse?" The six themes that emerged are shown in Figure 4.3 and are described below.

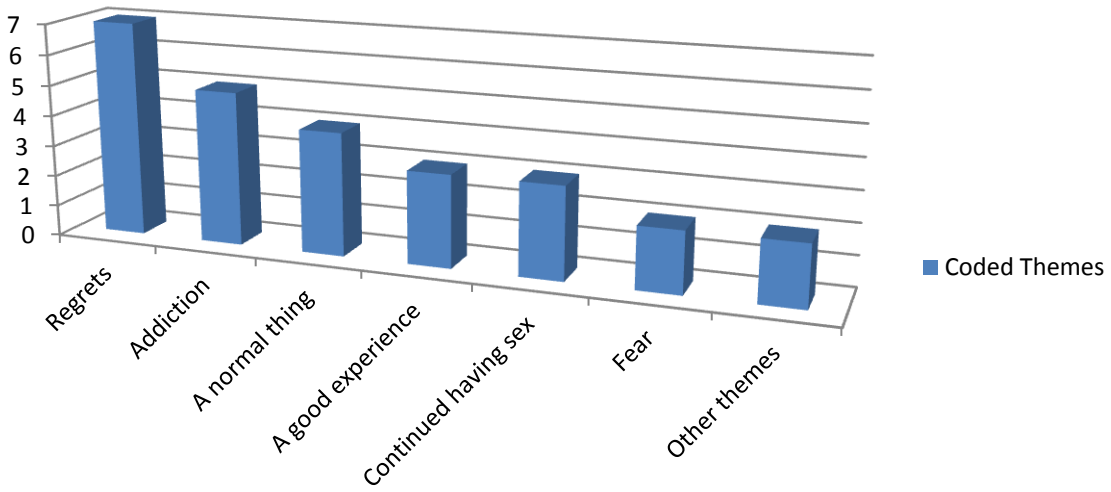

Figure 4.3: Feelings and attitude following the first sexual intercourse

Regrets

Several adolescents reported experiencing regret after they first had sex. They regretted the behaviour because they realised that it was wrong.

> "I didn't go to school after that and regretted my behaviour. I promised that I would not do it again" (Female, 16).

> "Normally people would say the first sex should be unforgettable because you finally got to do it. But when I think about it, she was like a mother to me. Actually, I regretted it" (Male, 19).

> "This is my entire fault. I feel sorry for having sex with her. I knew it was wrong, but I still did it" (Male, 19).

One adolescent was not ready for the experience or its consequences.

> "It was very painful after that. The pain lasted for an hour. I really, really regretted having sex" (Female, 16).

Addiction

Although some adolescents regretted having sex, others had to have more sex.

> "I wanted to do it again. Then, I did it with other women. There were five of them altogether" (Male, 17).

> "After doing it, I regretted my actions. Nevertheless, I did it again with my second boyfriend" (Female, 15).

Some adolescents had more sex because they felt addicted to it.

> "...However, when he asked again for the second and third time, I became addicted to it (sex). Following that, I was the one who asked for it. I was not satisfied with just one person. I had to find someone else" (Female, 18).

> "After I did it with my adopted brother, I just continued having sex. I felt the urge to do it again. So, I slept with many others after that—maybe more than ten men. I wanted to change and stop doing it, but so far I've been postponing [stopping]" (Female, 14).

One adolescent reported that she could not stop having sex because of the money offered to her.

> "After the first time, I didn't feel anything. I was then introduced to many other men through my friend. They gave me money for my sexual services. So I continued doing it for the money" (Female, 15).

A normal thing

After having sexual intercourse for the first time, four participants reported feeling normal or as if nothing had happened.

> "After my first sex experience, I felt normal. There was nothing unusual about it" (Female, 17).

> "After my first sex experience with her, I still slept with her occasionally. I didn't feel guilty, just the same" (Male, 17).

> "I'm not so sure how I felt after the first time. For me, it was normal, I guess, and I still have sex with him occasionally" (Female, 16).

A good experience

Happiness was another feeling described, in particular by male participants, after their first sexual encounter. For them, it was a pleasurable experience.

> "I felt very happy. Furthermore, I did it with my girlfriend" (Male, 17).
>
> "I felt delighted; I just wanted to continue doing it. I was so happy after I did it" (Male, 17).
>
> "It was a great pleasure when I got to have sex with her for the first time. Feels like I want to do it again and I'm not scared of it. Sometimes I do feel scared. Who knows if she gets pregnant? But I don't want to think about this. What's important, I get to feel the pleasure" (Male, 16).

Continued having sex

After having sex for the first time, several adolescents admitted to having multiple sexual partners.

> "I continued to do it with my boyfriends. I have slept with more than ten men since my first sex experience. I didn't regret my actions. I felt normal. There was nothing unusual about it" (Female, 17).
>
> "After the first intercourse, I slept with about four or five girls. I knew it was wrong and I should stop, but I still continued" (Male, 17).
>
> "I did it with many other girls following the first one. I felt like I had sinned though..." (Male, 18).

Fear

Two adolescents reported feeling anxious after their first sexual encounter. This feeling occurred immediately after intercourse and resulted from the fear of consequences, such as an unwanted pregnancy or getting caught by parents.

> "After [my] first sex[ual experience], I was anxious, actually. I was scared if she might get pregnant" (Male, 16).

"Following the first intercourse, I was so scared that I didn't go home. Every day I had to live with this feeling of uneasiness until the day I was caught" (Male, 15).

Other themes

Other feelings or behaviours that followed after the first sexual intercourse were reported by two teenagers. One adolescent stated that she ignored her first sexual partner after the first encounter.

"I have not contacted him since our first intercourse. It was just a one-off thing" (Female, 14).

Another male adolescent reported feeling fortunate.

"I felt lucky that I managed to have sex. If other people could do it, I could do it, too. If I could do it the first time, then the second time shouldn't be a problem" (Male, 16).

4.4.6 Summary of Findings of Phase 2

In general, adolescents' sexual initiation is determined by distal and proximal domains. A distal domain consists of factors which are remotely related to sexual initiation while a proximal domain includes factors that are closely linked to the behaviour. Within both domains, many individual factors such as sex as an expression of love, substance use, a history of child sexual abuse, curiosity, and religiousness contributed to the decision to engage in sexual intercourse. Additionally, there were contributing factors within the context of the home, such as domestic violence, abuse, and family issues.

4.4.7 Methodological triangulation

To establish the validity of the qualitative findings, a methodological triangulation was performed on the qualitative findings related to adolescents' perceptions of the factors that influenced their sexual initiation. The themes that emerged from this analysis were compared with results from the quantitative component to identify whether there were similar results. The themes supported by the quantitative results are listed below.

a) Sex as an expression of love

"Sex as an expression of love" included adolescents who admitted to having sex because they were in love and required it to strengthen their relationship. This emerged as a major theme in the qualitative phase and is supported by results from the self-administered questionnaire in which a majority of the adolescents indicated that "personal choice" (71.3%) was their reason for initiating sex (Table 4.33). Adolescents who were categorised under this variable included those who initiated sex because they were in a serious relationship and in love.

Table 4.33: Responses to the Question, "Why did you first have sex?" in the Quantitative Component

Variable	Frequency	Percent
Personal choice	429	71.3
Peer pressure	84	14.0
Family problems	26	4.30
Unwanted sexual activity	59	9.80
Other	4	0.70

b) Inability to control sex drive

Losing sexual control may have influenced adolescents' attitudes toward sex. This finding is supported by the outcome of factors associated with sexual initiation from a multiple logistic regression in the quantitative component, i.e., a permissible attitude

toward premarital sex. Adolescents who permitted premarital sex were more likely to initiate sex compared to those who did not.

c) Drug influence

Drug influence was reported by several adolescents as one of the factors that influenced their sexual debut. This outcome is also supported by the multiple logistic regression, i.e., “ever used illicit drugs?” Adolescents who have used illicit drugs were more likely to have sex compared to those who did not.

d) History of child sexual abuse

A history of child sexual abuse was indicated by a few adolescents in the qualitative component, and the quantitative results showed unwanted sexual activity, e.g., child sexual abuse, contributed 9.8% towards sexual initiation (Table 4.33). This result was confirmed by the multiple logistic regression analysis, where there was a strong association between a history of childhood sexual abuse and sexual initiation among the adolescents.

e) Pornography viewing

Although only reported by some adolescents, those who viewed pornography admitted to having sex. This finding is validated by the outcome of factors associated with ever sex from the multiple logistic regression in the quantitative component, i.e., pornography viewing. Adolescents who viewed pornography were more likely to initiate sex compared to those who did not.

f) Peer pressure

Peer pressure was another theme that emerged from the qualitative phase. This finding was confirmed by the survey findings, which showed that more than 10% admitted to first having sexual intercourse because of peer pressure (Table 4.33).

g) Educated on sexual health

With regard to knowledge, one female adolescent actually stated that she initiated sex after learning about it at school: “I don’t know. My friend and I were only 13. I think we did it because the school taught us how. So, we decided to try” (Female, 16). This finding is consistent with results from the quantitative phase which demonstrated that female adolescents with adequate knowledge were more likely to engage in SRBs (Table 4.33).

4.5 Conclusion of Chapter 4

In general, 62.3% of the studied incarcerated adolescents had engaged in sexual intercourse. The mean age at first sexual intercourse for both genders was 14 years. Individual factors such as female gender, alcohol use, illicit drug use, permissive attitude toward premarital sex and a history of child sexual abuse were associated with the incidence of sexual intercourse in the study population. Additionally, pornography viewing was also connected with this behaviour. Among the study subjects who had initiated sex, 55.1 % were found to have engaged in SRBs.The qualitative findings showed that adolescents believed that “sex as an expression of love” was a strong reason for initiating sexual intercourse. This finding was further confirmed by methodological triangulation.

Chapter Five: Discussion

5.1 Introduction

The purpose of this study was to examine the relationships between variables derived from the Socio Ecological Model (SEM) and sexual risk behaviour (SRB) among incarcerated adolescents within the Malaysian institutional system.

The findings from this mixed methods study are abundant and must be understood and applied in an appropriate context. Because of the cross sectional nature in the initial part of the study, the findings are only a snapshot of the incarcerated adolescent's SRBs continuum. However, the qualitative findings have given substantial information on adolescents' sexual initiation. The discussion below is organised based on the different research questions and themes that arose from the data analysis. Following this discussion are recommendations and implications of study findings as well as comments on the strengths and limitations of the study.

5.2 Sexual Initiation among Incarcerated Adolescents

5.2.1 Prevalence of sexual initiation

The analysis showed that more than 60.0% of adolescents aged 12-19 years reported that they had experienced sexual intercourse. There was a significant gender difference in terms of ever having sex, with 52.6% male adolescents and 66.8% female adolescents reporting that they had engaged in sex. There are no similar studies conducted within the local Malaysian setting with which to compare these results. However, at international level, studies conducted among delinquent youth reported that more than 50% have experienced sexual initiation (Hendershot et al., 2010; Romero et al., 2007). This high prevalence of sexual initiation among delinquents can be explained by the Problem Behaviour Theory (PBT), which states that adolescents with multiple behavioural and emotional difficulties are prone to having early sex (Jessor & Jessor,

1977). This theory was confirmed by one study which showed that early sex was linked to problem behaviours such as conduct disorder and, in particular, substances use (Bachanas et al., 2002).

When compared to local studies among adolescents in the general population, the prevalence of sexual initiation in the current study showed an extensive difference. For instance, the prevalence of premarital sex among teenagers in schools is simply 5.4% (Lee et al., 2006) and 12.6% (Mudassir et al., 2010). Additionally, a nationwide study reported that 8.3% of male adolescents and 2.9% of female adolescents have had premarital sex (IPH, 2008). These differences in terms of prevalence could be explained in the following section.

The subject of sex is considered taboo in Malaysian society, and premarital sexual behaviour is regarded as delinquent behaviour. These beliefs have influenced previous studies conducted in schools and households where teachers and family members were present. Terrified that their sexual activities might be discovered by teachers and parents, some adolescents will choose not to answer questions about sexual behaviour. For adolescents in the institutions however, the absence of parents makes adolescents less afraid to reveal the status of their virginity. Because of the small number of welfare officers present during data collection and the fact that they have already revealed their life history to these officers, the adolescents are also not as withdrawn as those in schools and homes. Disclosure of sexual status among the adolescents was also higher because they were pre-selected. Moreover, adolescents in the institutions feel less restricted because many of their friends have engaged in sex. Thus, this activity is considered an acceptable activity among these adolescents.

For this reason, the prevalence of sexual intercourse in this study was higher compared to findings of previous studies conducted among adolescents in schools or homes.

5.2.2 Description of adolescents who have initiated sex

The in-depth interviews and essay writing revealed three distinctive profiles of adolescents who have initiated sexual intercourse. For the majority of adolescents, they were more likely to have caregivers with lower socio-economic status, originate from broken homes or living with both biological parents.

More participants whose caregivers' had low socio-economic status (SES) have experienced sexual intercourse. One study conducted in Belgrade, Serbia, noted insignificant results in terms of parents' SES and adolescents' SRB (Vuković & Bjegović-Mikanović, 2007). However, other studies found that lower SES was associated with adolescents' sexual activities (Langille et al., 2005; Peltzer, 2010; Santelli, Lowry, Brener, & Robin, 2000). It is likely that the lower SES limited adolescents' social and educational opportunities, as well as access to sexual and reproductive health care. These inconveniences, combined with other factors such as peer pressure can somehow motivate them to engage in sex. For some adolescents in the study, earning money to support their individual needs was important, and they did not seem to care much about the type of employment they had as long as it allowed them to earn a living in the shortest possible period of time. Therefore, it can be said that illegal work was chosen due to lack of available options because of their young age, no qualifications as well as limited skills which in turn can mean that these individuals are more vulnerable or open to sexual exploitation.

The qualitative findings also showed that many adolescents who have initiated sex have experienced parental divorce. This finding is similar to those from previous studies conducted among adolescents reporting that family structure, specifically single parent families, contributed to adolescents' sexual experience (Longmore, Eng, Giordano, & Manning, 2009; Joyce et al., 2011). The likely explanations relate to neglect of these adolescents by their single parent. Single mothers for instance are more

likely to work full-time than are mothers in two-parent households, making it easier for adolescents to escape parental surveillance. The disruption of a marriage also creates an entirely different situation for the child. Parents' preoccupation with their ongoing marital problems after the divorce, e.g., the child's/children's custody, can lead to loss of control over their children's behaviour and whereabouts.

Growing up with both their biological parents seemed to promote sexual intercourse. This can be due to factors such as neglect by parents attempting to provide for their children and absence due to multiple works. In addition to that, lack of family core values as well as communication may also encourage adolescents to have sex.

5.2.3 Pathways Related to Adolescents' Sexual Initiation

The qualitative component revealed several notable themes describing adolescents who had experienced sexual intercourse. These themes were distal factors of sexual initiation.

5.2.3.1 Religiousness issues

Although the adolescents were aware of their religion, poor religiosity was reported by half of the participants. This outcome concurs with other studies that reported the relationship between religiosity and sexual activities in adolescents (Edwards, Haglund, Fehring, & Pruszynski, 2011; Kalmuss, Davidson, Cohall, Laraque, & Cassell, 2003; McCree, Wingood, DiClemente, Davies, & Harrington, 2003). Poor religiosity among adolescents in this study may have been contributed by lack of exposure to religious teachings by parents as well as attending religious activities (in the form of mosque, church or temple attendance). Thus, with poor religiosity, adolescents are not being reinforced on the values that motivate sexual abstinence. Furthermore, to adolescents in this study, poor religiosity has led to a lack of faith among them. For this

reason, it could be said that the lack of faith has lessen an adolescent's inner strength, making them vulnerable to negative influences and increasing their susceptibility to sex.

5.2.3.2 History of employment

Many participants reported work experience at one point of their adolescent phase. Studies conducted in several countries indicate that having been employed and involving oneself in sex has been shown to be associated (Rich & Kim, 2002; MPH et al., 2007). As the PBT explains, adolescents who place value on independence, such as having a job, are more likely to take action toward achieving their goals (Rew, 2005). However, this independence also has consequences in regard to the adolescent's involvement in sex because they tend to live on their own. It is also during this employment period that they lack parental supervision and are prone to experiencing peer pressure.

5.2.3.3 Substance use

Many adolescents who have initiated sex reported using substances such as alcohol and illicit drugs. This finding concurs with a recent study observing similar associations (Tegang et al., 2010). One likely explanation is the use of substances to moderate the effects of any psychological disorders. Thus, existing emotional responses and behavioural disorders, such as conduct disorders, can motivate adolescents to engage in sex (Elkington, Bauermeister, & Zimmerman, 2010). Several studies have shown that those with symptoms of conduct disorder exhibited the highest risk of sexual initiation (Cavazos-Rehg et al., 2007; Galera, 2011).

5.2.3.4 Witnessing domestic violence

The experience of witnessing violence makes incarcerated adolescents vulnerable to sex. Involvement in sexual activity is one of the potential effects in children who witness violence (Stiles, 2002). The link between these two variables was

also found in a 2011 study among Finnish adolescents, which reported that witnessing domestic violence and exposure to parental violence was associated with adolescents' sexual activity (Lepisto, Luukkaala, & Paavilainen, 2011). One possible explanation is the emotional and behavioural responses after witnessing such violence towards someone they love. These adolescent witnesses are at a greater risk for internalised behaviours, such as anxiety and depression, and for externalised behaviours, such as fighting, bullying, lying, or cheating (Stiles, 2002). They are also more disobedient at home and at school and are more likely to have social competence problems, such as poor school performance and difficulties in forming relationships with others (Stiles, 2002). To find comfort, adolescent witnesses display inappropriate attitudes about sexual intercourse as a means of resolving conflict and therefore indicate a greater willingness to have sex themselves (Stiles, 2002).

5.2.3.5 Lack of family connectedness

Many incarcerated adolescents who admitted to sexual intercourse described having poor family connectedness. This relationship has been reported by several studies on SRB (Devries, Free, Morison, & Saewyc, 2009; Le Linh & Blum, 2009; Peltzer, 2010). Poor connectedness made adolescents feel lonely, and they were also not given enough attention. These emotional responses caused them to spend more time surfing the Internet and texting. In one study in Turkey, adolescents who reported excessive use of the Internet for web surfing, instant messaging, emailing and online games had a significantly higher mean score for loneliness than those who did not (Erdogan, 2008). As surfing the net exposes the adolescents to current social media networking such as MySpace, Facebook and Twitter, it will eventually introduce adolescents to many unknown individuals. During this time, other forms of online socialising such as 'sexting' (messages of a sexual nature) may also occur. This occurrence could then lead to actually meeting with an online boyfriend or girlfriend,

which might motivate them to have sex. One study in the Netherlands found that both online and offline communication among adolescents was related to the perception that more friends were sexually experienced (Plat, 2013). This, in turn, was associated with a higher probability of sexual initiation (Plat, 2013).

Besides that, the lack of connectedness makes the adolescents in this study feel not obliged to commit to their family's values. Thus, there is not much of guilt in smearing their family's name even if they are involved in sexual activities.

5.2.3.6 Lack of interest in school

Many adolescents who have initiated sex have indicated a lack of interest in school. This poor school connectedness has often been associated with sex among youths (Blum & Ireland, 2004; Markham et al., 2010; McNeely, Nonnemaker, & Blum, 2002; Rink, Tricker, & Harvey, 2007; Saewyc et al., 2009). One possible mechanism to explain the relationship is the stress initiated by family problems. Family problems, such as parental divorce, leads to sadness and depression for some adolescents, and for these adolescents, using illicit drugs and being accepted within their peer group are their only means of escape. These actions allow them to temporarily relieve their hopelessness and stress, make them feel better and help them to survive. Once they have chosen this alternative, school is no longer a priority. The situation worsens if an adolescent feels that the teachers are not showing any concern and support but instead continue to place the blame on them.

5.2.3.7 Peer pressure

Another issue expressed by the adolescents is peer pressure. For these adolescents, they associated with peers who influenced them to use substances such as alcohol, illicit drugs and tobacco. One study among never married youths in Vietnam found that having peers with behaviour that violates cultural norm e.g. substances use

increased the likelihood of a sexual encounter by at least 2.6 times (Le Linh & Blum, 2009). Another study among South African youths also found that peer pressure was a significant factor in adolescents' sexual initiation (Zambuko & Mturi, 2005). Responding to peer pressure is part of human nature, but some adolescents are more likely than others to be influenced by their peers to fit in; they wish to be like the peers they admire, do what others are doing or have what others have. Additionally, some adolescents are more likely to submit to at-risk behaviours, especially those who have low confidence, are new to the group, are unsure of themselves, are unused to peer pressure or tend to follow rather than lead. Using alcohol or drugs also increases adolescents' chances of giving in to peer pressure, as the alcohol impairs their judgement and interferes with their ability to make good decisions. However, if their friends are involved in sexual activities, the likelihood that they will adopt similar behaviours because of peer pressure is higher. The connection between peer pressure and making risky decisions has been studied, and adolescents were found to make riskier decisions when in peer groups than when alone (Gardner & Steinberg, 2005).

In defining the truth behind all the above findings, the methodological triangulation provided some validity. Comparing the findings from the qualitative phase and results from the survey, peer pressure and substance use contributed to sexual initiation among the incarcerated adolescents.

5.2.4 The factors associated with sexual initiation

The bivariate analysis of sexual initiation showed significant relationships between individual, interpersonal, community and societal factors. The individual factors associated with sexual initiation were age, gender, ethnicity, education level, self-esteem, substance use, a permissible attitude toward premarital sex, an inadequate knowledge of sexual health and a history of child sexual abuse. The interpersonal factors that were found to be related to sexual initiation included parental education and

occupation, family structure, parental monitoring, parental trust, negotiated unsupervised time with peers, family connectedness and peer pressure. In terms of community influences, the factors associated with sexual intercourse were geographical location, school connectedness, employment and pornography viewing. Only religion was found to be significantly associated with sexual initiation from the societal level component.

These results were confirmed using multiple logistic regression, which found six variables associated with ever having sex: a history of child sexual abuse, female gender, alcohol consumption, illicit drug use, a permissive attitude toward premarital sex, and pornography viewing.

Sexual abuse during childhood was a strong determinant of sexual initiation among incarcerated adolescents. This result concurs with a previous study showing that incarcerated adolescents who were victims of sexual abuse were more likely to have initiated sex (Polit et al., 1990). In the context of the population of this study, the association might be due to the mixed emotions felt by the adolescents after being sexually abused, and this have caused them to think that having sex was the only solution to this problem. For example, adolescents with a history of sexual abuse initiated sex because they had feelings of powerlessness, guilt, shame, stigmatisation and low self-esteem from the loss of their virginity (American Psychological Association [APA], 2011). Furthermore, they become less assertive and more depressed (APA, 2011). Additionally, these acts against adolescents violated their bodies and minds, obliterating boundaries and driving a deep sense of worthlessness into their emotions (APA, 2011). Consequently, they become more vulnerable and are prone to having inappropriate sexual intercourse (APA, 2011).

The findings also suggested that a permissive attitude toward premarital sex was a risk factor in having sex. Other researchers have found that attitudes toward sex have

an enormous influence on sexual behaviour (Buhi & Goodson, 2007; Meier, 2003; Wong et al., 2009; Yan et al., 2009). The PBT explains this as an attitudinal tolerance of deviance, which refers to the individual's disposition toward behaviour that goes against society's norms (Rew, 2005). This open attitude is also influenced by peers, the media and demographic factors (Rew, 2005).

Consistent with the results of studies from other countries, there was an association between sexual initiation and pornography viewing. Previous findings consistently showed that exposure to sexually explicit content, which results in the desensitisation of one's attitudes and values, influenced adolescents' sexually permissive attitudes (Alexander et al., 2007; Brown et al., 2006; Collins et al., 2004; Ran et al., 2010). The interactive features of online pornographic materials, for instance, are accessible by many adolescents today, especially with the use of smart phones. As many parents are working, the inadequate parental supervision also results in poor control of access to pornographic websites. Also, for most adolescents who spend most of their leisure browsing the internet will often come across with pornographic materials. Adolescents get stimulated when they view pornography. This situation will induce a sexual fantasy with a partner that they want to have sex with, which will influence them to initiate sex when given the opportunity.

This study found that the use of substances such as alcohol and illicit drugs were associated with having sex. Studies of sexual activities among adolescents have reported that substance users were more likely to engage in sexual intercourse than non substance users (Morojele, Brook, & Kachieng'a, 2006; Rosengard et al., 2006; Lee et al., 2006; Alemu et al., 2007; Frank, Esterhuizen, Jinabhai, Sullivan, & Taylor, 2008; Khasakhala & Mturi, 2008; Wong et al., 2009; Calafat, Juan, Becoña, Mantecón, & Ramón, 2009). Alcohol is an intoxicating drug that depresses the central nervous system, impairs functional brain activity and changes thought processes and feelings

(Hamilton, 2010). Adolescents are more vulnerable to the effects of alcohol consumption because they have not acquired a physical tolerance to alcohol and lack drinking experience (Zeigler et al., 2005). They may, therefore, be more susceptible to initiating sexual intercourse (Zeigler et al., 2005). Similarly, the use of drugs can cause a lack of specific reasoning processes, inhibition and physical coordination in the individual (Rew, 2005), which could eventually motivate adolescents to have sex or use drugs as a strategy to obtain sex from their partners ("Substance Use and Risky Sexual Behavior: Attitudes and Practices among Adolescents and Young Adults," 2002).

The current study showed that female adolescents were more likely to have engaged in sex as compared to males. Very few studies have explained this occurrence. One study in the Philippines found that girls are more likely to initiate sex because they progress faster through the sequence of emotional relationships while boys do not (Upadhyay, Hindin, & Gultiano, 2006). Also, within the juvenile justice system, girls are more likely than boys to suffer from psychiatric disorders, such as post-traumatic stress disorders, and internalising emotional disorders, such as depression (Cooney, Small, & O'Connor, 2008). These disorders have been shown to be associated with sexual activity (Wilson, Asbridge, Kisely, & Langille, 2010). Several other studies have explained why boys are more likely to initiate sex. According to one study carried out in Brazil, one of the reasons male adolescents are more likely to initiate sex is because they believed that sex is an uncontrolled instinct for them (Borges & Nakamura, 2009). Additionally, males found it easier to participate in sexual intercourse without an emotional commitment when compared to females (Carroll, Volk & Hyde, 1985).

5.2.5 Perceptions of the factors that have influenced adolescents' sexual initiation

Analysis of the qualitative component revealed various proximal factors that influence adolescents' sexual initiation. From the analysis, several key findings were

revealed and when taken together, locate the initiation of intercourse within the individual and interpersonal influences.

5.2.5.1 "Sex as an expression of love"

The in-depth interviews and essay writing revealed "sex as an expression of love" as a predominant theme. This finding is similar to previous studies that highlighted the reason for engaging in sex was to show affection or express their love (Borges & Nakamura, 2009; Kempadoo & Dunn, 2001; Low et al., 2007; Marston & King, 2006; Ng & Kamal, 2006; Patrick et al., 2010). In one of the studies, 14 to 18 year old, Brazilian female adolescents have reported that sex is closely associated to love and desire (Borges & Nakamura, 2009). Comparable to the motivational-instigation structure within the personality system of problem behaviour, adolescents who value affection are exposed to pressures that lead to the urge to engage in sexual intercourse (Rew, 2005). One probable explanation is their inner drive. Like any other adolescent, they have sexual interests and feelings and deeply require love and affirmation. Consequently, these individuals can become emotionally and sexually attracted to others around them and drawn toward physical intimacy. For these adolescents, the lack of supervision, religious education and peer pressure makes them more susceptible to sexual temptation.

5.2.5.2 Partners' influence

Another dominant theme voiced by the adolescents regarding their first sexual encounter was "partner influence". Similar findings were noted by previous investigators (Cakwe, Parikh, Bachman-DeSilva, Quinlan, & Simon, 2005; Kempadoo & Dunn, 2001; Skinner et al., 2008; Sujay, 2009). For example, one study among Australian female adolescents reported that they experienced their first sexual encounters early because of their partners' wishes (Skinner et al., 2008). For these

females, it was important for them to be able to sustain the relationship instead of negotiating the decision to have sex (Skinner et al., 2008). In the context of the population of this study most adolescents claimed that there was direct pressure from another person who wanted a sexual experience or an invitation from a willing potential partner. For females in particular, resistance to males may be lowered by a need for closeness and acceptance and the mistaken belief that physical intimacy will secure a man's love. It is different for certain male individuals for whom sex is meant to compensate for all the good deeds the partner has performed for them. For instance, one male adolescent admitted to initiating sex because he felt indebted to his partner for saving him from his unfortunate life.

5.2.5.3 The inability to control one's sex drive

Many participants stated their inability to control their sex drive as one of the reasons for having sex. A similar finding was reported in one study in which adolescents reportedly had more intense sexual urges and felt it was difficult to ignore them (Papathanasiou & Lahana, 2007). For adolescents in this study, this urge was also influenced by other issues, such as poor religiosity, low parental monitoring and permissive attitude, as well as underestimating self-risk and its adverse consequences. Because of poor religiosity, adolescents lack the negative feedback that stops them from indulging in sex. This problem is further complicated by low monitoring from parents and permissive attitudes toward having a serious romantic relationship at an early age. Their poor knowledge of sexual health also causes them to take the cost of having early sex lightly.

5.2.5.4 Family issues

Adolescents also gave the perception that family issues were another reason for initiating sex. For females in particular, they reported feelings of neglect, being uncared

for and awkwardness. Additionally, going through stressful times such as domestic violence has forced them to relieve the stress through sex. Focus group studies conducted among Malaysian boys aged 13-17 years have revealed that family tension is one of the reasons for adolescents having sex (Low et al., 2007). One longitudinal study conducted in the United States found that adolescents with a history of neglect were 2.12 times more likely to have had sexual intercourse than comparison adolescents (Black et al., 2009). The association between family matters and sexual initiation among the incarcerated adolescents is likely the result of a lack of appropriate supervision, which has most likely allowed access to pornographic materials. Thus, adolescents who are bored will draw on sexual intercourse as an excuse for them to release tension concerning family problems.

5.2.5.5 Curiosity

Several adolescents spoke of their curiosity and wanting to know what sex feels like as an important motivator at the time they initiated sex. Previous studies have reported that sexual experimentation in adolescents was influenced by curiosity (Low et al., 2007; Okafor & Obi, 2005). In one of the studies, Malaysian boys aged 13-17 years reported in focus group discussions that their sexual experience was due to their inquisitiveness (Low et al., 2007). This finding may possibly be the result of the sexual content in movies, music, magazines and television, as well as the Internet, which provides adolescents with unlimited access to information on sex and a supply of people willing to discuss sex through chat rooms. Sexual messages in the mass media have immediate and long-term effects. According to Zillmann's arousal theory, immediate effects in an individual's behaviour will follow if television content produces emotional and physiological arousal (Zillmann, 1983). Because arousal is non-specific, the behaviour will become sexual depending on both the personality of the viewer and the environmental circumstances (Zillmann, 1983). Theories based on observational

learning emphasise the long-term effects of exposure to media content. In keeping with Bandura's observational learning theory, children will learn not only the techniques of sexual behaviour but will also learn the contexts, motives and consequences (Bandura, 1986). Children do not usually act instantly on what they learn from television; instead, they store such knowledge to be used when their own situation permits it (Bandura, 1986).

5.2.5.6 Peer pressure

Peer pressure was another important factor perceived by the adolescents to directly influence their first sexual initiation. This relationship has been noted by several earlier studies (Alemu et al., 2007; Borges & Nakamura, 2009; Skinner et al., 2008). In one study among 14- to 18-year-old Brazilians, the findings from focus group discussions revealed that the pressure to initiate sexual life in the case of males came from their peers (Borges & Nakamura, 2009). Similarly, in-depth interviews performed among Ethiopian adolescents found that sexual intercourse usually began because of peer pressure (Alemu et al., 2007). For incarcerated adolescents, problems at home drive them to frequent social interactions with peers. As adolescents, they are struggling to define their own identities, remain unsure of who they are, are self-conscious and are curious about how others behave. It is normal to try to understand themselves by looking at their friends to see how others resolve the same issues. Thus, for adolescents who befriend those who engage in sexual activities, the possibility of being pressured to do the same is higher.

5.2.6 First sexual experience

The qualitative component revealed a description of adolescents' first sexual experience. From the IDIs and written essays, adolescents illustrated their experiences

in terms of their sexual partner preferences, the location where they had sexual intercourse and the emotional impact of the experience.

5.2.6.1 Sexual partner preferences

Both male and female participants preferred having their friends or somebody they knew as their choice of first sexual partner. Friends in this context refer mostly to their romantic partners. Similar choices for first sexual partners were found in a study where most adolescents reported that their partners were their boyfriends or girlfriends (Pettifor, O'Brien, Macphail, Miller, & Rees, 2009). Most adolescents make this choice because of the trust that has developed between them, and trust is easily gained from individuals they have known for a while. Once trust has been formed, both individuals will feel comfortable in performing sex. However, a few adolescents admitted having sex with a partner who was not within their circle of friends, with strangers or with people they have met at random. For some, this was a good option for them, as the intention was only to experience sex and not to move into the next level of a relationship.

In terms of age, most females favoured an older sexual partner, and one likely explanation is for emotional security. Older men know what they want and are more decisive and mature. Young men are predominantly unstable in regard to relationships. For this reason, young females can depend on older men for security. As for males, partners of the same age or younger are preferable because being a male, they would like to feel dominant and dictate the relationship rather than being dictated to by the female counterpart. These preferences by females and males are supported by a previous study in which most of young men's first partners were the same age or younger, whereas young women's first partners were generally 1–4 years older (Kempadoo & Dunn, 2001; Pettifor et al., 2009).

5.2.6.2. Location of first sexual experience

The home emerged as a prime location for the participants to have their first intercourse. Both genders were more likely to choose this option because it was the fastest, easiest and cheapest way to get a place with familiar surroundings and was comfortable. This finding concurs with focus group discussions conducted among adolescents in Jamaica, who indicated that their residences were the main site for sexual initiation (Kempadoo & Dunn, 2001). One recent study in Indonesia reported that approximately 60% of adolescents who were involved in premarital sex did it within their own residence ("Adolescent Sexual Dare Do At Home", 2012). Although having sex in hotels is an option, money would be an issue and may put them at risk if somebody reported them to the law enforcement agencies. Another likely reason for having intercourse at home is the privacy that teenagers often get when their caregivers are preoccupied with work or other social obligations. This poor monitoring motivates them to bring friends of the opposite sex into their bedrooms.

5.2.6.3 The impact of first sexual intercourse on adolescents

A majority of the participants admitted to regretting their actions after their first intercourse. This finding is similar to findings in a recent study conducted in three developing countries, the Philippines, El Salvador and Peru (Osorio et al., 2012), where more females stated feeling regret after they had sex (Osorio et al., 2012). A likely explanation is that an adolescent's first intercourse experience is often motivated by situations that weakened their control over their decisions concerning sex. These situations include love, partner insistence and sexual arousal. Feelings of regret occurred after they were able to think straight and were no longer influenced by the strong desire to have intercourse. Often, they will feel regret when they picture themselves pregnant and having a child or getting caught by parents or teachers; for girls, the fear of losing their boyfriends may also lead to regret. The lack of

communication or discussion in terms of protection prior to having sex also contributed to regrets after having sex.

However, for some adolescents, they could not stop having sex after the first time. Although they regretted it, they still continued their sexual activities. This effect is likely a result of factors such as constant pressure by a partner and getting carried away by stimuli through viewing pornography. Additionally, the lack of healthy activities will leave them feeling bored and having sex could actually fill in their monotonous daily schedule. Having poor religiosity could also make adolescents lose their conscience.

5.3 Sexual-risk Behaviours among Incarcerated Adolescents

5.3.1 Prevalence of sexual-risk behaviours

The study also showed that SRBs such as early sexual debut (sexual intercourse initiation before the age of 16), multiple sex partners, non-contraception use and having a high-risk sex partner are common among adolescents in welfare institutions. In this study, 76.0% of the adolescents reported an early sexual debut i.e. 14 years old, and female adolescents were four times more likely than males to report an early sexual debut. A study conducted among 39 juvenile correctional facilities in the US reported that 62% of the adolescents initiated sex by the age of 12 years (Morris et al., 1995). This result is also consistent with the results of a recent study conducted among incarcerated female adolescents in the US in which more than 30% of adolescents engaged in sexual intercourse before the age of 16 years (Caminis et al., 2007). However, findings from studies conducted among adolescents in the general population showed different results in terms of percentages and gender differences. In the US, approximately 7.1% of American youth reported sexual debut prior to age 13 years, with more male than female youths reporting an early sexual debut (Cavazos-Rehg et al., 2009). In Norway and Africa, however, an early sexual debut was reported by 25%

and 27.3% of adolescents (Peltzer, 2010; Valle et al., 2005), respectively. The gender difference in the Norway and Africa findings was consistent with the US results in which more boys reported an early sexual debut (Peltzer, 2010; Valle et al., 2005). The findings in the current study however were different for various reasons: the cut-off point for early sexual debut in the US was lower, i.e., 13 years, when compared to the current study, more females than males reported a previous history of sexual intercourse and the different settings in which the studies were conducted, i.e., institutions vs. in-school teenagers.

In this study, among the sexually experienced adolescents, 64.4% reported having sex with more than one partner. Similarly, in the US, adolescents placed in juvenile correctional facilities were more likely than adolescents in the general population to report four or more lifetime sexual partners (Committee on Adolescence, 2011). In the general population however, only 13.8% of youths from the Youth Risk Behaviour Surveillance System (YRBSS) reported having multiple sexual partners (CDC, 2009d). In Thailand, a recent survey found 39% of sexually active young Thai individuals reported having had two or more sexual partners (Rasamimari et al., 2007). The higher prevalence of multiple sex partners among adolescents within institutions may be because of differences in definitions, setting and study populations across the different studies. In the US, for instance, multiple sexual partners is defined as sexual intercourse with four or more persons. However, the current study used a definition of sexual intercourse with more than one person (CDC, 2009d).

Approximately 19% of Malaysian adolescents in welfare institutions in the current study reported not using contraception during their last intercourse experience. Studies among adolescents in juvenile facilities found that many reported inconsistent condom use; less than a third of those in juvenile detention in the US reported using a condom (Morrison, Baker, & Gillmore, 1994). This result is consistent with previous

findings that reported Malaysian adolescents as having poor use of contraception: only 37% of sexually active respondents used contraception (Lee et al., 2006), while another study reported 72% did not use contraception during their first intercourse experience (Zulkifli & Low, 2000). The situation is similar in Thailand: 28.3% of individuals reported that they never used condoms at the beginning of their sexual relationship (Khumsaen & Gary, 2009). In the US, however, condom use has increased over the years and was reported at 61.1% in 2009 (CDC, 2009d). In the US, buying condoms is strongly encouraged by parents and taught in schools to reduce health risk behaviours among young individuals (Franzetta, Terry-Humen, Manlove, & Ikramullah, 2006). In Malaysia, the use of condom is not widely publicised. Although condoms are easily available from shops and pharmacies, Malaysian teenagers, in particular, are uncomfortable purchasing them for reasons related to their culture and religion. In the context of the population of this study, several reasons were gathered during the qualitative phase. The incarcerated adolescents were not using condoms due to worried about lessened sexual pleasure, refusal to have a discussion regarding condom use with their sexual partners and poor understanding on the importance of using condoms.

In this study, 30.2% of adolescents claimed to have unprotected sex with high-risk sexual partners, such as sex workers and same sex partners (young men having sex with men). In Malaysia, the availability and accessibility of sexual health information related to the non-heterosexual community is limited, as open expression of homosexuality is not considered acceptable and is socially prohibited. As a result, these individuals are hard to reach for SRH programs, specifically which addresses the negatives outcomes of high risk sexual behaviour. However, a review of SRH among the youths in Malaysia revealed that 27% of out-of-school males reported that their first sexual encounter was with a prostitute (WHO, 2005). This finding is comparable to results of the current study, as out-of school youths are considered a high-risk group

similar to incarcerated adolescents. In the general population, however, the prevalence is lower. A national study carried out in Malaysia reported that the prevalence of homosexuality in males and females between 15 – 19 years of age was 10.1% and 7.6%, respectively (IPH, 2008). In the United States, the national prevalence of sexual behaviour among same-sex partners in females aged 15 – 19 years has remained at 11% from 2006 to 2008 (Chandra et al., 2011). In more developed countries, such as the US, and with modernisation, MSMs are more open about their sexual orientation as the society accepts their presence. Thus, access in understanding to an individual's sexual orientation is uncomplicated compared to that in Asian countries.

5.3.2 The factors associated with sexual-risk behaviour

This study further demonstrated the prevalence of SRBs as a collective of its components. In this study, 55.1% of adolescents were found to have engaged in SRBs. The bivariate analysis showed that some of the individual, interpersonal, community and societal characteristics had significant associations with SRBs. For the individual component, the related characteristics were age, gender, ethnicity, education level, self-esteem, satisfaction with life, substance use, attitude toward premarital sex, knowledge of sexual health and child sexual abuse. For the interpersonal component, variables such as parental education, parental occupation, family structure, parental monitoring and trust, as well as peer pressure, were related to SRBs. SRBs were also influenced by community and societal factors. Community factors included geographical location, school connectedness and watching pornography, while societal factors consisted of religion and religiosity. The multiple logistic regression analysis corroborated some of the findings of the bivariate analysis, indicating that the strongest factor was a permissive attitude toward premarital sex, followed by a history of child sexual abuse and ever viewed pornography. Other factors included alcohol consumption, living with biological parents, female gender as well as an adequate knowledge of sexual health.

An analysis showed that a permissive attitude toward premarital sex was associated with SRBs. Other studies have found that this attitude has an enormous influence on an individual's sexual behaviour (Aitken, 2005; Puffer, 2011; Wang et al., 2007; Wong et al., 2009; Yan et al., 2009). The present findings confirm that adolescents holding an open attitude toward sex are more likely to engage in SRBs. This attitude has been increasingly influenced by the gradual openness about sex in cinemas, video music, television, magazines and other entertainment media over the last two or three decades. Such influences make adolescents more adventurous about sex than ever before.

The evidence from across studies suggests that individuals with a history of child sexual abuse were more likely to engage in SRBs (Champion, 2011; Lalor, 2010). The present study supported this finding and can be further explained by the resulting emotional responses, such as avoidance and unresponsive, that is experienced by those with post-traumatic stress disorder (Clum et al., 2009). These responses appear to precipitate engagement in sexual encounters that maintain abuse-related symptoms, increasing the sense of power and control, but in themselves constituting risk (Clum et al., 2009). For example, individuals with a history of trauma have been shown to have sexual risk behaviour through increase fearfulness of condom-use negotiation, less control in relationships, less efficacy in negotiating condom use and norms that do not support healthy sexual relationships (Clum et al., 2009).

This study affirms a previous study that found that exposure to sexual content or pornography was a predictor of adolescents' sexual behaviour (Brown et al., 2006; Collins et al., 2004; Mattebo, Larsson, Tydén, Olsson, & Häggström-Nordin, 2011; Oyediran, Feyisetan, & Akpan, 2011). This relationship most likely arises from the fact that many parents rarely talk in a timely and comprehensive way with their children about sex. Some prefer not to discuss on it at all. In addition, schools are increasingly

limited in what they can say, as they are guided by the Federal Government, especially when discussing culturally sensitive topics. Thus, teenagers will turn to conventional sexual socialisation agents such as mass media (e.g., television, movies, music and magazines), which may be a powerful sex educator because it provides frequent and compelling portraits of sex as fun and risk-free. Additionally, the media may serve as a type of sexual super-peer for teens, providing models of attractive older adolescents engaging in risky behaviour that may not be condoned in the teen consumer's own peer group.

Alcohol consumption was associated with SRBs, and this finding is similar to results from other countries which showed that adolescents who drank alcohol were more likely to engage in SRBs compared to those who did not drink (Gómez, Sola, Cortés, & Mira, 2007; Kuzman, Simetin, & Franelić, 2007; Owoaje & Uchendu, 2009; Twa-Twa et al., 2008). For example, a cross sectional study conducted among Nigerian street youths found that alcohol use was significantly associated with multiple partnering and inconsistent condom use (Owoaje & Uchendu, 2009). Similarly, one study carried out among in school adolescents in urban areas of Uganda reported that those who ever got drunk had two or more sexual partners and less likely to ever used a condom compared to those who had never got drunk. One theory implies that alcohol may enhance sexual desire and result in impaired judgement (Grossman & Markowitz, 2005), which could increase the likelihood that condoms and other birth control methods may not be used. However, according to the PBT, the two outcomes are manifestations of a common personality trait (Rew, 2005). This suggestion implies that SRBs and alcohol use are associated only because both are associated with an unmeasured third variable, such as a thrill-seeking personality (Rew, 2005).

Previous studies have shown that adolescents living with no parent or with single parents (due to deaths or divorce) are more likely to engage in SRBs compared to

those living with both parents (Lathem, 2009; Miller, Benson, & Galbraith, 2001; Nyirenda, McGrath, & Newell, 2010; Peres et al., 2008; Vukovic & Bjegovic, 2007). For instance, one study in rural South Africa found that death of mother for adolescent girls was associated with increased vulnerability to earlier sexual debut (Nyirenda, McGrath, & Newell, 2010). However, interestingly, the current study found contrasting results, whereby adolescents who engaged in SRBs came from a complete family structure. This finding concurred with one study performed in Slovakia that indicated that one of the characteristics of female adolescents who reported unsafe sex was having an intact family (Kalina et al., 2011). In this study, the finding may be partly the result of incarcerated adolescents' poor parental monitoring, which may result in more time spent with peers. Thus, the strong influence of peers who practice SRBs will easily shape this behaviour.

Among adolescents who have initiated sex, females were more likely to experience SRBs. This finding concurs with recent SRBs research in Slovakia and the Congo (Kalina et al., 2011; Kayembe et al., 2008). One recent study conducted among female adolescents in the United States observed that more than 40% of vaginal sexual acts were not condom protected, and approximately 31% of individuals had more than one sex partner (Morrison-Beedy, Carey, Crean, & Jones, 2011). One suggested reason for this finding proposed in one of the studies was that females were found to have little negotiating power, as protective behaviour during sex was up to males and whether they were agreeable to using a condom (Saranrittichai et al., 2006).

Prior research has shown that an inadequate knowledge of sexual health is associated with SRBs (Rasamimari et al., 2007), but in this study, it was interesting to note that adolescents with adequate knowledge were more likely to engage in SRBs compared to those with inadequate knowledge. This finding is partly confirmed by a study conducted among African-American adolescents in the United States in which

little support was obtained for HIV knowledge as a protective factor of SRBs (Andersson-Ellstrom & Milsom, 2002; Bachanas et al., 2002; Liu et al., 2006; Wang et al., 2007; Yan et al., 2009). This finding could be the result of insufficient information, inaccuracy and miscommunication in relaying the knowledge, as well as misunderstanding the information on sexual health. Some adolescents may have difficulties in identifying with the problems that could emerge from engaging in SRB. However, upon reflecting on adolescents' SRBs in the in-depth interviews, it was their lack of knowledge on sexual health that contributed to non-condom use during their first sexual intercourse. This lack of knowledge led to poor judgement, especially when their partner disapproves of or assumes less sexual pleasure when they wear condoms. Additionally, some adolescents may perceive a low risk of getting STIs.

5.3.3 The factors associated with sexual-risk behaviours by gender

5.3.3.1 Male adolescents

A bivariate analysis showed that many factors of SRBs among male adolescents came from the individual component of the SEM. The variables found to be significantly associated with SRBs in males were age, highest education level, satisfaction with life, smoking, substance use, attitude toward premarital sex, knowledge of sexual health and child sexual abuse. Results from the multiple logistic regression supported the bivariate findings, indicating that the associated factors of SRBs in males were ever used illicit drugs, a permissive attitude toward premarital sex, a history of child sexual abuse and viewing pornography.

Two noteworthy factors associated with SRBs among males are illicit drug use and pornography. Among the male adolescents, those who were exposed to pornography were 3.2 times more likely to engage in SRBs compared to those who were not exposed. This association has been reported by other studies (Luder et al., 2011; Njue, Voeten, & Remes, 2011; Wong et al., 2009). Boys exposed to pornography

were more likely to have greater sexual desire, and viewing pornography was described as stimulating, arousing, cool or exciting (Svedin et al., 2011). This greater desire can affect their moral judgement, especially when watching or reading portrayals of sexual relations involving multiple partners or the non-use of condoms. To adolescent boys, this erosion of moral judgement will result in them becoming more accepting of SRBs, eventually permitting the behaviour.

The influence of drugs on male adolescents' SRBs can be explained by their high level of sensation seeking (Hansen & Breivik, 2001), which has been directly linked to the increased likelihood of drug use and the subsequent influence on SRBs among boys, as was found in this study (Anteghini, Fonseca, Ireland, & Blum, 2001; Morojele, Brook, & Kachieng'a, 2006; Stanton et al., 2001; Yanovitzky, 2005). For incarcerated adolescents in particular, previous studies have shown that they were more likely to adopt high risk behaviour such as substance use ("The Health and Well-being of Incarcerated Adolescents," 2011), especially when influenced by factors such as peer pressure and family dysfunction according to the qualitative findings in this study. For these reasons, they are more likely to engage in SRBs.

5.3.3.2 Female adolescents

For female adolescents, several associations were observed from the univariate analysis. Within the individual component, variables found to be significantly associated with SRBs were age, ethnicity, highest education level, self-esteem, substance use, attitude toward premarital sex, knowledge of sexual health and a history of child sexual abuse. The interpersonal variables found to be significantly associated with SRBs were parental education level, family structure, parental monitoring, parental trust and family connectedness. In terms of community factors, geographical location, school connectedness, previous employment and pornography viewing were related to SRBs. Within the society component, only religion was associated with SRBs. The

variables analysed in the multiple logistic regression analysis revealed that a history of child sexual abuse was a strong contributor to SRBs. However, other variables were also found to be associated with SRBs for females: secondary education, high family connectedness, alcohol consumption, adequate knowledge of sexual health, originating from a rural area, low self-esteem and lack of parental trust.

Compared to male adolescents, different variables were found to be associated with SRBs in females. In females, a history of child sexual abuse is strongly associated with SRBs. Female adolescents with a past history of child sexual abuse have been reported in earlier studies to be at risk for engaging in SRBs (Haydon, Hussey, & Halpern, 2011; Lopez et al., 2011). One recent study revealed that sexual preoccupation among females who have experienced maltreatment can mediate the relationship between psychological dysregulation and SRBs (Noll, Haralson, Butler, & Shenk, 2011) because maltreated females may have difficulty in regulating their affection (Noll et al., 2011). This effect, when coupled with the tendency to entertain sexual thoughts and consume sexually explicit materials, may increase the likelihood that they act on sexual impulses and engage in SRBs (Noll et al., 2011). Another possible explanation for engaging in SRBs among female adolescents is their unconcerned attitude towards themselves. This attitude was explained by several female adolescents during the qualitative phase when they admitted that it was pointless to refrain from sex as they had already lost their virginity after being victims of rape. For these adolescents, they felt so degraded by the experience that they felt that this was all they are good for now.

In the present study, female adolescents with a secondary education were 3.2 times more likely to engage in SRBs compared to those who studied up to the primary level. This result agrees with an earlier study that found similar results in which having a middle-school education was one of the most important factors in the initiation of early sex, i.e., sex before age 16 (Rwenge, 2000). Many girls have now begun

experiencing puberty prior to entering secondary education (Downing & Bellis, 2009). The experience of puberty further promotes one's sexual development, and this process will continue (Rew, 2005). Thus, girls who have begun puberty early will be more likely to initiate sex while in secondary education. This finding concurs with studies showing the relationship between adolescents' pubertal development and SRBs (Downing & Bellis, 2009).

The current study found that female adolescents with high family connectedness were more likely to engage in SRBs, which is different from a review study demonstrating that lower family connectedness was associated with SRBs and higher connectedness was a protective factor (Miller et al., 2001). The distinctive finding in this study is likely the result of several factors. First, the subjects were recruited from juvenile institutions. These subjects are more vulnerable, as they have been exposed to risk factors such as illicit drug use and peer pressure, thus making them prone to risky behaviours. Second, although female adolescents who engaged in SRBs shared the perception of good family connectedness, parental monitoring may have been compromised. Finally, their behaviour in front of their caregivers is most likely more controlled, giving their parents the impression of obedience. This attitude will then encourage a better relationship between parent and child.

Another factor contributing to SRBs among female adolescents is alcohol consumption. In this study, female adolescents who drank alcohol were 2.50 times more likely to be involved in SRBs compared to those who never drank. A similar finding was reported in one study in the United States that utilised secondary data from previous YRBSS and found drinking alcohol to be positively related to the probability of having multiple partners for females (Grossman & Markowitz, 2005). In another related study, it was also found that girls with multiple partners reported that their recent sexual experiences were more likely to involve alcohol use (Morrison-Beedy et al., 2011).

Alcohol has been associated with a reduction in cognitive functioning, particularly for tasks of spatial working memory (SWM), such as logic and reasoning. One study found that alcohol can affect adolescents' neuromaturational processes during this developmental period (Squeglia, Schweinsburg, Pulido, & Tapert, 2011). Girls who were binge drinkers showed less SWM activation than controls, making them more vulnerable to the neurotoxic effects of heavy alcohol use during adolescence (Squeglia et al., 2011). Thus, the reduction in logical thinking and reasoning makes them vulnerable to SRBs.

Interestingly, having an adequate knowledge of sexual health was related to SRBs. This result was further explained by the qualitative findings. Despite the sexual and reproductive health education in her school, one female girl admitted to having unprotected sex the first time she initiated it. In part, the knowledge gathered somehow increased her and her male partner's curiosity. One study in Nigeria found that the urge to have sex and curiosity tended to favour sexual experimentation, such as multiple sexual partners and no condom use, in male undergraduate students. Regardless of a good knowledge of the complications that could follow SRBs, the students tended to continue with such behaviours (Okafor & Obi, 2005).

Female adolescents who came from rural areas were two times more likely to be involved in high SRBs compared to those who came from urban areas. This result is consistent with a study in Kenya that showed that for young women, sexual behaviour was more risky in rural than in urban areas. They reported a higher number of lifetime partners and less consistent condom use with non-spousal partners (Voeten, Egesah, & Habbema, 2004). However, one study in the United States stated that rural adolescent females did not differ from non-rural adolescent females for any of the SRBs (Crosby et al., 2000). The increased likelihood of SRBs among girls from rural areas could be the result of rising social problems among adolescents. In Malaysia, these social problems

have been identified within the young FELDA settlers. The lack of youth facilities in FELDA has most likely led to boredom and engagement in substance use (Ismail, Kamaruddin, & Nordin, 2010). Rural adolescents who reported the use of substances were more likely to engage in SRBs (Yan et al., 2007). Low parental monitoring and religious faith among the family members may also have influenced the adolescents' attitude toward premarital sex. Additionally, other problems among FELDA youth communities, such as sexual abuse and pornography viewing, have been associated with SRBs among adolescents.

Female adolescents with low self-esteem were more likely to practice SRBs in contrast to those with high self-esteem. This finding was not found in a study carried out among female Slovakian students, which reported no significant association between self-esteem and SRBs (Kalina et al., 2009). However, several other studies have identified low self-esteem as a determinant of SRBs (Ethier et al., 2006; Wild, Flisher, Bhana, & Lombard, 2004). Studies in a wide range of Western countries have determined that adolescent females, on average, have lower self-esteem than males (Baumeister, 1993; Pipher, 1994). A local study on self-esteem among Malaysian adolescents also showed that female adolescents were more likely to have low self-esteem in contrast to males (Yaacob, Juhari, Talib, & Uba, 2009). In this study, the adolescents' low self-esteem could result from the lack of consistent communication, support and encouragement by parents and other adult role models. This issue can create further problems if they have peers who practice SRBs. Having low self-esteem can make them more vulnerable to SRBs as they compare themselves and feel the need to experience sex to conform to the group.

As reported in this study, female adolescents who have a perception of low parental trust were more likely to engage in SRBs compared to those with a higher perception. One study identified parental trust as an extremely important factor in

sexual behaviour among females (Borawski et al., 2003). The lack of parental trust means limitations on an adolescent's freedom and may put her in a position where she feels she has to lie to have any excitement and do the things her peers are able to do (Lehnert, 2007). This repeated lying, together with other features of conduct disorder, can motivate them to engage in SRBs (Hall, Holmqvist, & Sherry, 2004). Additionally, female adolescents in the context of this study engaged in SRBs as a form of rebellious act towards parents who do not trust them.

5.4 Recommendations

Based on the findings of this study, the following recommendations are made.

5.4.1 First sexual experience

The context of friends and home seemed to have an impact on adolescents' initiation of sex. Thus, parental monitoring is important in ensuring that adolescents are engaging with a decent group of friends. Monitoring becomes especially important when adolescents are left at home by themselves.

To be effective at monitoring their teenagers, parents should have good, open and caring relationships with their adolescents but at the same time be firm on certain issues that involve at-risk behaviours. Parents should discuss rules and expectations with their teenagers and explain the consequences for breaking the rules. It is important for parents to know whom their teenagers are friends with and what activities or plans they have after school. Parents also need to be informed about when adolescents will come home and should expect a call if the adolescents are late. If their teenager is visiting a friends' house, parents should ensure an adult is present. It would also be better to get to know the parents of their teenage friends, as well as their teenagers' boyfriend or girlfriend, advising them that there are limits to their relationship with which they need to comply. Also, it is a fine idea for parents to have night-time curfews

for their adolescents because it teaches them to be responsible and also considerate of other people around them and more time will be spent at home.

Parents must exercise caution when leaving their teenagers at home. Thus, parents must consider getting an adult to supervise the adolescents. Additionally, relatives, neighbours and teachers should be informed of parents' absence and should be asked to observe the teenagers' behaviours. If parents need to be away for some time, it is also important that they keep track of their teenagers by calling, emailing and texting.

5.4.2 The pathways related to adolescents' sexual initiation

The process of sexual initiation among the incarcerated adolescents contained several related pathways. Based on each pathway, the following recommendations on preventing sexual initiation amond adolescents are hereby made.

5.4.2.1 Substance use

Figure 4.4 illustrates the recommendations in terms of individual and environmental factors that can be adopted in order to change the current perception and practices towards substance use. Parents must set rules and protect their children from the harmful effects of substance use. This includes setting a good example; restricting access to addictive substances; consistently enforcing rules; monitoring their children; getting help and requiring that their health care providers address this issue during their routine professional care. Health care professionals have an obligation to address health problems that may arise from using substances. Their role is to educate, prevent, screen, diagnose, treat or refer for specialty care. Policymakers can reduce the cultural influences of substance use by implementing public awareness campaigns; curbing teenagers access to addictive substances by raising taxes on tobacco and alcohol products, expanding tobacco bans and limiting adolescents' exposure to tobacco and alcohol advertising. They also can use the influence of government agencies to increase

access to quality prevention and treatment services for adolescents—particularly those at high risk; support research on prevention and treatment for teenagers; and improve reporting requirements and data collection for substance related accidents and mortality.

School is the place where adolescents spend most of their time. Educators can reinforce the health message by educating parents, students and community members that adolescents' substance use is a preventable public health problem and addiction is a treatable disease. Teachers can help to look for signs of problem and help can be sought for students who need it. Further review of school curriculums and teacher training could be developed to include the latest information on the harmful effects of smoking, alcohol and drugs. Additionally, programmes should include risk reduction skills to eliminate substance use among adolescents. The risk reduction skills will provide adolescents with information about the dangers of substance use as well as improve their decision making, communication and assertiveness skills. Thus, this will empower adolescents to take responsibility and avoid using harmful substances.

Media organizations have an obligation to help promote healthy, adolescent behaviour. This can be done by finding creative ways to relay messages that discourage adolescent substance use, one of which is by eliminating marketing efforts that make addictive substances appear attractive. In addition to that, television companies may initiate youth clubs that use events, programs and activities which aim to reduce substance use by promoting the health and well being of adolescents.

Researchers can help to increase people's understanding of the causes and consequences of adolescents' substance use by developing and conducting studies on prevention programs tailored to adolescents and explore best practices for implementation and finding a treatment for addiction.

As an individual, adolescents must be responsible for their own health. This can be done by empowering themselves with accurate information about the causes, effects

and consequences of substance use, similar to an awareness program which has been carried out by the Ministry of Health's PROSTAR (Healthy Living without AIDS for Youth Program). Additionally, adolescents can encourage their friends to be healthy, safe and help those who are in trouble for using substances.

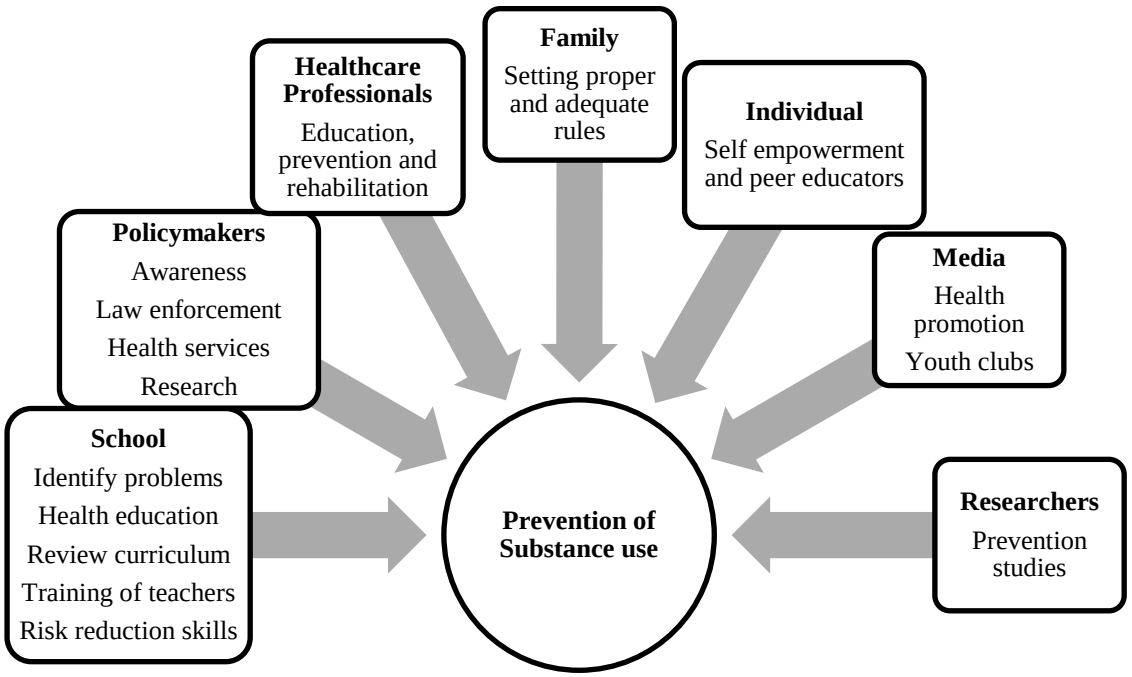

Figure 5.1: A framework on recommendations to prevent substance use

5.4.2.2 Poor religiosity

Issues regarding religion were brought up mostly by Muslim adolescents who admitted to incomplete daily prayers and having a lack of faith. All parents, regardless of their religious beliefs must expose their children to religious or moral education from young ages, including sending them to classes that provide them with all of the necessary knowledge. As responsible parents, they should also teach their children proper religious and moral values at home. Teachers as well as moral and religious educators must also constantly remind their students to behave well and avoid risky behaviours.

5.4.2.3 Domestic violence and abuse

Issues concerning domestic violence and abuse experienced by adolescents can be handled by encouraging adolescents to share their problems with others such as teachers, friends and relatives. If the problem is beyond their capabilities or jurisdiction, it should be reported to law enforcers such as the police, as well as social workers for further action. Teachers also need to be able to recognise the symptoms of depression or any unusual behaviour among their teenage students to identify if they have any problems at home with which they need assistance. Caregivers should seek guidance from professionals to help solve their problems, rather than let their children seek relief from domestic problems inappropriately. Most importantly, adolescents should not be allowed to live in such an environment and must be isolated for shelter and counselling until the issues at home have been resolved.

5.4.2.4 Not feeling close to family members and lack of time spent with family

There are many ways in which parents and their teenagers can spend time together. Both parties should find activities that easily fit into each other's schedules. These might include preparing a meal together occasionally, going for outings or working on household tasks that both enjoy. Parents should also listen to their teenagers' ideas of what would be fun or interesting to do together. Additionally, if the teenager initiates time to be with parents, parents need to take the initiative to put their other activities on hold and spend at least a brief period doing something together.

5.4.2.5 Lack of interest in school

To motivate adolescents to go to school, the Ministry of Education should review the current school curriculum, as well as its extra-curricular activities. In its review, strategies should be taken to increase students' school connectedness to ensure their continuous interest in school. With the support of adults, i.e., teachers, family and

community, students should be provided with the necessary academic, emotional and social skills. This approach will enhance their participation in school activities. Additionally, educators should utilise effective teaching methods to promote a constructive learning atmosphere whereby they do not only focus on the theory aspect but also on practical skills. For instance, students can be taught on basic skills required to function in the society once they complete school. In terms of peers, students must be reminded of the importance of being in a positive peer group. Students should also be provided with trusting and caring relationships that can promote open communication between them and the educators.

5.4.3 The factors associated with sexual initiation

Sexual initiation among incarcerated adolescents is determined predominantly by individual factors such as a childhood history of sexual abuse. The Ministry of Education and Health should make it compulsory for all adolescents to be screened early for history of sexual abuse, both in schools as well as during any medical consultation in clinics or hospitals. Once such history is detected, family members should be called in for further enquiries. If further investigation is necessary, then teachers or doctors are responsible for reporting the abuse to the Social Welfare Department for shelter and counselling. In addition, The Ministry of Women, Family and Community Development may need to conduct more parenting skills workshops to help caregivers understand the importance of nurturing their children and to discuss various ways of getting help when child abuse or substance use is suspected. The Child Act 2001 requires any medical officer, childcare provider or member of the family to notify his/her concerns, suspicions or beliefs that a child may have been abused or neglected to the appropriate child protection authority in the country. One way is through the *Nur* Online, which enables early intervention for victims of child abuse. However, this online service may not be reached by those living in remote areas where

telephone and internet lines are poor. Therefore, health care and social workers need to be more concerned and proactive by conducting regular home visits at isolated areas.

Other individual modifiable factors that influenced adolescents' sexual initiation included having a permissive attitude toward premarital sex, viewing sex as an expression of love and as a stress reliever having an inability to control one's sex drive. They also indulged in sexual behaviour out of curiosity. All of these factors can be modified using a multidisciplinary approach from parents and teachers. Parents or caregivers should discuss puberty during the pre-pubescent phase. In preparing for puberty, the discussions should cover male and female anatomy and the specifics of making a baby, and these discussions should instil healthy self-esteem and self-respect. Teachers in school should also be more open to discuss further on this subject and should encourage adolescents to respect themselves and others. The Ministry of Health should collaborate with the Ministry of Education to strengthen the current Sexual and Reproductive Health programmes. These programmes, especially for parents and teachers, should be able to create awareness and stress the importance of educating adolescents on puberty at an early age.

The adolescents in this study admitted to the use of illicit drugs as a proximal influence of their sexual initiation. For most adolescents, the drugs came from peers and adults involved in drug dealing. To address this problem, adolescents must be educated about the risks of taking illicit drugs. This information can be incorporated into school and health education programmes targeting adolescents. Teachers, counsellors, coaches and administrators see teenagers nearly every day and can often identify problems before they appear. Thus, school professionals are in a unique position to observe changes in academic and extra-curricular performance.

Family issues, in particular feeling neglected or not emotionally supported by caregivers, were stated by adolescents to directly influence their sexual initiation. It is

important to first identify the reasons why parents are neglecting their children. Usually, domestic work or crises with other family members may force caregivers to neglect their adolescents. Government agencies such as the Social Welfare Department could provide low cost services for caregivers. For instance, if caregivers feel too occupied with domestic work and they have no helpers, they can obtain some assistance from a social crisis support service. These services may include crisis nursery and domestic helpers to support the caregivers. These types of services may somehow help caregivers cope with stressors, manage their time better and spend more time with their teenagers.

Issues regarding a partner's influence, a partner giving in and peer pressure can be handled by giving adolescents the opportunity to learn skills for managing the social relationships in which sexual behaviour occurs. The skills should include negotiating trust, seeking support, managing conflict and expressing empathy, skills that are essential to the development of healthy relationships. Additionally, programmes for adolescents should also emphasise healthy alternatives to sexual intercourse as ways to encourage adolescents to refrain from sex. Adolescents should be constantly reminded by parents and teachers of their limits while in a relationship. A relationship with the opposite sex is acceptable, but certain restrictions must be followed depending on one's religion and culture. If taught moral values and religious education, adolescents may become more aware of their own feelings and beliefs about what is right and wrong when faced with peers who practice premarital sex. Inner strength and self-confidence can help adolescents be firm and walk away from friends who tend to get them into trouble. Adolescents' inner strength and self-confidence can be built up through various ways. For instance, adolescents should be allowed to make as many of their own decisions as possible but with limitations and supervision by parents. Also, adolescents should be encouraged to participate in community services. By doing this, they will get

the opportunity to explore how they connect with others, gain new skills and new ways of looking at things.

Technology offers adolescents great opportunities, but they also need to know when materials can become harmful and illegal, such as pornography. The influence of pornography among adolescents can be stopped by slowly educating children at an early age. Parents must begin by acknowledging their children's curiosity about sex. They should listen to what children have to say and then steer the conversation towards explaining the boundaries the children need to have when using computers or watching movies on television and in cinemas. Caregivers need to regulate Internet usage by either specifying times of the day that are appropriate or by permitting use only when they are present. Other restrictions could include limiting Internet use for homework purposes only and limiting television viewing. Monitoring should also include the use of social networking websites that have the potential to introduce adolescents to strangers. Online relationships with strangers can lead to exposure to pornography or being pressured to arrange a real-world meeting in which a sexual initiation may follow.

Guidelines should also be developed for an adolescent's conduct outside the household, as the Internet is also accessible in cybercafés and in most restaurants. This approach may require specialised software to prohibit pornographic websites. Authorities must also ensure that cybercafé owners prohibit adolescents from accessing pornography, and the law should be strictly enforced through frequent inspections by police officers. Additionally, the law enforcers must also strictly curb the sale and reproduction of pirated films especially those which contain pornography. Teachers at school should also observe any exchange of pornographic materials among the students, either through mobile phones or magazines. The National Film of Malaysia must further ensure strict editing of any sexual content, including kissing and hugging, for any films that can be viewed by adolescents.

5.5 Implications of Study Findings

The implications of the current study findings can be observed from the public health and theoretical perspectives.

5.5.1 Public health implications

The public health implications of this study can be observed from three different perspectives, primary, secondary and tertiary prevention.

5.5.1.1 Primary prevention

Having sex at an early age and before marriage predisposes adolescents to the negative consequences of sex, including STIs and teenage pregnancies. Consequently, primary prevention activities should encourage adolescents to abstain from sex until they are married and should promote safer sexual behaviours, such as the use of condoms for penetrative sexual acts.

Adolescents' curiosity, poor understanding and miscommunication have encouraged those who perceive a good knowledge of sexual health to engage in SRBs. Thus, health education and behavioural change projects, which encompass sexual and reproductive health (SRH), can be targeted to adolescents, caregivers and the community. Adolescents suffer a disproportionate burden of sexual and reproductive ill health because they have not received adequate preparation, leaving them vulnerable to the consequences of premarital sex. An individual's sexual development is a complex process that involves physical, psychological, social and cultural aspects linked to one's individual development. Parents or caregivers can make the proper preparations to address adolescents' needs by attending parenting courses. Therefore, information sources for parents, e.g., parenting workshops, the Internet, books and magazines, must include modules on adolescents' physical, cognitive and psycho-social development. Physical development includes development of secondary sex characteristics. Cognitive

development includes reasoning skills. Psycho-social development consists of establishing an identity, autonomy and intimacy, and becoming comfortable with one's sexuality and achievement. This action could, in turn, educate the caregivers to encourage the growing child by promoting values, including those relating to gender and sexuality, as well as communicating about sexual matters. Thus, sex education begins at home during an adolescent's early years; however, if this requirement cannot be fulfilled, children should be able to obtain this knowledge from their teachers.

Schools play an important part in preparing young people for their roles and responsibilities as adults. The majority of adolescents are placed in schools as part of their educational development, making schools appropriate settings to disseminate SRH knowledge. Moreover, SRH can be targeted early because school starts as early as seven years old. Young people must be provided with the basic knowledge and skills to make responsible choices in their social and sexual lives. According to the International Planned Parenthood Federation (IPPF), a comprehensive sexuality education (CSE) ensures that young people are equipped with the knowledge, skills, attitudes and values they need to determine their sexuality. Adolescents must be given the chance to acquire essential life skills and develop positive attitudes and values. This can be fulfilled by providing them with accurate information on sexual and reproductive rights; life skills such as critical thinking, communication, negotiation skills, decision-making skills, assertiveness and the ability to seek help; positive attitudes and values; open-mindedness; respect for self and others; positive self-esteem; a sense of responsibility and a positive attitude toward their sexual and reproductive health.

As yet, sex education in schools has not been formally introduced as a separate subject, and currently its content is integrated into several subjects, including Religious Education, Moral Studies, Biology, Health Education, Science and Malay Language. Rather than integrating them, children and adolescents should be provided with quality

time on this subject to ensure that more information and skills are taught as well as provide more time for questions. The current sex education modules in schools also lack some important components in guiding the teachers. First, the modules are non-gender specific. The development of each gender is unique and so are issues surrounding their SRH. Thus, the approach in educating students should differ between genders; genders should be separated during the SRH session, and the issues discussed should be gender-specific. Second, based on current studies, experts need to establish specific modules for at-risk adolescents. At-risk adolescents are those who have particular backgrounds that make them more vulnerable to SRBs. In a systematic review on effectiveness of school based interventions in reducing adolescent health risk behaviours pointed out that successful SRBs health promotion programs tended to be interactive, focus on required skills, used trained facilitators and were of longer duration (Thomas et al., 2005).

Apart from having sex education in schools, community health clinics should also organise SRH campaigns for adolescents and caregivers within their district. This campaign can include workshops by health care professionals who are able to discuss any rising matters in terms of SRH as well as educate those who attend. Most adolescents may find it difficult or impossible to discuss sexual matters with adults. Thus, the community projects may include the involvement of young people as peer educators to ensure that programmes, activities, information and services are appropriate and relevant to adolescents' concerns.

Additionally, a special task force that addresses the importance of contraception use would be recruited. The team would consist of a staff nurse and a community nurse who will address themselves as the 'adolescent friendly team'. This team will make a biweekly visit to homes and schools located under their jurisdiction. During this visit, the team will offer individual and group counsellings on contraception and make adolescents aware of its accessibility. Besides that, adolescents are welcome for further

counselling, either to obtain their contraception or address any concerns that they may have at the adolescent friendly clinics which will be made available on special days.

In this cyber age, the Internet can be used as a setting to present and discuss contemporary issues regarding adolescents' sexual and reproductive health. In addition to adolescents, this sort of website could also cater to audiences who work with young people. This site should offer the following:

(1) Information that enhances the knowledge and skills of those working with adolescents.

(2) Information regarding SRH services available throughout the country.

(3) Referral networks that bring together workers from different settings.

(4) Access between community and hospital services.

(5) The best practice in relationship to adolescent SRH and welfare.

Pornography viewing among those who initiated sex was another problem encountered in this study. For adolescents, the internet and mobile phones are the most common source of pornography. Because the internet is easily accessible from mobile phones, it is recommended that these devices be strictly banned from school compounds. To enforce this, it is recommended that every school have its own gatekeeper, someone who is capable of monitoring and overseeing the action of students on a daily basis. He or she can be selected from among the teachers or rule enforcers, and their job specification can include checking for any internet accessible devices in students' bags or school attire. Apart from this, class teachers can ensure that each student is free from these devices by carrying out inspections from time to time.

The current study also found that adolescents who initiated sex were among those who have poor interest in school. To address this matter, an evaluation of schools' curriculum and extra-curricular activities should be conducted. Based on research evidence, educators should offer new ideas and approaches for the Ministry of

Education to upgrade the current syllabus and ensure that it could attract adolescents to attend school. An educational learning needs assessment could also be conducted among school attendees either through surveys or focus group discussions. The objective of this assessment would be to identify students' learning needs, especially those that can draw them to school. Additionally, it would be an advantage if school educators could be trained in all aspects of psychology, as it would be of help when dealing with difficult students.

5.5.1.2 Secondary prevention

Secondary prevention entails the provision of screening for adolescents with a history of SRBs and an increased risk of acquiring STIs to detect STIs and unwanted pregnancies. This secondary preventive care also includes the management of SRBs and the treatment and care for those infected with STIs and/or experiencing pregnancy. The activities should include the provision of clinical services that offer diagnosis and effective treatment. Other activities include support and counselling services for adolescents who reported of SRB, are diagnosed with STIs or are found to be pregnant. These types of services can be delivered through various settings. Health clinics, for instance, can be a suitable setting to observe adolescents' SRH. Using parents or caregivers and advertising campaigns as mediums, adolescents can be encouraged to come for screening. The World Wide Web is an added means of approaching adolescents. Public health specialists can conduct web-based surveys to screen adolescents with SRBs. This method can ensure prompt response by specialists via the respondents' email. Then, respondents can be advised to come forward for testing at any local clinic or hospital.

Because of social circumstances, a number of adolescents are not fortunate enough to enter the school system. Therefore, it is essential for the government and

NGOs to reach out to the out-of-school teenagers, e.g., the street kids and those in shelters or welfare institutions, and offer them the appropriate services.

5.5.1.3 Tertiary prevention

Tertiary prevention is targeted at adolescents who have been diagnosed with STIs as well as those experiencing pregnancy. It also targets those who have been identified to be at risk of SRBs. At this level of preventive care, the aim is to cure adolescents with STIs and prevent progression to mortal or morbid states. In this case, doctors involved in diagnosing these adolescents should encourage their patients to come for follow-ups and comply with the specific treatment. For those with HIV, the aim is to optimise therapy and increase their well-being.

Pregnant adolescents should be managed in appropriate settings where they are given proper care in terms of their health as well as that of the baby they are carrying. They should also be further counselled and rehabilitated to prevent future pregnancies. In Malaysia, many organisations including the government provide such services. These services can be strengthened by allowing more SRH programmes to be conducted by health care professionals as part of their rehabilitation programme.

For adolescents identified to be at risk of SRBs, continuing rehabilitation for their problems can be provided through a series of counselling sessions in schools and health clinics. Communication with counsellors or health care professionals on how adolescents can manage their problems and where to obtain help can also be offered via text messages as well as social networking sites.

5.5.2 Theoretical implication

It is noted from this study that adolescent sexual intercourse is an outcome of the interaction between individual, interpersonal and community components. This pattern is generally consistent with the Problem Behaviour Theory presented by Jessor (1997)

whereby the PBT has been used in settings and with populations that include young people who have witnessed and experienced various forms of violence.

5.6 Strengths and Limitations of the Study

There are several strengths to the current study that should be considered. Previous reviews and studies in Malaysia have not documented the use of mixed methods techniques for any sexual behaviour topic, and there are no reports of such studies being conducted among incarcerated adolescents. Thus, this is the first study of its kind. The limited data as well as the sensitive topic have made it difficult for other researchers to gain information from previous studies. Thus, the in-depth results from this study have actually provided significant data to document adolescents' SRBs that put them at risk of STIs, HIV and unwanted pregnancies. This important documentation will assist researchers, health educators and professionals, as well as policy makers, in conducting further studies, SRH programmes and improving current adolescent health policies.

The mixed methods approach has specific strengths that should be considered. Firstly, the study had utilized a two-phase sequential design in which the phase one results were used to develop and inform the purpose and design of the following phase. Secondly, the researcher was able to complement the other method by using both qualitative and quantitative methods. Thirdly, the study design provided a stronger evidence for a conclusion through methodological triangulation. Finally, the qualitative component has added further insights and understanding that might be missed during the quantitative phase. This produces more complete knowledge necessary to inform theory and practice.

The use of in-depth interviews and essay writing provided data based on the participants' own categories of meaning, which eventually offered understanding and descriptions of their personal experiences. It also enabled the investigator to study the

dynamic processes (i.e., documenting sequential patterns and change) of an individual's experience. An IDI also provides a calm environment for sharing experiences, and it gave an opportunity to those who were shy and less vocal to express themselves. The disparate power relationships between the interviewer as a doctor and the participants gave the researcher an opportunity to seek more information. This feature of the study strongly suggests that the results are reliable and trustworthy. Ultimately, the use of essay writing provided an alternative option for adolescents who were not ready to discuss their personal matters out loud. Besides that, IDIs has been useful in understanding the factors related to sexual initiation as it provided opportunity for comprehensive questioning. This will eventually produce a better framework.

Prior to conducting in-depth interviews, participatory observations were performed separately for males and females in two welfare institutions. As a result, the investigator managed to form initial relationships to ensure trust between both parties. Understanding their daily lingo as well as their routines in the institutions gave the investigator some idea of their communication and social behaviour. These observations also gave access to natural settings and allowed the investigator to study the residents' social processes and provided a realistic picture of the community in which they lived. Thus, the investigator became thoroughly integrated into the group of residents and this enabled verifications on the claims or non-verbal cues portrayed by the adolescents during the interview sessions.

The investigator had been trained to conduct qualitative research and was considered qualified to do so after receiving the following training:

(1) A module on Doctor, Patient and Society that encompassed interview techniques and was taught during the researcher's undergraduate training in Medical School.

(2) Three years of clinical work as a medical officer that involved meeting patients on a daily basis. This training helped to further improve the researcher's communications skills.

(3) Extensive training in qualitative research (introduction to qualitative research, triangulation and Nvivo 8) undertaken prior to the study.

(4) The investigator also holds a Good Clinical Practice certificate, which certifies an understanding of human ethics as well as the knowledge to assure participants' confidentiality.

Although the reported SRBs cases in this study may be just the tip of the iceberg, the findings from this study can be used to encourage various organisations to conduct research and programmes to help uncover other risky sexual practices, especially among this often ignored population.

The following limitations should be noted when interpreting some of the findings. The subject of interest in this study was SRBs. Generally, studies on sexual behaviour are subject to social desirability bias and inconsistencies, especially when conducted in a strongly conservative culture such as Malaysia's. Additionally, findings from in-depth interviews were based upon adolescents' retrospective descriptions of first intercourse and the meanings assigned to this, which may have been reconstructed differently over time and with subsequent sexual experiences. Nevertheless, this drawback was partly addressed by the essay writing, which helped generate the sequence of events pertaining to their sexual experience and allowed the discovery of some hidden information that the adolescents were uncomfortable discussing. The incorporation of quantitative and qualitative methods of data collection also permitted methodological triangulation to draw robust conclusions about the themes gathered from the qualitative phase.

Another limitation identified in this study is problems of understanding sexual initiation causality in relation to human behaviour and social context. As this is a cross-sectional study (Phase 1), if one intends to look at the causal relationship between the factors and sexual initiation, temporal relationships between those factors should be examined carefully. The design of the survey makes it difficult to tell whether the exposure factor precedes the outcome factor. However, the IDIs and essays have somehow helped the interviewer to understand the chronology prior to sexual initiation, which in turn developed the possible causal structure pathway. Also, the indication of existing associations was useful in generating hypotheses for future research.

Several challenges were faced by the investigator while carrying out the mixed methods study. Mixed methods study is relatively new in terms of methodologies available to researchers. So, it may be challenging to convince others the results of this study. Besides that, the researcher had to learn multiple methods and be able to mix the results effectively. In addition to that, the approach can be time-intensive and costly. Nevertheless, when compared to concurrent mixed methods, a sequential approach is more appropriate for a single researcher to complete the study within a limited time.

The population targeted in the study was incarcerated adolescents sampled from welfare institutions; therefore, they do not represent adolescents in Malaysia as a whole. However, given that the sample selection was from more than half of the total welfare institutions within the eleven states in Peninsular Malaysia, the findings can be said to represent incarcerated and at-risk adolescents within Malaysia. Additionally, ensuring the saturation of concepts among incarcerated adolescents was considered important for the purposes of understanding SRB, and this could not have been provided by a representative sample. For example, an earlier study on premarital sex conducted among school-going Malaysian adolescents found that a number of students were unable to provide valid answers. Compared to institutionalised adolescents, those who were

surveyed in schools were under constraint in revealing their sexual behaviour (Lee et al., 2006). In a school setting, questionnaires are normally distributed in classrooms, which can accommodate more than 40 students. Thus, the chances of having friends looking at a respondent's answers were higher, and the situation would get even worse when their secret is passed on to teachers and parents.

In general, the recruitment of adolescents was performed only in public welfare institutions, and thus it is unclear if the findings can be generalised to private welfare institutions. Nevertheless, the main function of private and government institutions for children and adolescents are quite similar, i.e., rehabilitation and shelter for children and adolescents. The findings to some extent therefore represent incarcerated adolescents from both public and private institutions. For the qualitative study however, selecting the sample from public welfare institutions was considered appropriate. The investigator had actively selected the most productive sample to answer the research question. By using this type of sample selection, a framework of variables that might influence an adolescents' sexual initiation was able to be produced.

In the initial part of the study, the data were collected primarily from self-reports using a self-administered questionnaire. This approach may have raised some concerns regarding the results' validity, especially on the sexual behaviours topic and the response rate. However, the presence of the investigator, who explained about confidentiality and assisted the participants during each data collection, ensured that each question was answered appropriately. Compared to mail surveys, where the investigator must wait to see how many respondents actually answer and return the survey, this mode of data collection provided an opportunity for the investigator to collect data until the required sample had been achieved.

5.7 Conclusion of Chapter Five

The findings discussed in this chapter have enhanced our understanding of SRBs among incarcerated adolescents. Much of the findings have pointed to individual determinants such as history of child sexual abuse and “sex as an expression of love”. The implication of this finding can be used by parents, educators, health care practitioners as well as government agencies to construct prevention messages that stress the relationship between SRBs and its risk factors. However, due to the study’s limitations, one must be careful when generalising the findings.

Chapter Six: Conclusion

6.1 Research Statement

This study set out to examine the determinants of SRBs among incarcerated adolescents and has identified the prevalence of SRBs in Malaysia and the SEM components associated with them. The study also sought to provide an in-depth exploration of the pathways related to adolescents' sexual initiation, their first sexual experiences and their perceptions of the factors that influenced their sexual debut.

A sequential mixed methods research project was conducted in order to achieve the objective of this study. Data were collected by a survey using self-reported questionnaires, in-depth interviews and essay writing from adolescents living in welfare institutions across peninsular Malaysia. The study approaches were able to answer all the research objectives.

6.2 Summary

The main empirical findings of this study are summarised in the following paragraphs.

The quantitative component found that more than 60.0% of incarcerated adolescents had initiated sex. Most of the associating factors of sexual initiation were within the individual domain. The strongest factor was a childhood history of sexual abuse, followed by a permissive attitude toward premarital sex and pornography viewing. Other factors included the use of substances, such as illicit drugs and alcohol, and the female gender.

Among the study subjects who had initated sex, more than half were found to have engaged in SRBs and this behaviour was found to be associated with components of the SEM. However, only variables within the individual and interpersonal domains were associated with this behaviour. Within the individual domain, the strongest factor was the permissive attitude toward premarital sex, followed by a childhood history of

sexual abuse, pornography viewing and having an adequate knowledge of sexual health. Other individual contributing factors included female gender and alcohol consumption. In the interpersonal domain, those living with both parents were more likely to engage in SRBs.

Among male adolescents, the analysis showed that only factors from the individual and community domains were associated with SRBs. The predictors of SRBs among male adolescents included the use of illicit drugs, a permissible attitude toward premarital sex, a history of childhood sexual abuse and pornography viewing. Pornography viewing and a permissible attitude toward premarital sex were two strong factors. In contrast, the analysis for female adolescents showed that there were additional factors associated with SRB when compared to males. These factors were secondary education, low self-esteem, drinking alcohol, a lack of parental trust, high family connectedness, an adequate knowledge of sexual health and living in rural areas.

The qualitative component revealed that distal domains such as individual, family, school and peers were related to adolescents' sexual initiation. Within the individual domain, substance use and religiousness issues were observed in most of the adolescents. In the family component, domestic violence and abuse, not feeling close and the lack of time spent with family were reported as factors by many participants. Adolescents' lack of interest in school as well as having friends who use substances and spent their time loitering were also observed to be among those who have initiated sex.

Further investigation through the in depth interviews and essay writings found that factors within the individual and interpersonal domains were the two most important influences on sexual initiation among adolescents. Within the individual domain, "sex as an expression of love", an inability to control one's sex drive, a history of child sexual abuse, curiosity, stress relief and the influence of drugs were recognised

as factors that pressured adolescents to have sex. The interpersonal factors included a partner's influence, family issues, the partner giving in and peer pressure.

For both male and female adolescents, their first sexual intercourse was experienced with a friend, and most admitted to having sex within the context of home. In terms of age, females preferred an older partner, but most of the males had sex with girls of the same age.

Overall, the objectives of this study have been achieved through the mixed methods study. Findings from the present study confirm the association between sexual initiation, SRBs and SEM. This was further confirmed by methodological triangulation. These findings provide sufficient evidence on the determinants of SRBs among incarcerated adolescents in Malaysia.

6.3 Recommendation

Within their lives, incarcerated adolescents have faced many challenges and sometimes those challenges are incomparable to adolescents in the general population. Therefore, it is important to advocate for targeted financial and technical services for adolescents with potential problems. It may be useful to have funding sources for implementing specific programmes such as screening for individual SRB factors in schools. A screening tool that includes all of the significant factors will detect adolescents at risk of SRBs. Based on their responses to screening questions; at-risk adolescents can be identified early and referred to health care professionals for further assessment. Having targeted funding sources, specific programmes such as sexual and reproductive health and HIV prevention can be implemented for adolescents identified as at-risk.

A review on adolescent health policy within the Western Pacific Region, which includes Malaysia, revealed that there were some policies concerning adolescent general health, but specific SRH policies are still limited, and for incarcerated adolescents, there

is little attention to these policies at all. This study suggests the need for a policy review that will enable adolescents to have greater access for their SRH needs.

A separate SRH policy should be developed by the Social and Welfare Department and Ministry of Health. This policy will ensure that adolescents placed within institutions are not deprived of their SRH rights. The paragraphs below describe the recommended policy.

Most adolescents who have been directed by the court to be placed in welfare institutions have been exposed to SRBs. Some have not experienced any sexual activities, but their social problems put them at risk for this behaviour while they are in the institution, as well as when they complete rehabilitation and are released into the community. Thus, every adolescent upon arrival should undergo a screening process by health care professionals, including a check for STIs/HIV, a clinical examination and a screening for risk factors for SRBs. Those found to be positive for any STI must be treated immediately and appropriately. This treatment includes separating these individuals from other trainees until they have completed their course of treatment.

For those who were not diagnosed with any medical problems, constant counselling and practical SRH programmes should be followed. Therefore, both government bodies and NGOs must play a role in contributing their expertise for the sake of these adolescents' health. HPV vaccination should be offered to these adolescents as many may have missed it at school. Additionally, all adolescents should receive sexual and reproductive health education which must be conducted by trained individuals, using modules that are age and gender specific.

Peer groups formed by ex-trainees who have been released from the institutions can provide motivational enhancement therapy for their friends who are still detained. This can be achieved by educating groups of teenagers who can talk to their peers about SRH. Many troubled teenagers are easily influenced by their own peer group as they

can relate to them better. Thus, peer group education can be a protective factor for these individuals.

One study that utilized a focus group discussion among high risk adolescents in the United States identified several strategies to prevent risk behaviour, including SRBs (Deering, 1993). Health promotion strategies for high risk adolescents should be comprehensive, with non judgmental, interpersonal communication integrated into community based programs. Besides that, program strategied must reach outside the usual channels and incorporate the high-risk environment where these adolescents live e.g. involvement of family in promoting change.

Besides the incarcerated adolescents, a comprehensive sexual and reproductive health policy should be able to fulfil all adolescents' need. This policy should consist of a multilevel approach with the following features:

i) Recognising the rights of adolescents and caregivers in relation to the development of a healthy relationship, as well as sexual and reproductive health, as guided by moral and religious values.

ii) Outlining the roles and responsibilities of individuals who work with adolescents in relation to the development of adolescents' sexual and reproductive health.

iii) Conducting compulsory screening for SRBs and STIs, as well as pregnancies, among adolescents in schools and clinics. An intervention for these adolescents must be carried out within 24 hours.

iv) Providing all young people with education, information, services and support that are appropriate to their age, gender, religion, culture and developmental needs.

v) Make youth-friendly services that are affordable and that effectively attract adolescents, respond to their SRH needs and retain them for continuing care.

vi) Provide more recreational places and activities to fill in adolescents' free time. Activities should include the family and the community as a whole.

6.4 Recommendations for Future Research

In the course of this study, more questions on SRBs have emerged. Further research on SRBs is needed to answer some questions such as;

Extension of study to other adolescent populations: This study focused on incarcerated adolescents who were placed in public welfare institutions. Therefore, there is a need to replicate this study using other populations, such as the adolescents that are in-school, on the streets, and in private welfare institutions. Using the same model, the findings of the studies can be applied to develop effective SRH programmes for these populations as well.

Culture and SRBs: Most of the SEM components have demonstrated applicability to explain adolescents' SRBs. However, culture as a variable was not examined in this research. Because Malaysia is a multicultural community, a study using appropriate measures for culture could allow a researcher to generalise findings to diverse groups of Malaysians instead of including only four major ethnic groups.

Diverse approaches for collecting data: Obtaining accurate information is an important issue for studies on sensitive topics. A computer-assisted self-interview (CASI) may be helpful in obtaining accurate and consistent responses for the quantitative component. Including video recordings during the in-depth interviews can be an alternative to getting detailed information on non-verbal cues, especially when responding to sexual behaviour questions.

A study on other modes of sexual practices: In terms of the questions posed, the topic of sex only concentrated on having vaginal intercourse. Topics on oral and anal sex were not included. For some adolescents who remain reluctant to have intercourse, having oral or anal sex is less of an issue, either because it is their way of pleasing their

partner without having intercourse or because they do not see the behaviour as real sex. They do not realise that unprotected oral or anal sex is not risk-free. There is increasing evidence of the risks of oral sex, e.g., oral cancer, but Malaysian adolescents have little knowledge about these risks. Thus, there is a need to conduct a study to obtain information about its prevalence and adolescents' perception of oral sex.

Longitudinal studies: In the Malaysian context, no longitudinal studies on sexual behaviour have previously been performed. Longitudinal studies help to unravel developmental progressions, identifying which factors come earlier and which come later in the development of SRBs. These studies can identify developmental sequences in SRB within the context of other developmental social and psychological processes that are presumed to cause this behaviour. Understanding these developmental processes and sequences provide the information required to develop more effective intervention strategies.

Intervention studies: Based on the findings of this study, gender-specific SRH programmes should be developed. There is a need to develop SRH programmes for parents as the predictor-model shows the importance of parental monitoring. Thus, a study employing an intervention for parents to monitor their children's whereabouts and to teach parents how to effectively communicate with their children about abstaining from SRBs is recommended. An intervention study could also include a way to control pornography viewing due to peer pressure. Peers should be used as a resource for obtaining accurate information on sexual behaviour. For instance, a health educator could develop peer educator programmes for adolescents to discuss their sexual concerns if they do not feel comfortable talking to parents or family members. The discussion among the peer educators may extend to designated websites, which some adolescents may find more secure and confidential. Another intervention study that can

benefit adolescents is a study which looks at how the negative outcomes of SRB can be reduced if consultation on contraception use is made available.

Gender-based study: The qualitative component is lacking in terms of gender-based analysis. Thus, in future studies, more emphasis should be made in analysing the data according to gender. This approach is important, as different genders have different perceptions of initiating sex, and thus health promotions can cater specifically to each gender.

Review programmes in welfare institutions: Researchers may conduct a detailed review of programmes concerning adolescents' SRH in welfare institutions. For example, a systematic review of programmes that aim to improve the level of knowledge on SRBs and their consequences should be conducted. Lessons learned should be acknowledged from all existing programmes before new programmes are developed and implemented.

In view of the study findings and the above recommendations, policy makers should take them into account when implementing strategies to prevent SRBs among adolescents.

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Appendix A: Questionnaire

Example of subject's identification number	→	0	1	4	7	8

SULIT

PASTIKAN REMAJA KITA SELAMAT
KEEP OUR TEENS SAFE

KAJIAN UNTUK REMAJA 2009

SURVEY FOR TEENS 2009
(13 – 19 TAHUN / *YEARS*)

UNIVERSITI MALAYA

ALAMAT
Jabatan Perubatan Kemasyarakatan dan Pencegahan
Fakulti Perubatan
Universiti Malaya
50603 Kuala Lumpur
E-mail: survey4teens@gmail.com

MAKLUMAT UNTUK REMAJA
INFORMATION FOR TEENAGERS

1. Soal selidik ini dibentuk untuk mendapatkan maklumat tentang kegiatan anda yang akan mempengaruhi tingkahlaku remaja seperti anda. Maklumat yang anda berikan akan digunakan untuk mengembangkan program kesihatan untuk remaja seperti anda.
   This survey has been developed to find out more about what you do that may affect the behaviour of teenagers like you. The information you give may be used to expand health programmes for teenagers like yourself.

2. Semua jawapan adalah sulit dan akan dianalisis sebagai satu kumpulan keseluruhan. Justeru, KERAHSIAAN anda adalah terjamin dan segala respons anda tidak akan diketahui.
   All answers are completely confidential and will be analysed as a total group. Therefore, complete CONFIDENTIALITY is assured, and no responses are separately identifiable.

3. Pastikan anda membaca kesemua soalan. Tiada jawapan yang betul atau salah. Sehubungan itu, jawablah dengan ikhlas dan jujur. Selepas menjawab, sila masukkan borang soal selidik ini ke dalam kotak yang disediakan untuk dikutip oleh penyelidik. *Make sure to read every question, and I appreciate you taking the time to complete this questionnaire. There are no right or wrong answers, so please answer the questions as honestly as you can. After you have completed the questionnaire, please place it in the prepared boxes for the researchers to collect.*

Terima kasih kerana kerjasama anda.
Thank you very much for your help.

Ikhlas,
Yours sincerely,

Dr. Nik Daliana Nik Farid
(Penyelidik Utama/*Principal Investigator*)

ARAHAN / *INSTRUCTIONS*

1. Kertas soal selidik berikut adalah untuk dijawab dengan sendiri oleh remaja yang berumur 13 – 19 tahun sahaja.
   The following questionnaire is self-administered, to be answered by teenagers aged 13 – 19 years only.
2. Terdapat 14 bahagian dalam kertas soal selidik ini. Sila jawab semua bahagian.
   There are 14 sections in this self-administered questionnaire. Please answer all sections.
3. Gunakan pena mata bola berwarna biru sahaja.
   Only use a blue ball-point pen.
4. Untuk jawapan yang dipilih, sila bulatkan pada nombor jawapan. Sila pilih satu jawapan sahaja kecuali jika dinyatakan lebih dari satu jawapan diterima.
   For the selected answers, please circle the answer. Please select one answer unless it is stated that more than one answer is acceptable.
5. Bagi setengah jawapan yang dipilih, anda mungkin perlu melompat ke soalan yang tertentu. Ini akan ditandakan dengan anak panah dan huruf `S' diikuti dengan nombor (merujuk kepada nombor soalan yang perlu anda lompat). Jika tiada anak panah ditunjukkan bagi sesuatu jawapan yang dipilih, anda dikehendaki menjawab soalan yang seterusnya (mengikut turutan nombor).
   For some of the answers chosen, you may have to skip to another question. This will be indicated with an arrow and the letter 'Q' followed by a number (refers to the number of the question you need to go to next). If there are no arrows marked for the answer chosen, simply answer the next question that follows (in line with the number sequence).
6. Jika anda mempunyai kesukaran menjawab, sila dapatkan bantuan dari penyelidik kajian ini.
   If you encounter any problems in answering, please seek the assistance of any of the researchers.

Sebagai contoh / *For example:*

No. Soalan (S) / *Q. No.*	Soalan / *Questions*	Kod Kategori / *Coding Category*
1.	Pernahkah anda menggunakan dadah yang terlarang? *Have you ever tried illicit drugs?*	*1.* Ya / *Yes* 2. Tidak / *No* → **S / Q. 2**

Bulatkan pada nombor jawapan
Circle the answer number

Lompat ke soalan 2
Jump to question 2

BAHAGIAN 1 – MAKLUMAT UMUM / *SECTION 1 – GENERAL INFORMATION*

No. Soalan (S) / Q. No	**Soalan/ *Questions***	**Kod Kategori / *Coding Category***
	Bolehkah anda membaca dan menulis? / *Can you read and write?*	1. Ya/ *Yes* 2. Tidak / *No*
	Nama institusi kebajikan/*Name of institution*	
1.	Alamat terakhir (sebelum kemasukan ke institusi kebajikan) *Last address prior to admission*	Nama kampung atau bandar / *Name of village or town:* _____ Daerah / *District:* _____ Negeri / *State:* _____
2.	Jantina *Sex*	1. Lelaki / *Male* 2. Perempuan / *Female*
3.	Umur *Age*	1. _____tahun / *years*
4.	Tarikh lahir *Date of birth*	☐☐ ☐☐ ☐☐☐☐ Hari /*Day* Bulan/*Month* Tahun / *Year*
5.	Pernahkah anda berkahwin? *Have you ever been married?*	*1.* Ya / *Yes* 2. Tidak / *No* → **S/*Q.8***
6.	Bilakah anda berkahwin? *When did you get married?*	_____ *(Catatkan* tahun/ *Enter year)*

7.	Apakah keturunan anda? *What is your race?*	1. Melayu / *Malay* 2. Cina /*Chinese* 3. India / *Indian* 4. Lain-lain, nyatakan / *Other, specify* _____
8.	Apakah agama anda? *What is your religion?*	1. Tiada / *None* 2. Islam / *Muslim* 3. Kristian / *Christian* 4. Katholik / *Catholic* 5. Buddha / *Buddhist* 6. Hindu 7. Sikh 8. Lain-lain, nyatakan / *Other, specify* _____
9.	Sebelum kemasukan ke institusi, dengan siapakah anda biasa tinggal bersama? *Before you were admitted to this institution, who did you live with most of the time?*	1. Ibu dan ayah / *Mother and father* 2. Ibu sahaja / *Mother only* 3. Ayah sahaja / *Father only* 4. Lain-lain, nyatakan / *Others, specify* _____
10.	Apakah tahap pelajaran paling tinggi ayah anda? *What is your father's highest education level?*	1. Tidak pernah bersekolah / *Never went to school* 2. Sekolah rendah / *Primary school* 3. Sekolah menengah / *Secondary school* 4. Universiti / *University* 5. *Lain-lain, nyatakan/ Other, specify* _____ 6. Tidak tahu / *Do not know*
11.	Apakah tahap pelajaran paling tinggi ibu anda? *What is your mother's highest education level?*	1. Tidak pernah bersekolah / *Never went to school* 2. Sekolah rendah / *Primary school* 3. Sekolah menengah / *Secondary school* 4. Universiti / *University* 5. *Lain-lain, nyatakan/ Other, specify* _____ 6. Tidak tahu / *Do not know*
12.	Apakah pekerjaan ayah anda pada masa kini? *What is your father's current job status?*	1. _____ 2. Tidak bekerja / *Unemployed* 3. Tidak tahu / *Do not know*

13.	Apakah pekerjaan ibu anda pada masa kini? *What is your mother's current job status?*	1. _____ *2.* Tidak bekerja / *Unemployed* *3.* Tidak tahu / *Do not know*
JIKA ANDA TINGGAL SERUMAH DENGAN SESIAPA SELAIN DARIPADA IBU DAN/ATAU BAPA / *IF YOU STAYED WITH OTHERS BESIDES YOUR MOTHER AND/OR FATHER:*		
14.	Apakah tahap pelajaran paling tinggi penjaga anda? *What is your guardian's highest education level?*	1. Tidak pernah bersekolah / *Never went to school* *2.* Sekolah rendah / *Primary school* 3. Sekolah menengah / *Secondary school* *4.* Universiti / *University* 5. *Lain-lain, nyatakan/ Other, specify* _____ *6.* Tidak tahu / *Do not know*
15.	Apakah pekerjaan penjaga anda pada masa kini? *What is your guardian's current job status?*	1. _____ *2.* Tidak bekerja / *Unemployed* *3.* Tidak tahu / *Do not know*

BAHAGIAN 2 – AMALAN IBU BAPA / PENJAGA DAN HUBUNGAN KEKELUARGAAN
SECTION 2 – PARENTING PRACTICES AND FAMILY CONNECTEDNESS

No. Soalan (S) /Q. No	**Soalan / *Questions***	**Kod Kategori / *Coding category***
1.	Ibu bapa / penjaga tahu di mana saya berada selepas waktu persekolahan. *My parent(s)/guardian know where I am after school.*	*1.* Tidak / *Never* 2. Jarang-jarang / *Rarely* 3. Kadang-kadang / *Sometimes* 4. Kerap kali / *Most of the time* *5.* Selalu/ *Always*
2.	Saya dikehendaki memaklumkan ibu bapa/ penjaga saya sekiranya saya akan lewat pulang ke rumah. *I have to inform my parent(s)/guardian if I am coming home late.*	*1.* Tidak / *Never* *2.* Jarang-jarang / *Rarely* *3.* Kadang-kadang/ *Sometimes* *4.* Kerap kali / *Most of the time* *5.* Selalu / *Always*

3.	Saya memberitahu ibu bapa/penjaga saya tentang kawan-kawan yang akan keluar bersama-sama saya. *I tell my parents(s)/guardian who I am going to be with before I go out.*	*1.* Tidak / *Never* *2.* Jarang-jarang / *Rarely* *3.* Kadang-kadang/ *Sometimes* *4.* Kerap kali / *Most of the time* 5. Selalu / *Always*
4.	Ibu bapa/penjaga saya tahu di mana saya berada apabila saya keluar pada waktu malam. *When I go out at night, my parent(s)/guardian know where I am.*	*1.* Tidak / *Never* 2. Jarang-jarang*/ Rarely* 3. Kadang-kadang*/ Sometimes* 4. Kerap kali / *Most of the time* 5. Selalu / *Always*
5.	Saya memaklumkan dengan ibu bapa/penjaga saya tentang rancangan saya bersama kawan-kawan. *I talk to my parent(s)/guardian about the plans I have with my friends.*	*1.* Tidak / *Never* *2.* Jarang-jarang / *Rarely* *3.* Kadang-kadang / *Sometimes* 4. Kerap kali / *Most of the time* 5. Selalu / *Always*
6.	Apabila saya keluar, ibu bapa/penjaga saya menanyakan ke mana saya pergi. *When I go out, my parent(s)/guardian ask me where I am going.*	*1.* Tidak / *Never* *2.* Jarang-jarang / *Rarely* *3.* Kadang-kadang / *Sometimes* 4. Kerap kali */ Most of the time* 5. Selalu / *Always*
7.	Saya dibenarkan balik lewat dengan syarat saya menghubungi rumah terlebih dahulu. *I am allowed to come back late as long as I call home first.*	*1.* Tidak / *Never* *2.* Jarang-jarang / *Rarely* 3. Kadang-kadang / *Sometimes* 4. Kerap kali / *Most of the time* *5.* Selalu / *Always*
8.	Saya dibenarkan membawa pulang kawan-kawan ke rumah semasa ketiadaan ibu bapa/penjaga dengan syarat saya memberitahu mereka terlebih dahulu. *I am allowed to have friends over when my parent(s)/guardian are not home as long as I tell my parents beforehand.*	*1.* Tidak / *Never* *2.* Jarang-jarang / *Rarely* *3.* Kadang-kadang / *Sometimes* 4. Kerap kali / *Most of the time* 5. Selalu / *Always*
9.	Saya dibenarkan membawa kawan yang berlainan jantina ke dalam bilik tidur saya. *I am allowed to have opposite sex friends in my bedroom.*	*1.* Tidak / *Never* *2.* Jarang-jarang / *Rarely* *3.* Kadang-kadang / *Sometimes* 4. Kerap kali / *Most of the time* 5. Selalu / *Always*

10.	Ada ruangan khas di rumah saya di mana saya bebas melepak dengan kawan-kawan saya tanpa gangguan daripada ibu bapa/penjaga saya. *There is a place in my house where I am allowed to hang out with my friends where my parent(s)/guardian will not bother us.*	*1.* Tidak / *Never* 2. Jarang-jarang / *Rarely* *3.* Kadang-kadang / *Sometimes* 4. Kerap kali / *Most of the time* 5. Selalu */ Always*
11.	Ibu bapa / penjaga percaya saya dapat membuat keputusan yang baik. *My parent(s)/guardian trust me to make good decisions.*	1. Amat setuju/ *Strongly agree* 2. Setuju/A*gree* *3.* Tidak setuju/*Disagree* *4.* Sangat tidak bersetuju / *Strongly disagree*
12.	Ibu bapa / penjaga saya percaya saya dapat membuat keputusan yang baik kerana saya pernah membuat keputusan yang baik pada masa yang lalu. *My parent(s)/guardian trust me to make good decisions because I have made good decisions in the past.*	1. Amat setuju/ *Strongly agree* 2. Setuju/A*gree* *3.* Tidak setuju/ Disagree *4.* Sangat tidak bersetuju / *Strongly disagree*
13.	Pada pendapat anda, apakah tahap keprihatinan ibu bapa / penjaga anda terhadap diri anda? *How much do you feel your parent(s)/guardian cares about you?*	*1.* Tidak prihatin langsung / *Not caring at all* *2.* Agak sedikit prihatin / *Quite a bit of caring* *3.* Sedikit prihatin / *A little caring* 4. Amat prihatin / *Very much caring*
14.	Pada pendapat anda, bolehkah anda berbincang masalah anda dengan ibu bapa / penjaga anda? *Do you feel you can talk to your parent(s)/guardian about your problems?*	1. Tidak boleh langsung / *Not at all* 2. Agak sedikit / *Quite a bit* *3.* Sedikit / *A little* 4. Amat boleh / *Very much*

BAHAGIAN 3 –PENDIDIKAN DAN HUBUNGAN DENGAN SEKOLAH
SECTION 3 – EDUCATION AND SCHOOL CONNECTEDNESS

No. Soalan (S) / *Q. No*	**Soalan / *Questions***	**Kod Kategori / *Coding Category***
1.	Pernahkah anda bersekolah? *Have you ever attended school?*	*1.* Ya */ Yes* 2. Tidak/No ⟶ **S/Q. 8**
2.	Apakah tahap pelajaran anda yang paling tinggi? *What is the highest level of schooling you have completed?*	1. Sekolah rendah / *Primary school* 2. Sekolah menengah/ *Secondary school* *3.* Institut pengajian tinggi (Universiti/kolej)/ *Institute of higher education (university/college)* *4. Lain-lain, nyatakan/Other, specify* _____
3.	Apakah keputusan peperiksaan anda yang berikut? *What were your results for the following examinations?*	1. UPSR: _____ 2. PMR: _____ 3. SPM: _____ *4.* Tidak tahu / *Do not know* *5.* Tidak ingat */ Cannot remember*
4.	Apakah perasaan anda terhadap sekolah anda? *How do you feel about **your school?***	1. Saya amat menyukainya / *I like it a lot* 2. Saya sedikit menyukainya / *I like it a bit* *3.* Saya tidak berapa menyukainya / *I do not like it very much* *4.* Saya langsung tidak menyukainya / *I do not like it at all*
5.	Sekolah saya merupakan suatu tempat yang menyeronokkan *My **school** is/was a nice place to be.*	*1.* Amat setuju / *Strongly agree* 2. Setuju / *Agree* *3.* Tidak setuju / *Disagree* *4.* Sangat tidak bersetuju / *Strongly disagree*
6.	Saya merasai diri saya sebahagian daripada sekolah *I feel that I am part of the school.*	*1.* Amat setuju / *Strongly agree* 2. Setuju / Agree *3.* Tidak setuju / *Disagree* *4.* Sangat tidak bersetuju / *Strongly disagree*

7.	Saya merasai guru-guru saya amat menyokong dan prihatin terhadap saya *I feel my teachers were /are supportive and caring toward me.*	*1.* Amat setuju / *Strongly agree* 2. Setuju / Agree *3.* Tidak setuju / *Disagree* *4.* Sangat tidak bersetuju / *Strongly disagree*
8.	Pernahkah anda bekerja? *Have you ever worked?*	*1.* Ya */ Yes* 2. Tidak */ No*

BAHAGIAN 4 – KEAGAMAAN
SECTION 4 – RELIGIOSITY

No. Soalan (S) / *Q No*.	**Soalan / *Questions***	**Kod kategori / *Coding category***
1.	Adakah anda mempercayai Tuhan? *Do you believe in God?*	*1.* Ya / *Yes* 2. Tidak / *No*
2.	Adakah agama penting dalam kehidupan anda? *How important is religion in your life?*	*1.* Amat penting / *Very important* 2. Penting */ Important* 3. Tidak penting/ *Not important* 4. *Tidak penting langsung / Not important at all*
3.	Saya sembahyang setiap hari *I pray every day.*	1. Tidak pernah */ Never* 2. Jarang-jarang */ Seldom* *3.* Kadang-kadang / *Sometimes* *4.* Setiap hari /*Every day*
4.	Berapa kerapkah anda pergi ke masjid / kuil / gereja untuk bersembahyang / beribadat? *How often do you go to mosque/ temple / church to perform prayers?*	1. Setiap hari / *Every day* 2. Setiap minggu/ *Every week* 3. Setiap bulan/ *Every month* 4. Setiap tahun/ *Every year* *5.* Tidak pernah / *Never*

BAHAGIAN 5 – PENGARUH / TEKANAN RAKAN SEBAYA
SECTION 5 - PEER PRESSURE

No.Soalan (S) / *Q No.*	**Soalan / *Questions***	**Kod Kategori / *Coding Category***
1.	Saya berpendapat, lebih penting untuk menjadi diri saya yang sebenar daripada diterima oleh kumpulan rakan sebaya. *I think it is more important to be who I am than to fit in with the crowd.*	1. Tidak benar sama sekali / *Not at all true* *2.* Tidak benar sangat / *Not very true* *3.* Agak benar/ *Sort of true* *4.* Sangat benar/ *Very true*
2.	Saya sanggup melakukan sesuatu yang salah agar saya dapat diterima oleh rakan saya. *I would do something that I know is wrong just to stay on my friends' good side.*	1. Tidak benar sama sekali / *Not at all true* *2.* Tidak benar sangat / *Not very true* 3. Agak benar/ *Sort of true* *4.* Sangat benar/ *Very true*
3.	Saya mengikut kehendak kawan-kawan untuk menggembirakan mereka. *I go along with my friends just to keep them happy.*	1. Tidak benar sama sekali / *Not at all true* 2. Tidak benar sangat / *Not very true* *3.* Agak benar/ *Sort of true* 4. Sangat benar/ *Very true*
4.	Agak sukar untuk kawan-kawan saya mengubah fikiran saya. *It is pretty hard for my friends to get me to change my mind.*	*1.* Tidak benar sama sekali / *Not at all true* *2.* Tidak benar sangat / *Not very true* *3.* Agak benar/ *Sort of true* *4.* Sangat benar/ *Very true*
5.	Saya sanggup melanggar undang-undang sekiranya kawan-kawan saya berkata mereka akan berbuat demikian. *I would break the law if my friends said that they would.*	1. Tidak benar sama sekali / *Not at all true* *2.* Tidak benar sangat / *Not very true* 3. Agak benar/ *Sort of true* *4.* Sangat benar/ *Very true*
6.	Saya akan menyatakan pendapat saya secara jujur di depan kawan-kawan walaupun mereka mungkin akan mentertawakan saya. *I will say my true opinion in front of my friends, even if I know they will make fun of me because of it.*	1. Tidak benar sama sekali / *Not at all true* 2. Tidak benar sangat / *Not very true* 3. Agak benar/ *Sort of true* 4. Sangat benar/ *Very true*

7.	Bila bersama kawan-kawan saya lebih berani atau rasa tercabar untuk melakukan perkara-perkara yang lebih berisiko seperti mengambil dadah berbanding ketika saya bersendirian *I take more risks, e.g., taking illegal drugs, when I am with my friends than I do when I am alone.*	1. Tidak benar sama sekali / *Not at all true* *2.* Tidak benar sangat / *Not very true* 3. Agak benar/ *Sort of true* *4.* Sangat benar/ *Very true*
8.	Sama ada saya bersama kawan-kawan atau bersendirian, tingkahlaku saya sama sahaja. *I act the same way when I am alone as I do when I am with my friends.*	1. Tidak benar sama sekali / *Not at all true* *2.* Tidak benar sangat / *Not very true* 3. Agak benar/ *Sort of true* *4.* Sangat benar/ *Very true*
9.	Saya memberi pendapat tentang sesuatu yang saya tidak percaya supaya kawan-kawan akan lebih menghormati saya. *I say things I do not really believe because I think it will make my friends respect me more.*	1. Tidak benar sama sekali / *Not at all true* *2.* Tidak benar sangat / *Not very true* 3. Agak benar/ *Sort of true* *4.* Sangat benar/ *Very true*

BAHAGIAN 6 – KONSEP HARGA DIRI
SECTION 6 - SELF ESTEEM

Arahan / Instruction: Berikut adalah penyataan tentang perasaan anda secara umum. Untuk setiap penyataan, bulatkan hanya **SATU** daripada respons berikut / *The following statements are about your general feelings. For each statement, circle only **ONE** of these responses:*

AS / *SA* – Amat setuju / *Strongly agree*
S / *A* – Setuju / *Agree*
TS / *D* – Tidak setuju / *Disagree*
STS / *SD* – Sangat tidak setuju / *Strongly disagree*

No. Soalan (S) / *Q No.*	**Soalan / *Questions***	**Kod kategori / *Coding category***			
1.	Secara keseluruhan, saya berpuas hati dengan diri sendiri. *On the whole, I am satisfied with myself.*	AS/ *SA*	S/*A*	TS /*D*	STS /*SD*

2.	Ada ketikanya, saya merasakan diri saya tidak berguna langsung. *At times, I think I am no good at all.*	AS /*SA*	S/*A*	TS/*D*	STS/*SD*
3.	Saya berpendapat saya mempunyai beberapa kualiti diri yang baik. *I feel that I have a number of good qualities.*	AS / *SA*	S/*A*	TS/*D*	STS/ *SD*
4.	Saya boleh melakukan kerja seperti kebanyakan orang lain. *I am able to do things as well as most other people.*	AS / *SA*	S/ *A*	TS/*D*	STS/*SD*
5.	Saya rasa saya tidak mempunyai banyak perkara yang boleh dibanggakan. *I feel I do not have much to be proud of.*	AS / *SA*	S/*A*	TS / *D*	STS / *SD*
6.	Ada masanya saya merasakan diri saya memang tidak berguna. *I certainly feel useless at times.*	AS/ *SA*	S / *A*	TS/ *D*	STS/*SD*
7.	Saya merasakan diri saya berguna, sama dengan orang lain. *I feel that I am a person of worth, at least on an equal level with others.*	AS / *SA*	S/ *A*	TS / *D*	STS/ *D*
8.	Saya berharap saya lebih menghormati diri saya sendiri. *I wish I could have more respect for myself.*	AS / *SA*	S/ *A*	TS / *D*	STS / *D*
9.	Secara keseluruhan, saya merasakan saya seorang yang gagal. *All in all, I am inclined to feel that I am a failure.*	AS / *SA*	S/ *A*	TS / *D*	STS / *D*

10.	Saya mempunyai pandangan yang positif terhadap diri saya sendiri. *I take a positive attitude toward myself.*	AS / *SA*	S / *A*	TS / *D*	STS / *D*

BAHAGIAN 7 – SKALA KEPUASAN DENGAN KEHIDUPAN
SECTION 7 – SATISFACTION WITH LIFE SCALE

No. Soalan / *Q. No.*	**Soalan / *Questions***	**Kod Kategori / *Coding Category***
1.	Kehidupan saya menghampiri apa yang saya inginkan. *In most ways, my life is close to my ideal.*	1. Amat setuju/ *Strongly agree* 2. Setuju/A*gree* *3.* Tidak setuju/Disagree *4.* Sangat tidak bersetuju / *Strongly disagree*
2.	Keadaan kehidupan saya amat baik. *The conditions of my life are excellent.*	1. Amat setuju/ *Strongly agree* 2. Setuju/A*gree* *3.* Tidak setuju/Disagree *4.* Sangat tidak bersetuju / *Strongly disagree*
3.	Saya berpuas hati dengan kehidupan saya. *I am satisfied with my life.*	1. Amat setuju/ *Strongly agree* 2. Setuju/A*gree* *3.* Tidak setuju/Disagree *4.* Sangat tidak bersetuju / *Strongly disagree*
4.	Saya telah mencapai perkara-perkara penting yang saya mahukan dalam kehidupan. *So far, I have gotten the important things I want in life.*	1. Amat setuju/ *Strongly agree* 2. Setuju/A*gree* *3.* Tidak setuju/Disagree *4.* Sangat tidak bersetuju / *Strongly disagree*
5.	Jika saya boleh mengulangi kembali kehidupan saya, saya tidak akan mengubah apa-apa. *If I could live my life over, I would change almost nothing.*	1. Amat setuju/ *Strongly agree* 2. Setuju/A*gree* *3.* Tidak setuju/Disagree *4.* Sangat tidak bersetuju / *Strongly disagree*

BAHAGIAN 8 – PENGGUNAAN DADAH
SECTION 8 – SUBSTANCE USE

No. Soalan (S) / Q. No	**Soalan / *Questions***	**Kod Kategori / *Coding Category***
1.	Pernahkah anda menghisap rokok atau mencuba sebarang hasil tembakau seperti curut dan shisha walaupun satu atau dua hembusan? *Have you ever smoked (at least one or two puffs) cigarettes or tried any tobacco products such as cigars or shisha?*	1. Ya / *Yes* 2. Tidak */No* ⟶ ***S/Q.3***
2.	Dalam sebulan yang lepas, adakah anda merokok atau mencuba sebarang hasil tembakau seperti curut dan shisha? *For the past one month, did you smoke?*	1. Setiap hari / *Every day* 2. Setiap minggu / *Every week* *3.* Kadang-kadang / *Sometimes* *4.* Tidak merokok langsung / *Did not smoke at all*
3.	Pernahkah anda meminum minuman keras? *Have you ever drunk alcohol?*	1. Ya / *Yes* 2. Tidak / *No*
4.	Pernahkah anda menggunakan dadah yang dilarang? *Have you ever used illicit drugs?* *Nota:* 'Dadah yang dilarang' adalah dadah yang tidak boleh dimiliki atau digunakan oleh sesiapa kerana perbuatan itu salah di sisi undang-undang contohnya marijuana, pil khayal/ ekstasi/*Illicit drugs are illegal drugs which cannot be owned or used by anyone e.g. marijuana and ecstacy*	1. Ya / *Yes* *2.* Tidak / *No*

BAHAGIAN 9 – PENDERAAN KANAK-KANAK
SECTION 9 - CHILD ABUSE

No. Soalan (S) / *Q No.*	**Soalan / *Questions***	**Kod Kategori / *Coding Category***
1.	Pernahkah sesiapa menyentuh alat sulit anda dalam keadaan memberahikan dan tanpa kerelaan anda? *Has anyone ever touched your genitals in a sexual manner and against your will?*	1. Ya / *Yes* 2. Tidak / *No*

2.	Pernahkah sesiapa memaksa anda menyentuh alat sulit mereka dalam keadaan memberahikan dan tanpa kerelaan anda? *Has anyone ever forced you to touch his or her genitals in a sexual manner and against your will?*	*1.* Ya / *Yes* *2.* Tidak / *No*
3.	Pernahkah sesiapa memaksa anda mengadakan hubungan seks tanpa kerelaan anda? *Has anyone ever forced you to have sexual intercourse against your will?*	1. Ya / *Yes* 2. Tidak / *No*
4.	Pernahkah anda dilayan sedemikian rupa sehingga menyebabkan luka fizikal (contoh: dipukul, dipijak atau ditolak)? Nota: Luka fizikal bermakna lebam, patah gigi, patah hidung, patah tulang, dan tidak sedar diri. *Have you ever intentionally been treated by someone in such a way that you suffered physical injury (for example: being beaten, stamped on, kicked or pushed)?* *Note:* *Physical injury means bruises, welts, broken nose, broken teeth, broken bones, cuts, burns or loss of consciousness.*	*1.* Ya */ Yes* 2. Tidak / *No*

BAHAGIAN 10– PENDEDAHAN TERHADAP PORNOGRAFI/BAHAN LUCAH
SECTION 10 - PORNOGRAPHY EXPOSURE

No. Soalan (S) / *Q No.*	**Soalan / *Questions***	**Kod Kategori / *Coding Category***
1.	Pernahkah anda melihat sebarang bentuk bahan lucah? *Have you ever looked at any forms of pornography?*	*1.* Ya / *Yes* 2. Tidak / No ⟶ **BAHAGIAN / *SECTION 11***

2.	Di manakah anda melihat bahan lucah itu? **(Pilih SATU jawapan yang paling utama)** *What was the source of pornography?* ***(Choose only ONE significant answer)***	1. Internet *2.* Filem / *Films* 3. Majalah */ Magazines* 4. Permainan video/ *Video games* 5. Telefon bimbit */Mobile phones Handphones* 6. Lain-lain, nyatakan / *Other, specify*_____
3.	Dengan siapakah anda kerap melihat bahan lucah? **(Pilih SATU jawapan yang paling utama)** *Who do you often look at pornography with?* ***(Choose only ONE significant answer)***	1. Sendirian / By myself 2. Dengan rakan-rakan / *Friends* 3. Ahli keluarga / *Family members* 4. Lain-lain, nyatakan / *Other, specify* _____
4.	Bagaimanakah anda pertama kali terdedah pada bahan lucah? **(Pilih SATU jawapan yang paling utama)** *Which of the following factors initially caused you to search for pornography?* ***(Choose only ONE significant answer)***	1. Pengaruh kawan-kawan / *Influenced by friends* 2. Pengaruh keluarga / *Influenced by family members* 3. Ingin tahu */ Curiosity* 4. Tidak sengaja */ Unintentionally* 5. *Bosan/ Bored* 6. Lain-lain, nyatakan / *Other, specify* _____

BAHAGIAN 11 – SIKAP TERHADAP SEKS SEBELUM BERKAHWIN
SECTION 11 – ATTITUDES TOWARD PREMARITAL SEX

No. Soalan (S) / *Q No.*	**Soalan / *Questions***	**Kod / Kategori / *Coding Category***
1.	Mereka yang sebaya dengan saya boleh melakukan seks sebelum berkahwin jika kedua-dua pihak bersetuju. *It is alright for people my age to have sex before marriage if both people want to.*	1. Amat setuju / *Strongly agree* 2. Setuju / *Agree* *3.* Tidak bersetuju / *Disagree* 4. Sangat tidak bersetuju / *Strongly disagree*
2.	Mereka yang sebaya dengan saya boleh melakukan seks asalkan mereka menyintai satu sama lain. *It is okay for people my age to have sexual intercourse as long as they have fallen in love.*	1. Amat setuju / *Strongly agree* 2. Setuju / *Agree* *3.* Tidak bersetuju / *Disagree* *4.* Sangat tidak bersetuju / *Strongly disagree*

3.	Melakukan hubungan seks sebelum berkahwin bukanlah pilihan yang baik tapi saya boleh menerimanya. *Having sexual intercourse before marriage is not a good choice, but I can understand it.*	1. Amat setuju / *Strongly agree* 2. Setuju / *Agree* *3.* Tidak bersetuju / *Disagree* *4.* Sangat tidak bersetuju / *Strongly disagree*
4.	Remaja yang melakukan hubungan seks sebelum berkahwin patut dihukum. *Young people who have premarital sex should be punished.*	1. Amat setuju / *Strongly agree* 2. Setuju / *Agree* *3.* Tidak bersetuju / *Disagree* *4.* Sangat tidak bersetuju / *Strongly disagree*

BAHAGIAN 12 – AKIL BALIGH DAN PENDIDIKAN KESIHATAN SEKSUAL DAN REPRODUKTIF
SECTION 12 – PUBERTY AND SEXUAL AND REPRODUCTIVE HEALTH

No. Soalan (S) / *Q No.*	**Soalan/ *Questions***	**Kod Kategori/ *Coding Category***
1.	Bilakah anda mula sedar perubahan pada tubuh badan anda, seperti pecah suara bagi lelaki atau payudara mula membesar bagi perempuan? *When did you first realise your body transformation, e.g., voice change in males and breast growth in females?*	1. _____(Catatkan umur dalam tahun/Enter age in years) *2.* Belum ada perubahan lagi / *No changes yet*
2.	Pernahkah penjaga/ ibu / bapa / guru anda berbincang atau mendidik anda mengenai kesihatan seksual dan reproduktif? *Has your guardian / mother / father / teacher ever discussed or taught you about sexual and reproductive health?*	*1.* Ya / *Yes* 2. Tidak / *No*

BAHAGIAN 13 – TINGKAH LAKU SEKSUAL
SECTION 13 - SEXUAL BEHAVIOUR

No.Soalan (S) / *Q No.*	**Soalan / *Questions***	**Kod Kategori / *Coding Category***
1.	Pernahkah anda melakukan hubungan seks? *Have you ever had sexual intercourse?*	1. Ya / *Yes* 2. Tidak/ *No* → ***BAHAGIAN /SECTION 14***

2.	Apakah sebab anda mengadakan hubungan seks buat kali pertama? **(PILIH SATU JAWAPAN SAHAJA**) *What was the reason for having sex for the first time?* ***(CHOOSE ONE ANSWER ONLY)***	1. Pengaruh rakan sebaya / Peer pressure 2. Bosan / Bored 3. Rasa ingin tahu / Curious 4. Tekanan keluarga / Family pressure 5. Terlibat dalam hubungan serius / In a serious relationship 6. Kerana cinta / In love 7. Untuk keseronokan / For fun 8. Lain-lain, nyatakan / Other, specify _____
3.	Berapakah umur anda ketika pertama kali melakukan hubungan seks? *How old were you at the time you first had sex?*	1. _____ (Catatkan umur dalam tahun / *Enter age in years*)
4.	Sepanjang usia anda, berapakah bilangan orang yang telah anda adakan hubungan seks? *During your life, with how many people have you had sexual intercourse?*	*1.* _____
5.	Pernahkah anda meminum minuman keras atau bahan-bahan dadah yang lain sebelum mengadakan hubungan seks? *Did you drink alcohol or use drugs before you had sexual intercourse?*	*1. Ya/ Yes* *2. Tidak / No*
6.	Semasa melakukan hubungan seks, adakah anda atau pasangan anda menggunakan sesuatu untuk mencegah kehamilan seperti kondom, diafram dan lain-lain? *When you had sex, did you or your partner use any protection, e.g., condom, diaphragm etc.?*	*1.* Tidak / *Never* *2.* Jarang-jarang / *Rarely* *3.* Kadang-kadang / *Sometimes* 4. Kerapkali / *Most of the time* 5. Selalu / *Always*
7.	Apakah kaedah mencegah kehamilan yang sering anda atau pasangan anda gunakan? *What method did you or your partner mostly use?*	1. Kondom / *Condom* *2.* Pil / *Pill* *3.* Suntikan / *Injection* *4.* Menarik balik zakar sebelum ejakulasi / *Withdrawal* 5. Tempoh selamat kitaran haid/ *Safe period* 6. Lain-lain, nyatakan/ *Other, specify* _____

8.	Siapakah pasangan anda ketika anda melakukan hubungan seks? *Who was your partner when you had sexual intercourse?*	1. Pasangan tetap / *Stable partner* *2.* Pasangan kasual/biasa / *Casual partner* *3.* Pasangan tetap dan kasual / *Stable and casual partner* **Catatan/ Note:** Pasangan tetap: Pasangan yang mana anda berikan komitmen untuk mengadakan hubungan yang serius, melebihi orang lain, contohnya, teman lelaki anda. *Stable partner: a partner to whom you feel committed to above anyone else, such as your boyfriend.* Pasangan Kasual / Biasa: Pasangan yang anda pernah adakan hubungan seks selain daripada pasangan tetap atau untuk mendapatkan upah. *Casual partner: someone you have had sex with other than your stable partner or sex for pay.*
9.	Pernahkah anda mengadakan hubungan seks dengan pasangan yang berikut. **(Jawapan boleh lebih dari satu)** *Have you ever had these sexual partners?* ***(More than one answer is allowed)***	*1.* Penagih dadah yang kronik/ *Intravenous drug user* *2.* Pasangan sama jantina/ *A partner of the same sex* 3. Pekerja seks /*Sex workers* *4.* Individu yang diketahui mempunyai jangkitan melalui hubungan kelamin / *A person known to have sexually transmitted infections* 5. Tidak pernah / Never
10.	Pernahkah doktor atau mana-mana anggota kesihatan seperti jururawat dan pegawai pembantu perubatan memberitahu anda bahawa anda menghidap penyakit kelamin? *Has a doctor or other health care provider such as a nurse or medical assistant ever told you that you have sexually transmitted infections?*	*1.* Ya / *Yes* 2. Tidak / *No* *3.* Tidak ingat / *Cannot remember*

11.	Pernahkah anda mengandung (termasuk keguguran) atau menyebabkan seseorang itu mengandung? *Have you ever been pregnant (including miscarriage) or impregnated someone?*	*1.* Ya */ Yes* Jika, YA, berapa kali? / *If YES, how many times?* _____ *2.* Tidak / *Never*
12.	Pernahkah anda menggugurkan kandungan anda secara sengaja? (Keguguran secara sengaja bermaksud anda mengambil tindakan dengan sendiri untuk gugurkan kandungan tersebut) *Have you ever had an induced abortion? (Induced abortion is defined as deliberate termination of a pregnancy)*	*1.* Ya */ Yes* 2. Tidak / *No* 3. Tidak berkenaan / *Not applicable*

BAHAGIAN 14: KESIHATAN SEKSUAL REMAJA
SECTION 14: *TEENAGERS' SEXUAL HEALTH*

No.Soalan (S) / *Q No.*	**Soalan / *Questions***	**Kod Kategori / *Coding Category***
1.	Seseorang itu boleh mengandung walaupun melakukan hubungan seks sekali sahaja. / *A person can get pregnant after having sexual intercourse once.*	1. Betul/*True* *2.* Salah / *False*
2.	Pernahkah anda mendengar tentang cara-cara mencegah kehamilan? / *Have you ever heard of contraception?*	*1.* Ya / *Yes* *2.* Tidak/ *No* ⟶ ***SOALAN / QUESTION 4***
3.	Di antara berikut yang manakah merupakan alat pencegah kehamilan? (Lebih dari satu jawapan diterima) / *Which of the following are types of contraception? (More than one answer is acceptable)*	*1.* Pil hormon/ *Contraceptive pills* *2.* Pisau dan pemegang pisau/ *Scalpel holder* *3.* Alat dalam rahim/ *Intrauterine device (IUD)* *4.* Kondom /*Condom* *5.* Suntikan hormon /*Hormone Injection* *6.* Angkup */ Forceps*
4.	Adakah anda tahu mengenai penyakit jangkitan kelamin? / Do you know about *sexually transmitted infections?*	1. Ya */ Yes* 2. Tidak */ No* ⟶ ***SOALAN / QUESTION 9***

5.	Di antara berikut yang manakah merupakan penyakit jangkitan kelamin? (Lebih dari satu jawapan diterima)/ *Which of the following are sexually transmitted infections? (More than one answer is acceptable)*	*1.* Gonorea / *Gonorhoea* *2.* Sifilis / *Syphilis* *3.* Herpes genital / *Genital herpes* 4. Psoriasis 5. Wart genital / *Genital warts* 6. HIV/AIDS
6.	Di antara berikut, yang manakah merupakan tanda-tanda penyakit jangkitan kelamin? (Lebih dari satu jawapan diterima)/ *From the list below, which of the following are symptoms of sexually transmitted infections? (More than one answer is acceptable)*	1. Tiada / *None* 2. Lelehan pada kemaluan / *Genital discharge* 3. *Selsema / Runny nose* 4. Sakit semasa membuang air kecil/ *Painful urination* 5. Kudis (jerawat, ulser) pada alat kelamin dan mulut / *Genital and mouth ulcers* 6. Gatal pada alat kelamin/ *Itching of the genitals*

TAMAT / THE END

Appendix B: In-depth Interview Protocol

Protokol Temuduga Bagi Kajian Faktor Penentu Tingkahlaku Seksual Berisiko Di Kalangan Remaja Dibawah Jagaan Di Malaysia - Kajian Kaedah Campuran

In-Depth Interview Protocol for the Study Of The Determinants Of Sexual Risk Behaviour Among Incarcerated Adolescents In Malaysia – A Mixed Methods Study

Nama/*Name:*

Tarikh/*Date:*

Institusi Kebajikan/ *Welfare Institution:*

PENDAHULUAN DAN KEIZINAN UNTUK TEMUDUGA/ *INTRODUCTION AND CONSENT*

Pertama sekali saya ingin mengucapkan berbanyak terima kasih kepada anda kerana sudi meluangkan masa untuk berjumpa dengan saya hari ini. Nama saya Dr. Nik Daliana. Saya dari Universiti Malaya. Buat masa ini saya sedang menjalankan suatu kajian mengenai kesihatan remaja. Jadi, tujuan saya berjumpa dengan anda ialah untuk mengetahui serba sedikit mengenai diri dan pengalaman hidup anda. Segala maklumat yang anda berikan akan saya analisa dan akan menjadi sebahagian daripada kajian saya.

Perbualan kita ini akan mengambil masa kurang daripada 1 jam. Saya akan rekod perbualan ini supaya saya tidak akan tertinggal sebarang maklumat yang diberikan oleh anda. Memandangkan perbualan ini akan direkod, saya minta anda bercakap dengan kuat dan jelas.

Segala maklumat yang dikongsi adalah sulit. Ini bermakna semua respon daripada temuduga ini akan dikongsi dengan kumpulan penyelidik saya sahaja dan kami akan pastikan yang orang luar tidak dapat mengenal pasti diri anda daripada maklumat tersebut.

Daripada apa yang saya telah terangkan, ada apa-apa soalan yang anda ingin tanya? Jadi, adakah anda bersetuju untuk ditemuduga?

First, I would like to thank you for the pleasure of meeting with me today. My name is Dr. Nik Daliana from the University of Malaya. I am currently performing research on adolescents' health. Hence, the reason I am meeting with you is to explore your life and personal experiences. All of the data that you provide will be analysed and become part of my research.

Our conversation will take approximately one hour to complete. I will record this conversation so I will not leave out any of the information provided by you. Since this conversation is being recorded, I hope you will speak in a manner that is loud and clear.

All of the information that is shared is considered private. This means that any response from this interview session will only be shared with our research group, and we will ensure that no one outside of this group will be able to identify you from the information given.

From all of the information that I have provided, are there any questions that you want to ask? Are you ready to be interviewed?

TEMURAMAH/*INTERVIEW*

Ceritakan serba sedikit mengenai diri anda/ *Tell me about yourself.*

- Dimanakah anda dilahirkan dan dibesarkan? / *Where were you born and raised?*
- Dimanakah anda tinggal sekarang? Anda anak yang ke berapa? / *Where do you stay now? How many siblings do you have? Are you the youngest or oldest in the family?*
- Adakah kedua-dua ibu bapa berada bersama semasa anda dilahirkan? /*Were your parents around when you were born?*
- Selepas dilahirkan, siapakah yang menjaga anda? /*Who took care of you when you were born if your parents were not around?*

Ceritakan mengenai kedua-dua ibu bapa / penjaga anda/ *Tell me about your parents/guardian.*

- Berapakah umur mereka? *How old are they?*
- Di manakah mereka sekarang? /*Where are they now?*
- Apakah pekerjaan ibu/bapa/ penjaga anda? / *What are their occupations?*
- Adakah ibu bapa/ penjaga anda sihat? /*Are your parents/guardian healthy?*

Ceritakan mengenai adik beradik anda / *Tell me about your siblings.*

- Berapakah bilangan adik beradik anda? / *How many siblings do you have?*
- Berapakah umur mereka? / *How old are they?*
- Adakah mereka masih belajar / bekerja? / *Are they still studying or working?*
- Adakah adik beradik anda semua sihat? / *Are they all healthy?*

Ceritakan kenapa dan bagaimana anda di masukkan ke institusi ini / *Tell me why and how you ended up in this institution.*

TEMPAT TINGGAL/ *HOME*

1. Sila beri sedikit gambaran mengenai tempat tinggal anda/ *Describe the place where you are residing now.*

- Di manakah anda tinggal? / *Where do you stay?*
- Apakah jenis rumah anda (rumah kampung/ teres/ banglo/pangsa)? *What type of house are you staying in (village home/duplex/banglo/flats/terrace homes)?*
- Adakah anda mempunyai bilik sendiri? *Do you have your own room?*
- Siapakah yang tinggal bersama anda? /*Who are you staying with?*

2. Bagaimanakah hubungan anda dengan kedua ibu bapa/ penjaga? /*How is your relationship with your parents/guardians?*
3. Berapa banyak masa yang diluangkan bersama mak dan ayah anda? / *How much time do you spend with them?*

4. Apakah aktiviti yang anda lakukan bersama mereka? / *What sort of activities do you do with them?*
5. Pernahkah anda dan ibu bapa berselisih faham? / *Have your parents ever had any disagreements?*
6. Apakah perkara yang menyebabkan anda dan ibu bapa berselisih faham? / *What sorts of problems usually bring them close to having a disagreement?*
7. Adakah ibu bapa anda mengambil berat tentang anda? Adakah mereka mengambil tahu tentang sekolah dan aktiviti-aktiviti yang anda lakukan di luar? Jelaskan jawapan anda / *Do they care about you? Do they ask you about your education and other activities that you do outside of school? Please explain.*
8. Bagaimanakah hubungan anda dengan adik beradik? / *How is your relationship with your siblings?*
9. Berapa banyak masa yang diluangkan bersama adik beradik anda? / *How much time do you spend with them?*
10. Apakah aktiviti yang anda lakukan bersama mereka? / *What sort of activities do you do with them?*
11. Pernahkah anda dan adik beradik berselisih faham? /*Have you had any disagreements with them?*
12. Apakah perkara-perkara yang selalu anda dan adik beradik berselisih faham? / *What sorts of issues lead to disagreements?*
13. Kebanyakan ibu bapa / penjaga menetapkan peraturan untuk anak-anaknya. Bagaimanakah peraturan di rumah anda? / *Many parents/guardians set up rules for their sons/daughters. Are there any rules/regulations at home?*

PENDIDIKAN / *EDUCATION*

1. Sila beri huraian mengenai tahap pendidikan anda/ *Please explain about your education level.*

- Pernahkah anda bersekolah? / *Have you been enrolled in a school?*
- Adakah anda masih bersekolah? / *Are you still in school?*
- Anda berapa di Tingkatan berapa? / *What form/level/standard are you at now?*
- Jika anda TIDAK bersekolah, kenapa? / *If you are NOT in school, why not?*
- Anda pernah bersekolah sehingga Darjah/ Tingkatan berapa? *Have you been schooled to a certain level?*

2. Ceritakan mengenai sekolah anda/ *Explain about your school*.
    - Apakah nama sekolah anda? *What is the name of your school?*
    - Di manakah sekolah anda? *Where was it located?*
    - Adakah sekolah anda sekolah campur atau asing? *Is your school co-ed or a boys/girls school?*
    - Adakah anda suka pergi ke sekolah? Jelaskan sekiranya Ya atau Tidak/ *Do/did you enjoy going to school? Please explain why or why not.*

3. Ceritakan mengenai pencapaian akademik anda semasa di sekolah/ Explain about your academic achievements in school.
    - Apakah subjek yang anda suka semasa di sekolah? /*What subject did you like in school?*
    - Apakah pencapaian akademik anda yang paling tinggi semasa di sekolah? / *What was your highest academic achievement in school?*

4. Jelaskan hubungan anda dengan kawan-kawan dan guru-guru di sekolah? Sila huraikan/ *Explain the relationship that you had with your friends and your teacher.*
    - Adakah anda rapat dengan guru-guru di sekolah? Adakah guru-guru ini prihatin terhadap anda? /*Are you close to the teachers in school? Are the teachers concerned about you?*
    - Adakah anda mempunyai ramai kawan semasa di sekolah? Siapa mereka? *Did you have many friends in school? Who are they?*
    - Adakah mereka sebaya dengan anda? / *Are they the same age as you are?*

5. Ceritakan, sekiranya ada, masalah yang pernah anda hadapi sewaktu di sekolah/ Explain if you had any problems when you were in school.

- Pernahkah anda gagal/ mengulangi tahun/ tingkatan? Kenapa? /*Have you ever failed/repeated a level? Why?*
- Pernahkah anda sengaja tidak ke sekolah/ ponteng? Kenapa? *Have you ever purposely skipped school? Why?*
- Pernahkah anda digantung sekolah? Kenapa? *Have you ever been suspended from school? Why?*

AKTIVITI / *ACTIVITY*

1. Ceritakan aktiviti-aktiviti yang anda lakukan pada waktu lapang/ *Tell me about your extracurricular activities.*
    - Apakah hobi anda? *What are your hobbies?*
    - Apakah yang anda lakukan untuk bergembira? *What makes you happy?*
    - Apakah aktiviti yang anda lakukan bersama keluarga? *What activities do you do with your family?*
    - Apakah aktiviti yang anda lakukan bersama kawan-kawan? / *What activities do you do with your friends?*

BAHAN DADAH / *SUBSTANCE USE*

1. Ramai remaja suka mencuba dadah, arak atau rokok. Pernahkah anda atau kawan-kawan anda mencubanya? Ceritakan pengalaman anda / *Many teenagers enjoy trying out drugs, alcohol, and cigarettes. Have you or your friends ever tried it? Tell me your experience.*

2. Untuk setiap jenis bahan (substance)/ *For every type of substance:*
   - Bagaimanakah anda boleh mula mengambilnya? Kenapa anda mengambilnya? *How did you start taking them? Why did you take them?*
   - Sudah berapa lamakah anda mengambilnya? *How long have you been taking them?*
   - Berapa banyak dan berapa kerap anda mengambil bahan tersebut? *How much and how often do you use the substance?*
   - Dengan siapakah anda mengambil bahan-bahan tersebut? *Who do you usually take the substance with?*
   - Apakah yang anda dan kawan-kawan lakukan apabila mengambil dadah/ minuman keras? *What do you usually do with your friends when you take these substances (or drink alcohol)?*

3. Adakah sesiapa di dalam keluarga anda yang minum arak, hisap rokok atau menggunakan lain-lain dadah? Jika YA, ceritakan pengalaman anda / *Are there any of your family members who take drugs, drink alcohol, or smoke cigarettes?*

TINGKAHLAKU SEKS/ *SEXUAL BEHAVIOUR*

1. Pernahkah anda mempunyai hubungan serius dengan lelaki/ wanita? *Have you ever had a serious relationship with a female/male?*

2. Ceritakan sedikit mengenai hubungan tersebut. Bilakah ia bermula? Bagaimanakah anda mengenali pasangan anda? / *Tell me about that relationship. When did it start? How did you meet your partner?*

3. Berapa lamakah perhubungan tersebut? / *How long was the relationship?*

4. Semasa menjalinkan hubungan tersebut, anda pernah terlibat dalam hubungan seksual. Ceritakan pengalaman kali pertama mengadakan hubungan seksual. / *Did you engage in any sexual activities during your relationship?*

5. Berapakah umur anda semasa pertama kali melakukannya? / *How old were you when you first engaged in a sexual relationship?*

6. Ceritakan mengenai pasangan anda. Berapakah umurnya pada waktu itu? Dengan siapakah anda melakukan hubungan seks tersebut? (sama jantina / berlainan jantina)? Dimanakah anda melakukan hubungan seks tersebut? *Tell me about your partner. How old was your partner at that time? Who did you have a sexual relationship with (same gender/different gender)? Where did you commit these sexual acts?*

7. Adakah anda menggunakan alat pencegah kehamilan semasa melakukan seks? Apakah yang anda gunakan? Jika tidak memakai alat pelindung, kenapa? *Did you use any contraceptive devices when you had sexual intercourse? What did you use? If you did not, why did you not use it?*

8. Apakah yang menyebabkan anda mengambil keputusan untuk melakukan seks untuk pertama kali? *What made you decide to have sexual intercourse for the first time?*

9. Apakah perasaan anda selepas mengadakan hubungan seksual? *What did you feel after you had sexual intercourse?*

PENDERAAN KANAK-KANAK/ *CHILD ABUSE*

1. Pernahkah anda dipukul semasa kecil dahulu? Jika Ya, ceritakan pengalaman anda/ *Have you ever been abused by anyone when you were little? If YES, tell me your experience.*

2. Pernahkah sesiapa memaksa anda melakukan sesuatu yang anda tidak rasa selesa atau buat anda rasa tidak di hargai, contohnya penderaan seksual? Contohnya menyentuh alat sulit anda dalam keadaan memberahikan dan tanpa kerelaan anda atau memaksa anda menyentuh alat sulit mereka dalam keadaan memberahikan dan tanpa kerelaan anda / *Has anybody ever forced you to do something that is uncomfortable to you and makes you feel worthless, such as sexual abuse? For example, touching your genitals/private parts in a very sexual way without your consent or forcing you to touch their genitals in a sexual manner.*

KEAGAMAAN / *RELIGIOSITY*

1. Huraikan mengenai agama/kepercayaan anda */ Explain your religious beliefs or any kind of beliefs.*

2. Apakah agama anda? / *What is your religion?*

3. Sebelum masuk ke institusi ini, adakah anda sembahyang?/ *Before you were admitted to this institution, did you ever pray?*

4. Berapa kerapkah anda sembahyang? Adakah pada masa-masa tertentu sahaja? / *How often do you pray? Do you only pray at certain times?*

5. Berapa kerapkah anda ke masjid/ kuil/ gereja atau hadir ke majlis keagamaan? / *How often do you go to mosque/temple/church or any religious events?*

6. Jika anda tidak melakukan perkara-perkara di atas, kenapa? *If you do not believe in praying, why not?*

Appendix C: Essay Questions

PENULISAN ESEI / ESSAY WRITING

Tulis karangan mengenai tajuk-tajuk berikut. Sila tulis sebanyak mungkin berdasarkan :pengalaman hidup anda. Anda bebas menggunakan lenggok bahasa/percakapan harian yang sesuai dengan diri anda dalam karangan tersebut/ *Write essays / stories about these topics. Please write as much as possible based on your experiences. You are free to use any spoken or formal language that you are comfortable with.*

1. Ceritakan serba sedikit mengenai diri, keluarga dan kawan-kawan anda/ *Write about yourself, your family and your friends.*
2. Ceritakan pengalaman hubungan seksual anda yang pertama/ *Write about the first time you had sex.*
3. Kenapa anda mengadakan hubungan seks?/ *Why did you first have sex when you did?*
4. Apakah perasaan anda selepas mengadakan hubungan seks kali pertama? /*How did you feel after the first time?*

Appendix D: Conference Proceeding

The 42nd APACPH Conference, Bali, Indonesia, Oral Presentation

OP-HP2-03 – Health promotion and behavioural changes for a better life

Predictors of early sexual debut among adolescents of welfare institutions in peninsular Malaysia

Nik Daliana binti Nik Farid. Email: daliana75@gmail.com

Nik Daliana Nik Farid[1], Nabilla Al-Sadat Abdul Mohsein[1], Sulaiman Che' Rus[2]

[1]Family Health Unit, Social and Preventive Medicine Department, Faculty of Medicine, University of Malaya, 50603, Kuala Lumpur, Malaysia
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Abstract

In recent years, more adolescents are engaging in premarital sex in Malaysia. However, only a limited number of studies have explored predictors of early sexual debut among adolescents living in welfare institutions, essential for prevention intervention development. To examine the correlates of early sexual debut among adolescents between the ages 12-18 years, the authors carried out a cross sectional study from October 2009 to June 2010. The study was participated by a total of 799 adolescents from 22 selected welfare institutions governed by the Malaysia Welfare Department, in Peninsular Malaysia. The data were collected by self administered questionnaire and interviews. Pearson's chi square was used to test the statistical significance of the differences of early sexual debut in different subgroups. Multivariate analyses using logistic regression were performed to assess the effects of gender, family structure, parental monitoring, parental trust, school connectedness, peer pressure, self esteem, attitudes toward premarital sex and child sexual abuse on the risk of early sexual debut. The results showed that parental trust, school connectedness and child sexual abuse were related to an adolescents's early sexual debut. These findings have provided some baseline information that could be used to develop a sexual and reproductive intervention to address sexual risk behaviours in this often ignored population.

Key words: parental trust, school connectedness, child sexual abuse, early sexual debut, adolescents in welfare institutions

1st Regional Health Sciences & Nursing Conference 2011, Poster Presentation

Early Sex among high risk adolescents in Peninsular Malaysia: The Determinants

Nik Daliana Nik Farid*[1]
Nabilla Al-Sadat Abdul Mohsein[1]
Sulaiman Che' Rus[2]

Purpose: In recent years, more adolescents are engaging in premarital sex in Malaysia. However, only a limited number of studies have explored predictors of early sexual debut among high risk adolescents, essential for prevention intervention development.

Methods: To examine the correlates of early sexual debut among adolescents between the ages 12-18 years, the authors carried out a cross sectional study from October 2009 to June 2010. The study was participated by a total of 1093 adolescents from 22 selected welfare institutions governed by the Social Welfare Department of Malaysia in Peninsular Malaysia. The data were collected by self administered structured questionnaire and interviews.

Results: Pearson's chi square was used to test the statistical significance of the differences of early sexual debut in different subgroups. Multivariate analyses using logistic regression were performed to assess the effects of demography, social environment, attitude and knowledge and psychological on the risk of early sexual debut. The results showed that history of child sexual abuse, low parental monitoring, inadequate knowledge on sexual health and high self esteem were related to an adolescent's early sexual debut.

Conclusions: These findings have provided some key information that could be used to develop a sexual and reproductive intervention to address sexual risk behaviours in this often ignored population.

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*Presenting author email: daliana75@gmail.com

1st Regional Health Sciences & Nursing Conference 2011, Poster Presentation

Sexual behaviours among adolescents of welfare institutions in peninsular Malaysia: A cross sectional study

Nik Daliana Nik Farid*[1]
Nabilla Al-Sadat Abdul Mohsein[1]
Sulaiman Che' Rus[2]

Introduction: Premarital sex among adolescents is a serious problem because of its implications e.g. unwanted pregnancies and sexually transmitted infections (STIs). This study was conducted to determine the prevalence of sexual intercourse among adolescents who were sheltered and rehabilitated in welfare institutions.

Methods: A cross sectional study of 1093 adolescents aged between 12-19 years was carried out in 22 selected welfare institutions governed by the Social Welfare Department of Malaysia across peninsular Malaysia. Data were collected using self administered questionnaires and interviews.

Results: The study showed that 58.8% of the total sample was reported to have had sexual intercourse. The mean age at first sexual intercourse was 14 years. Nineteen percent of adolescents reported they had been pregnant or had made someone else pregnant. Adolescent sexual intercourse was significantly associated with socio demographical factors (age, ethnicity and education level); environmental factors (family structure); and substance use (cigarette smoking, alcohol use, drug use).

Conclusions: The baseline information could be used to develop a sexual and reproductive health intervention to address sexual risk behaviours in the high risk adolescents.

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UM-QUB Public Health Research Collaboration Symposium, Poster Presentation

Factors that shape high risk adolescents' first sexual initiation – A qualitative study

Nik Daliana Nik Farid [1, 2], Nabilla Al-Sadat [1, 2], Sulaiman Che' Rus [3]

[1] Centre for Population Health (CePH), University of Malaya, Kuala Lumpur, Malaysia
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Background: In recent years, more adolescents are engaging in premarital sex in Malaysia. This has become a public health concern due to its implications i.e. sexually transmitted infections and teenage pregnancies. The objective of this study was to better understand the factors that influence the initiation of first intercourse among adolescents and the circumstances in which this occurs.
Materials and methods: Criterion samples of adolescents aged between 13-19 years who admitted to consensual sexual intercourse were recruited from four welfare institutions in Kuala Lumpur and Selangor. Data were collected using in-depth interviews and essay writings. This study was guided by a grounded thematic theory methodology.
Results: Adolescents identified factors such as strengthening relationship; unable to control sex drive; family issues; curiosity; stress reliever and drug influence to be important determinants of their first sexual initiation.
Conclusion: The explorative approach used in this current study expands existing understanding of the factors influencing intercourse initiation. Also, these findings could assist in the development of a comprehensive sexual and reproductive intervention that deals with sexual risk behaviours in the high risk adolescent population.
Keywords: high risk adolescents, strengthening relationship, unable to control sex drive, family issues, curiosity, stress reliever, drug influence

1st International Public Health Conference and 18th National Public Health Colloquium, Oral Presentation

FPB2-8 – Oral Presentation

Perceptions of High Risk Adolescents' Sexual Behaviour - A Qualitative Study

Nik Daliana NF[1, 2], Nabilla Al-Sadat[1, 2], Sulaiman CR[3]

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[2] Department of Social and Preventive Medicine, University of Malaya, Kuala Lumpur, Malaysia
[3] Institute for Health Behavioural Research, Ministry of Health, Kuala Lumpur, Malaysia

Introduction: In recent years, more adolescents are engaging in premarital sex in Malaysia. This has become a public health concern due to its implications i.e. sexually transmitted infections and teenage pregnancies. The objective of this study was to better understand the factors that influence the initiation of first intercourse among adolescents and the circumstances in which this occurs. **Methods:** Criterion samples of adolescents aged between 13-19 years who admitted to consensual sexual intercourse were recruited from four welfare institutions in Kuala Lumpur and Selangor. Nineteen in-depth interviews were conducted. Data collected was analysed using grounded thematic theory methodology. **Results:** The reasons for initiating sexual intercourse were classified under three general themes; family level factor; individual level factor and partner level factor. In general, the individual level factors such as affection; stress reliever; history of unwanted sexual intercourse; inability to control sexual drive and influenced by drugs emerged as the prime factor. Family level factor, for instance, family issues was not a major factor. However, it encouraged the adolescents to commence the act. **Conclusion:** The explorative approach used in this current study expands existing understanding of the factors influencing intercourse initiation. Also, these findings could assist in the development of a comprehensive sexual and reproductive intervention that deals with sexual risk behaviours in the high risk adolescent population.
Keywords: adolescents, family level factor, individual level factor, partner level factor

1st International Public Health Conference and 18th National Public Health Colloquium, Poster Presentation

PP48 – Poster Presentation

Predictors of premarital sex among high risk adolescents in peninsular Malaysia

Nik Daliana NF[1, 2], Nabilla Al-Sadat[1, 2], Sulaiman CR[3]

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Introduction: Premarital sex among adolescents is a serious problem because of its implications e.g. unwanted pregnancies and sexually transmitted infections (STIs). This study was conducted to determine the prevalence of sexual intercourse among adolescents who were sheltered and rehabilitated in welfare institutions. **Methods:** A cross sectional study of 1082 adolescents aged between 12-19 years was carried out in 22 selected welfare institutions governed by the Social Welfare Department of Malaysia across Peninsular Malaysia. Data were collected using self administered questionnaires and interviews. **Results:** The study showed that 62.3% of the total sample was reported to have had sexual intercourse. The mean age at first sexual intercourse was 14 years. 21.8% of the sexually experienced female female adolescents reported being pregnant, while 13.2% of male adolescents had impregnated his sexual partner. Adolescent sexual intercourse was significantly associated with demographic factors (gender, age, geographic residence and family structure); and social factors (substance use, attitude on premarital sex, parental monitoring, childhood sexual abuse and pornography viewing). **Conclusion:** The baseline information could be used to develop a sexual and reproductive health intervention to address sexual risk behaviours in the high risk adolescents.

Appendix E: Permission Letters

Letter confirming ethical approval from University of Malaya Medical Centre (UMMC) Medical Ethics Committee (1)

UNIVERSITI MALAYA
KUALA LUMPUR
PUSAT PERUBATAN UM

يونيورسيتي مالايا

No. Rujukan:-HU-61/12/1-1

28 Rabiulakhir 1430H
24 April 2009

Dr. Nik Daliana Binti Nik Farid
Jabatan Perubatan Kemasyarakatan & Pencegahan
Pusat Perubatan Universiti Malaya

Puan,

SURAT PEMAKLUMAN KEPUTUSAN PERMOHONAN MENJALANKAN PROJEK PENYELIDIKAN
Predictors Of High Risk Sexual Behaviour Among Adolescents In Welfare Institutions In Kuala Lumpur
Protocol No:
MEC Ref. No: 715.22

Dengan hormatnya saya merujuk kepada perkara di atas.

Bersama-sama ini dilampirkan surat pemakluman keputusan Jawatankuasa Etika Perubatan yang bermesyuarat pada 22 April 2009 untuk makluman dan tindakan puan selanjutnya.

Sekian, terima kasih.

Yang benar

Norashikin Mahmood
Setiausaha
Jawatankuasa Etika Perubatan
Pusat Perubatan Universiti Malaya

s.k Ketua
Jabatan Perubatan Kemasyarakatan & Pencegahan

Jawatankuasa Etika Perubatan
PUSAT PERUBATAN UNIVERSITI MALAYA
(University Malaya Medical Centre)
LEMBAH PANTAI,59100 KUALA LUMPUR,MALAYSIA
Telefon: :603-79494422
: samb. 3209(pejabat am)
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Laman Web : www.ummc.edu.my
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izanie@ummc.edu.my

SIRIM ISO 9001:2000 REG. NO AR 2597

Letter confirming ethical approval from University of Malaya Medical Centre (UMMC) Medical Ethics Committee (2)

UNIVERSITI MALAYA
KUALA LUMPUR
PUSAT PERUBATAN UM

JAWATANKUASA ETIKA PERUBATAN
PUSAT PERUBATAN UNIVERSITI MALAYA
ALAMAT: LEMBAH PANTAI, 59100 KUALA LUMPUR, MALAYSIA
TELEFON: 03-79494422 samb. 3209 FAKSIMILI: 03-79494638

NAME OF ETHICS COMMITTEE/IRB: Medical Ethics Committee, University Malaya Medical Centre **ADDRESS:** LEMBAH PANTAI 59100 KUALA LUMPUR	**ETHICS COMMITTEE/IRB REFERENCE NUMBER:** 715.22
PROTOCOL NO: **TITLE:** Predictors Of High Risk Sexual Behaviour Among Adolescents In Welfare Institutions In Kuala Lumpur	
PRINCIPAL INVESTIGATOR : Dr. Nik Daliana Binti Nik Farid **TELEPHONE:** **KOMTEL:**	**SPONSOR:**

The following item [✓] have been received and reviewed in connection with the above study to be conducted by the above investigator.

[✓] Borang Permohonan Penyelidikan	Ver date: 2 Apr 09
[✓] Study Protocol	Ver date:
[ ] Investigator Brochure	Ver date:
[✓] Patient Information Sheet	Ver date:
[✓] Consent Form	Ver date:
[✓] Questionnaire	
[✓] Investigator(s) CV's (Dr. Nik Daliana Binti Nik Farid)	

and have been [✓]

[✓] Approved
[ ] Conditionally approved (identify item and specify modification below or in accompanying letter)
[ ] Rejected (identify item and specify reasons below or in accompanying letter)

Comments:

i. *Investigator is required to follow instructions, guidelines and requirements of the Medical Ethics Committee.*
ii. *Investigator is required to report any protocol deviations/violations through the Clinical Investigation Centre and provide annual/closure reports to the Medical Ethics Committee.*

Date of approval: 22th APRIL 2009

s.k. Ketua
Jabatan Perubatan Kemasyarakatan & Pencegahan

Timbalan Dekan (Penyelidikan)
Fakulti Perubatan, Universiti Malaya

Setiausaha
Jawatankuasa Penyelidikan Pusat Perubatan
Fakulti Perubatan, Universiti Malaya

.....
PROF. LOOI LAI MENG
Chairman
Medical Ethics Committee

Letter confirming ethical approval from University of Malaya Medical Centre (UMMC) Medical Ethics Committee (3)

UNIVERSITI MALAYA
KUALA LUMPUR
PUSAT PERUBATAN UM

JAWATANKUASA ETIKA PERUBATAN
PUSAT PERUBATAN UNIVERSITI MALAYA
ALAMAT: LEMBAH PANTAI, 59100 KUALA LUMPUR, MALAYSIA
TELEFON: 03-79494422 samb. 3209 FAKSIMILI: 03-79494638

MEDICAL ETHICS COMMITTEE COMPOSITION, UNIVERSITY MALAYA MEDICAL CENTRE

Date: 22th APRIL 2009

Member (Title and Name)	Occupation (Designation)	Male/Female (M/F)	Tick (✓) if present when above items were reviewed
Chairperson: Prof. Looi Lai Meng	Representative Dean/Director	Female	✓
Deputy Chairperson: Prof. Kulenthran Arumugam	Consultant Medical Education Research and Development Unit (MeRDU)	Male	
Secretary : Cik Norashikin Mahmood	Secretary of Medical Ethics Committee	Female	✓
Members: 1. Prof. Jamiyah Hassan	Deputy Chairman (Professional)	Female	
2. Dr. Muhammad Muhsin Ahmad Zahari	Representative Head of Department of Psychological Medicine	Male	✓
3. Prof. Madya Mohamed Ibrahim Noordin	Head of Department of Pharmacy, FOM	Male	✓
4. Prof. Tan Chong Tin	Representative Head Of Department Of Medicine	Male	
5. Assoc. Prof. George Lee Eng Geap	Representative Head of Department of Surgery	Male	✓
6. Assoc. Prof. Grace Xavier	Lecturer, Faculty of Law	Female	✓
7. Pn. Che Zuraini Sulaiman	Representative, Senior Manager, PTj Farmasi UMMC	Female	✓
8. YBhg. Datin Aminah Pit Abdul Rahman	Public Representative	Female	✓
9. Madam Ong Eng Lee	Public Representative	Female	

Comments: The MEC of University Malaya Medical Centre is operating according to ICH GCP guideline and the Declaration of Helsinki. Members no. 6, 8 & 9 are representatives from Faculty of Law in the University of Malaya and the public, respectively. They are independent of the hospital or trial site.

PROF. LOOI LAI MENG
Chairman
Medical Ethics Committee

Letter of permission to conduct research in institutions under the Ministry of Education Malaysia (1)

U.P: 603 62036242 ASHAMUDDIN

JABATAN PELAJARAN WILAYAH PERSEKUTUAN KUALA LUMPUR
PERSIARAN DUTA, OFF JALAN DUTA,
50604 KUALA LUMPUR.
Tel : 03-6203 7777
Fax : 03-6203 7788

JPWP 12-21/Jld.6 - 09/(177)
13 Ogos 2009

Dr Nik Daliana Binti Nik Farid
17, Jln Terasek 7, Bangsar Baru,
59100 Wilayah Persekutuan Kuala Lumpur

Y. Bhg. Datin/Tuan/Puan,

KEBENARAN UNTUK MENJALANKAN KAJIAN DI SEKOLAH-SEKOLAH, MAKTAB-MAKTAB PERGURUAN, JABATAN-JABATAN PELAJARAN DAN BAHAGIAN-BAHAGIAN DI BAWAH KE MENTERIAN PELAJARAN MALAYSIA

Dengan hormatnya saya diarah memaklumkan bahawa permohonan Y. Bhg. Datin/Tuan/Puan untuk menjalankan kajian bertajuk :-

" The Evaluation Of Survey For Teens Questionnaire Applied In Malaysia Adolescents "
adalah diluluskan tertakluk kepada syarat-syarat berikut:-

a) Kelulusan ini adalah berdasarkan kepada apa yang terkandung di dalam cadangan penyelidikan yang telah diluluskan oleh Kementerian Pendidikan Malaysia.
b) Sila kemukakan surat kebenaran ini ketika berurusan dengan Pengetua/Guru Besar sekolah berkenaan.
c) Kelulusan ini untuk sekolah-sekolah di Wilayah Persekutuan Kuala Lumpur sahaja
d) Y. Bhg. Datin/Tuan/Puan dikehendaki mengemukakan senaskah hasil kajian tuan/puan ke Jabatan ini sebaik sahaja ianya siap sepenuhnya.
e) Kebenaran ini sah sehingga 31.12.2009

Sekian, terima kasih.

"BERKHIDMAT UNTUK NEGARA"

Saya yang menurut perintah,

(SITI HALIMAH BT SYED NORDIN)
Penolong Pendaftar Sekolah
Jabatan Pelajaran Wilayah Persekutuan
b.p Ketua Pendaftar Sekolah & Guru
Kementerian Pelajaran Malaysia

"CEMERLANG DI KALANGAN YANG CEMERLANG"

(Sila catatkan no. rujukan Jabatan ini apabila berurusan)

Letter of permission to conduct research in institutions under the Ministry of Education Malaysia (2)

BAHAGIAN PERANCANGAN DAN PENYELIDIKAN DASAR PENDIDIKAN
KEMENTERIAN PELAJARAN MALAYSIA
ARAS 1 - 4, BLOK E - 8,
KOMPLEKS KERAJAAN PARCEL E
PUSAT PENTADBIRAN KERAJAAN PERSEKUTUAN
62604 PUTRAJAYA

Telefon : 03-88846591
Faks : 03-88846579

Rujuk. kami : KP(BPPDP)603/5/JLD.7 (767)
Tarikh 31 Julai 2009

Dr Nik Daliana Bt. Nik Farid **IC: 750204145424**
17 Jln Terasek 7 Bangsar Baru
59100 Kuala Lumpur
WP Kuala Lum

Tuan/Puan,

Kelulusan Untuk Menjalankan Kajian Di Sekolah, Institut Perguruan, Jabatan Pelajaran Negeri dan Bahagian-Bahagian di Bawah Kementerian Pelajaran Malaysia

Adalah saya dengan hormatnya diarah memaklumkan bahawa permohonan tuan/puan untuk menjalankan kajian bertajuk:

The Evaluation Of Survey For Teens Questionnaire Applied In Malaysian Adolescents

diluluskan.

2. Kelulusan ini adalah berdasarkan kepada cadangan penyelidikan dan instrumen kajian yang tuan/puan kemukakan ke Bahagian ini. Kebenaran bagi menggunakan sampel kajian perlu diperoleh dari Ketua Bahagian / Pengarah Pelajaran Negeri yang berkenaan.

3. Sila tuan/puan kemukakan ke Bahagian ini senaskah laporan akhir kajian setelah selesai kelak. Tuan/Puan juga diingatkan supaya mendapat kebenaran terlebih dahulu daripada Bahagian ini sekiranya sebahagian atau sepenuhnya dapatan kajian tersebut hendak dibentangkan di mana-mana forum atau seminar atau diumumkan kepada media

Sekian untuk makluman dan tindakan tuan/puan selanjutnya. Terima kasih.

"BERKHIDMAT UNTUK NEGARA"

Saya yang menurut perintah,

(DR. SOON SENG THAH)
Ketua Sektor,
Sektor Penyelidikan dan Penilaian
b.p. Pengarah
Bahagian Perancangan dan Penyelidikan
Dasar Pendidikan
Kementerian Pelajaran Malaysia

Letter of permission to conduct research in the Social Welfare Department (1)

جباتن كباجيكن مشاركة مليسيا
IBU PEJABAT
JABATAN KEBAJIKAN MASYARAKAT MALAYSIA
TINGKAT 19-24, MENARA TUN ISMAIL MOHAMED ALI
JALAN RAJA LAUT 50562 KUALA LUMPUR
Tel : 603-2616 5600 Faks : 603-2694 9395 Kawat : WELDEP Laman Web : http://www.jkm.gov.my

MS ISO 9001 : 2000
MAMPU
No. Pendaftaran : PA 0068

Ruj. Tuan :
Ruj. Kami : JKMM: 100/12/5/2 Jld 21 (16)
Tarikh : 24 Julai 2009

Ketua Unit Kesihatan Keluarga
Jabatan Perubatan Kemasyarakatan dan Pencegahan
Fakulti Perubatan
Universiti Malaya
50603 KUALA LUMPUR

(u.p: **Dr. Nik Daliana Nik Farid**
Calon Dr PH Tahun 2)

Puan,

PERMOHONAN MENJALANKAN KAJIAN/PENYELIDIKAN DI JABATAN KEBAJIKAN MASYARAKAT

Tajuk Kajian/Penyelidikan : '***Predictors of High Risk Sexual Behaviour Among Adolescents In Welfare Institutions In Kuala Lumpur***'

Tempat Kajian/Penyelidikan : **Seperti di LAMPIRAN**

Dengan hormatnya saya merujuk kepada perkara di atas.

2. Sukacita dimaklumkan Jabatan ini tiada halangan terhadap permohonan tersebut. Walau bagaimanapun kelulusan permohonan puan adalah tertakluk kepada pengembalian semula Perjanjian Menjalankan Kajian/Penyelidikan Di Jabatan Kebajikan Masyarakat dalam masa **14 hari** dari tarikh surat ini. Kajian/Penyelidikan hanya boleh dijalankan selepas Surat Kelulusan Menjalankan Kajian/Penyelidikan dikeluarkan kepada puan.

3. Bersama-sama ini disertakan **Perjanjian Menjalankan Kajian/Penyelidikan di Jabatan Kebajikan Masyarakat** untuk tindakan puan selanjutnya.

Sekian, terima kasih.

"BERKHIDMAT UNTUK NEGARA"
"BERKAT BERJASA"

Saya yang menurut perintah,

(NORANI HJ. MOHD HASHIM)
b.p. Ketua Pengarah Kebajikan Masyarakat Malaysia

s.k.

1. Ketua Pengarah Kebajikan Masyarakat Malaysia
2. Timbalan Ketua Pengarah (Perancangan)
3. Pengetua
   Asrama Sentosa Jalan Sentul
   51000 **KUALA LUMPUR**
   (Tel: 03-40421768 / Faks: 03-40430993)
4. Pengetua
   Asrama Akhlak Dato' Keramat
   No. 22, Jalan AU 2A/6, Tmn. Keramat
   54200 **KUALA LUMPUR**
   (Tel: 03-42579652 / Faks: 03-42579652)
5. Pengetua
   Rumah Kanak-kanak Tengku Budriah
   Batu 4, Cheras
   56000 **KUALA LUMPUR**
   (Tel: 03-91318439 / Faks: 03-03-91302739)
6. Pengetua
   Rumah Kanak-kanak Rembau
   71300 **NEGERI SEMBILAN**
   (Tel: 06-6851231 / Faks: 06-6857412)
7. Pengetua
   Rumah Budak Laki-laki Tun Abdul Aziz
   Durian Daun, 75400 **MELAKA**
   (Tel: 06-2834149 / Faks: 09-5667866)

Letter of permission to conduct research in the Social Welfare Department (2)

JABATAN KEBAJIKAN MASYARAKAT MALAYSIA
(DEPARTMENT OF SOCIAL WELFARE MALAYSIA)
Tingkat 19-24, Menara Tun Ismail Mohamed Ali, Jalan Raja Laut, 50562 Kuala Lumpur, Malaysia
+603-2616 5600 +603-2693 4270 / +603-2694 9395
www.jkm.gov.my

Rujukan Tuan :
Rujukan Kami : JKMM: 100/12/5/2 Jld 31 (88)
Tarikh : 16 September 2009

Dr. Nik Daliana Nik Farid
17, Jalan Terasek 7
Bangsar Baru, 59100
KUALA LUMPUR

Puan,

KEBENARAN MENJALANKAN KAJIAN/PENYELIDIKAN DI JABATAN KEBAJIKAN MASYARAKAT

Tajuk Kajian/Penyelidikan : ***'Predictors of High Risk Sexual Behaviour Among Adolescents In Welfare Institutions In Kuala Lumpur'***

Tempat Kajian/Penyelidikan : **Seperti di Lampiran**

Dengan hormatnya saya merujuk kepada permohonan puan berkaitan perkara di atas.

2. Sukacita dimaklumkan permohonan puan untuk menjalankan kajian/penyelidikan tersebut telah diluluskan. Tempoh kelulusan bagi menjalankan kajian lapangan adalah selama **tiga (3) bulan** bermula dari tarikh surat ini.

3. Sehubungan dengan itu, puan diminta menyerahkan **2 salinan** tesis/laporan/penerbitan berjilid kepada Jabatan ini selewat-lewatnya pada **31 Januari 2010.**

Sekian, terima kasih.

"BERKHIDMAT UNTUK NEGARA"
"BERKAT BERJASA"

Saya yang menurut perintah,

(NORANI HJ. MOHD HASHIM)
b.p. Ketua Pengarah Kebajikan Masyarakat Malaysia

(Sila catatkan rujukan Jabatan ini apabila berhubung)

Letter of permission to conduct research in the Social Welfare Department (3)

JABATAN KEBAJIKAN MASYARAKAT MALAYSIA
(DEPARTMENT OF SOCIAL WELFARE MALAYSIA)
Tingkat 19-24, Menara Tun Ismail Mohamed Ali, Jalan Raja Laut, 50562 Kuala Lumpur, Malaysia
+603-2616 5600 +603-2693 4270 / +603-2694 9395
www.jkm.gov.my

Rujukan Tuan : JKMM:100/12/5/2Jld 32(50)
Rujukan Kami :
Tarikh : 11 November 2009

Dr. Nik Daliana Nik Farid
17, Jalan Terasek 7,
Bangsar Baru,
59100 KUALA LUMPUR

Puan,

PERMOHONAN MENJALANKAN KAJIAN/PENYELIDIKAN DI JABATAN KEBAJIKAN MASYARAKAT

Tajuk Kajian/Penyelidikan: ***Predictors of High Risk Sexual Behavior Among Adolescents In Welfare Institutions In Kuala Lumpur***

Tempat Kajian/Penyelidikan: **Seperti di Lampiran**

Dengan hormatnya saya merujuk kepada surat puan bilangan UM.M/SPM/425/DRPH/Y2-03 bertarikh 6 November dan surat dari Jabatan ini pada bilangan yang sama bertarikh 16 September 2009 berkaitan perkara di atas.

2 Sukacita dimaklumkan Jabatan ini telah menerima permohonan puan untuk menambah bilangan Institusi bagi urusan pengumpulan data responden dan pada dasarnya Jabatan tiada halangan terhadap permohonan tersebut.

3. Jabatan dengan ini meluluskan permohonan tersebut bagi menjalankan kajian lapangan di Institusi-institusi yang berkenaan selama **tiga (3) bulan** mulai dari tarikh surat ini. Puan diminta menyerahkan **2 salinan** tesis/laporan/penerbitan berjilid kepada Jabatan ini selewat-lewatnya pada **28 Februari 2010**.

Sekian, terima kasih.

"BERKHIDMAT UNTUK NEGARA"
"BERKAT BERJASA"

Saya yang menurut perintah,

(NORLIZA BT MOKHTAR)
b.p. Ketua Pengarah Kebajikan Masyarakat Malaysia

(Sila catatkan rujukan Jabatan ini apabila berhubung)

Permission (by email) to use the Parental Monitoring Assessment Scale by Professor Stephen Small

Gmail by Google

daliana farid <daliana75@gmail.com>

Permission to use the Parental Monitoring Assessment Scale

3 messages

daliana farid <daliana75@gmail.com> **Wed, Jul 14, 2010 at 8:12 AM**
To: sasmall@wisc.edu

Dear Professor Small,

My name is Dr. Nik Daliana Nik Farid, a doctoral student (DrPH) from the Department of Social and Preventive Medicine, Faculty of Medicine, University Malaya, Kuala Lumpur, Malaysia. I am currently conducting a project on Predictors of High Risk Sexual Behaviour among Adolescents as part of my thesis and would like to utilize the Parental Monitoring Assessment developed by yourself and colleague (Donell Kerns) in 1993. Is there any specific protocol that I should follow in order to use the instrument?

Thank you.

Regards,
Dr. Nik Daliana, University of Malaya Kuala Lumpur

Stephen Small <sasmall@wisc.edu> **Wed, Jul 14, 2010 at 11:31 AM**
Reply-To: sasmall@wisc.edu
To: daliana farid <daliana75@gmail.com>

Dr. Daliana:

You have my permission to use the the Parenting Monitoring scale. All the best with your study.

Steve Small
[Quoted text hidden]

--
****
Stephen Small
Professor of Human Development & Family Studies
1305 Linden Drive, 308 Middleton Building
University of Wisconsin-Madison
Madison, WI 53706-1575
E-mail: sasmall@wisc.edu
Phone: (608) 263-5688
FAX: (608) 265-6048
https://mywebspace.wisc.edu/groups/smallsite/Web/index.html
http://www.sohe.wisc.edu/hdfs/faculty/SSmall.htm
http://whatworks.uwex.edu
****

daliana farid <daliana75@gmail.com> **Thu, Jul 15, 2010 at 7:22 PM**
To: sasmall@wisc.edu

Dear Prof,

Thank you so much for giving me the permission. Really appreciate it.

8/7/2011