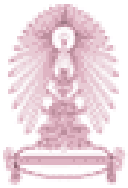
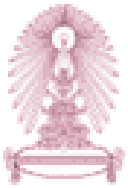


Chulalongkorn University
จุฬาลงกรณ์มหาวิทยาลัย

ปัจจัยที่มีความสัมพันธ์ต่อการละเว้นเพศสัมพันธ์ของหญิงไทยวัยรุ่นตอนกลาง

พันตำรวจตรีหญิง สมสุข ภาณุรัตน์

วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาพยาบาลศาสตรดุษฎีบัณฑิต
สาขาวิชาพยาบาลศาสตร์
คณะพยาบาลศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย
ปีการศึกษา 2552



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FACTORS RELATED TO SEXUAL ABSTINENCE AMONG THAI FEMALE MIDDLE ADOLESCENTS

Police Major Somsuk Panurat

A Dissertation Submitted in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy Program in Nursing Science
Faculty of Nursing
Chulalongkorn University
Academic Year 2009

Thesis Title	FACTORS RELATED TO SEXUAL ABSTINENCE AMONG THAI FEMALE MIDDLE ADOLESCENTS
By	Police Major Somsuk Panurat
Field of Study	Nursing Science
Thesis Advisor	Associate Professor Pol.Capt. Yupin Aungsuroch, Ph.D.
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สมสุข ภาณุรัตน์ : ปัจจัยที่มีความสัมพันธ์ต่อการละเว้นเพศสัมพันธ์ของหญิงไทยวัยรุ่นตอนกลาง. (FACTORS RELATED TO SEXUAL ABSTINENCE AMONG THAI FEMALE MIDDLE ADOLESCENTS)

อ. ที่ปรึกษาวิทยานิพนธ์หลัก : รศ. ร.ต.อ.หญิง ดร. ยุพิน อังสุโรจน์, อ. ที่ปรึกษาวิทยานิพนธ์ร่วม: รศ.ดร. วราภรณ์ ชัยวัฒน์, 205 หน้า.

การวิจัยนี้มีวัตถุประสงค์เพื่อศึกษาปัจจัยที่สามารถทำนายการละเว้นเพศสัมพันธ์ของหญิงไทยวัยรุ่นตอนกลาง โดยใช้โมเดลการส่งเสริมสุขภาพของเพนเดอร์มาเป็นกรอบแนวคิดในการคัดเลือกตัวแปร กลุ่มตัวอย่างเป็นนักเรียนหญิงระดับมัธยมศึกษาตอนปลายของประเทศไทย จำนวน 1,360 คน ตอบแบบสอบถาม 8 ชุดด้วยตนเอง ตัวแปรต้นที่นำมาศึกษาคือ การรับรู้ประโยชน์ของการละเว้นเพศสัมพันธ์ การรับรู้อุปสรรคต่อการละเว้นเพศสัมพันธ์ การรับรู้ความสามารถของตนในการละเว้นเพศสัมพันธ์ อิทธิพลของพ่อแม่ อิทธิพลของเพื่อน และการมุ่งมั่นต่อแผนการละเว้นเพศสัมพันธ์ ตัวแปรตาม คือ การละเว้นเพศสัมพันธ์

ข้อมูลถูกนำมาวิเคราะห์ด้วยสถิติทดสอบไคสแคว์ และการวิเคราะห์ถดถอยโลจิสติกแบบ Forward stepwise ผลการศึกษาพบว่า ตัวแปรต้นทุกตัวมีความสัมพันธ์กับการละเว้นเพศสัมพันธ์ พบว่าการรับรู้ความสามารถของตนในการละเว้นเพศสัมพันธ์ และอิทธิพลของเพื่อนมีความสัมพันธ์เชิงบวกต่อการละเว้นเพศสัมพันธ์ของหญิงไทยวัยรุ่นตอนกลาง อย่างมีนัยสำคัญทางสถิติที่ระดับ .05 (B =.149 และ .048) ส่วนอิทธิพลของพ่อแม่มีความสัมพันธ์เชิงลบต่อการละเว้นเพศสัมพันธ์ของหญิงไทยวัยรุ่นตอนกลาง อย่างมีนัยสำคัญทางสถิติที่ระดับ .05 (B = -.064) โดยปัจจัยทั้งสามสามารถอธิบายความแปรปรวนได้ร้อยละ 29.3 และจำแนกกลุ่มได้ถูกต้องร้อยละ 88.9

สมการถดถอยโลจิสติกของการทำนายการละเว้นเพศสัมพันธ์ คือ

โอกาสที่จะเกิดการละเว้นเพศสัมพันธ์ = - 3.25 + .149 (การรับรู้ความสามารถของตนในการละเว้นเพศสัมพันธ์) + .048 (อิทธิพลของเพื่อน) - .064 (อิทธิพลของพ่อแม่)

สาขาวิชา พยาบาลศาสตร์ ลายมือชื่อนิสิต.....

ปีการศึกษา 2552 ลายมือชื่อ อ.ที่ปรึกษาวิทยานิพนธ์หลัก.....

ลายมือชื่อ อ.ที่ปรึกษาวิทยานิพนธ์ร่วม.....

4877976136 : MAJOR NURSING
KEYWORDS : SEXUAL ABSTINENCE / FEMALE MIDDLE ADOLESCENT / PENDER'S HEALTH PROMOTION MODEL

POL.MAJ. SOMSUK PANURAT: FACTORS RELATED TO SEXUAL ABSTINENCE AMONG THAI FEMALE MIDDLE ADOLESCENTS. THESIS ADVISOR: ASSOC.PROF. POL.CAPT. YUPIN AUNGSUROCH, PH.D., THESIS CO-ADVISOR: ASSOC.PROF. WARAPORN CHIYAWAT, D.N.S., 205 pp.

The purpose of this study was to identify the predicting factors of sexual abstinence among Thai female middle adolescents. Pender's Health Promotion Model guided to select the factors in the study. The participants in this study were 1,360 female students from high schools in Thailand. The participants completed 8 self-administered questionnaires. Independent variables were perceived benefits of sexual abstinence, perceived barriers to sexual abstinence, perceived sexual abstinence self-efficacy, parental influence, peer influence, and commitment to a plan of sexual abstinence. The dependent variable was sexual abstinence.

Chi-square and multiple forward stepwise logistic regression analysis were conducted to analyze the data. The results showed that all independent variables had relation with sexual abstinence. Perceived sexual abstinence self-efficacy and peer influence were significantly positive predictors of sexual abstinence, at the .05 level (B= .149 and .048). Whereas, parental influence was significantly negative predictor of sexual abstinence, at the .05 level (B=-.064). The predictors could explain 29.3 percent of the variance and could correctly classify for 88.9 percent. The equation of logistic regression for explaining the variables of sexual abstinence was as follow:

Sexual abstinence = -3.25 + .149 (Perceived sexual abstinence self-efficacy) + .048 (Peer influence) - .064 (Parental influence)

Field of Study : Nursing Science Student's Signature .....

Academic Year : 2009 Advisor's Signature .....

Co-Advisor's Signature .....

ACKNOWLEDGEMENTS

As this dissertation draws to a close, I am aware of a number of wonderful people whom have contributed to my learning, to my well-being, and the completion of this project. I wish to express my gratitude for making may dreams a reality. I am especially grateful to Assoc. Prof. Pol.Capt. Dr. Yupin Aungsuroch, my major advisor, who supported my efforts in countless ways. I am particularly grateful for her professional guidance. Assoc. Prof. Waraporn Chaiyawat, my co-advisor. She provided me with feedback, and encouragement throughout the dissertation process. Most importantly, she supported my ideas, my efforts, and my ability to complete my dissertation.

To my dissertation committee members, Assoc. Prof. Dr. Jintana Yunibhand, Prof. Dr. Rutja Phuphaibul, Assoc. Prof. Dr. Sureeporn Thanasilp, and Assoc. Prof. Dr. Siridej Sujiva. I thank them each for their unique contributions, insight, and commitment to the overall study and study process. To the experts who graciously gave their time and provided critique the instrument items. In addition, I am grateful to all my Ph.D. classmates who have encouraged and supported my work. Next, I would like to express a special thank to the students who participated in my study.

I am most especially grateful to members of my family. To my parents who always taught me to be the best that I could be and that I am someone special. They have always been supportive of my every goal in life. To my mother-in-law, who supported my dreams. Lastly, to my husband who understood my dissertation process. I thank you for his unquestionable love and support and most especially his patience during the past year. I could not have accomplished my goals without his unending love and friendship.

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CHAPTER I

INTRODUCTION

Background and significance of the study

Promoting sexual abstinence in particular that of female adolescents has become a major issue in the health policy of Thailand because the age at first engages in sexual intercourse is reported to below 10 years (Siriporn Choapoothai, 2006). The numbers of Thai female middle adolescents who practice sexual abstinence are in decline, as evidenced by the increased rates of Thai female students reporting engaging in early sexual intercourse increasing from 21% in 2003 to 28% in 2005 and to 30% in 2006 (Child Watch, 2007: online).

The potential for a larger number of Thai female middle adolescents who are likely to engage in sexual intercourse (including vaginal, oral and anal sex) which often leads to negative consequences and a number of health, family, economic, political, and social problems (Thongpat, 2006; Nitirat, 2007). Female middle adolescent is not appropriate to having sexual intercourse and pregnancy, because the reproductive and sexual organs are developing in this stage. They are not mature of physical, psychological, and cognitive. Many negative outcomes of sexual intercourse occur in this stage. For example, it is estimated that 9.5% of the annual new HIV/AIDS cases occur among persons 15 to 24 years of age (Aidsthai, 2006: online). Most unplanned teen pregnancies end up in criminal abortions and miscarriages which can have adverse psychological effects as well as physical morbidity and mortality (Kulczycki, Potts, and Rosenfield, 1996). More than 77,092 Thai female adolescents under the age of 19 gave birth in 2009, which is an increase from 68,385

in 2008 (Child watch, 2010: online). These teen moms could not continue to study because they became pregnant. They lost a chance for success in their educations and careers (Pinhatai Supametaporn, 2006). The consequences are one of the country's major public health problems and social problems. Thus it is vital for the health professional to prevent the problems and promote wellbeing in female middle adolescents.

Many experts believe that sexual intercourse among female middle adolescents might not be a problem if they had mature decision making ability and could protect themselves from the negative consequences of sexual intercourse (Hill, 2008). However, developmental factors such as cognitive processes and emotional/psychological growth of adolescents are immature including things like the need to belong, the need for intimacy, the desire for passion and curiosity, the need to develop competency, and the need to develop a personal identity. These characteristics lead them to not abstain and behave promiscuously and engage in early sexual intercourse (Neinstein, 1996; Hill, 2008). In additions, most Thai female middle adolescents are students. For Thai context, people do not accept sexual intercourse among school age girls. They think that middle adolescent girls are still on duty of studying. People belief Thai girls must perform sexual abstinence until right time.

Sexual abstinence is one of the health behaviors that plays a major role as the safest sexual practice (Chambers, 2003). Abstinence is the first strategy promoted by Healthy People 2010 (World Health Organization (WHO), 2000: online). Promotion of abstinence from sex among female middle adolescents is the best strategy that has enabled female middle adolescents to avoid behaviors that could lead to health

problems and social problems. By sexual abstinence, female adolescents eliminate the possibility of unintended pregnancy, subsequent abortions, contraction of sexually transmitted diseases (STDs), and acquired immune deficient syndrome (AIDS). Psychological maladjustment in adolescence is also associated with early and unprotected sexual behavior (Sim, 2000; Barber and Erickson, 2001; Guindon, 2002). Multiple sex partners are major contributing factors for contracting HIV/AIDS among adolescents (Child Watch, 2007: online), and negative outcomes of adolescent parenthood includes low educational achievement, low income, poorer psychological functioning, and greater welfare use (Khumsaen, 2008). Moreover, sexual abstinence is important in the encouragement of success in education and careers (Pinhatai Supametaporn, 2006).

There are several methods for preventing the negative consequences of sexual intercourse during the school year (e.g. condom use). Of those, sexual abstinence is the most suitable method for combating such problems because Thai traditional values do not accept sexual relations without marriage (Chukkrit Pinyapong, 2001; Thianthai, 2004). Although, the spread of western culture has influenced sexual behavior of the new generation, people do not accept sexual intercourse among school age girls. Thus, the nurse should promote sexual abstinence in female middle adolescents that is the best fits for culture and preventing negative health outcome of sexual intercourse during the school year.

Although, Thailand had program to promote sexual abstinence that derived from United State of America (e.g. Abstinence-based sex education) but many researchers in US suggested that these programs were only a small amount of data detailing the effectiveness of programs (Dunsmore, 2005; Buhi, 2006; Rassberry,

2006). Several scholars also suggested that abstinent youth have been overlooked by investigators, and they need to know the basic knowledge (e.g. meaning of sexual abstinence, factor that related to sexual abstinence) before constructed programs (Norris, Clark, and Magnus, 2003; Dunsmore, 2005; Buhi, 2006; Rassberry, 2006).

An understanding of the factors related to sexual abstinence among Thai female middle adolescents can offer important insights for nurses, before promoting sexual abstinence. Pender's Health Promotion Model (HPM) (Pender, Murdaugh, and Persons, 2006) was guided to select some significant factors that reported their effect on sexual abstinence.

Recently, research on sexual abstinence suggests several factors as being associate and predict to sexual abstinence of adolescents. These factors include the perceived benefits of sexual abstinence (Blinn-Pike, 1999; Loewenson, Ireland, and Resnick, 2004; Dunsmore, 2005; Pinhatai Supametaporn, 2006), perceived barriers to sexual abstinence (Pinhatai Supametaporn, 2006; Rasberry, 2006), perceived sexual abstinence self-efficacy (Sionean et al., 2002; Santelli et al., 2004; Buhi, 2006), parental influence (Pinhatai Supametaporn, 2006), peer influence (Raweewon Danaidussadeekul, 2004). Although, commitment to a plan of action is mediator in HPM, but this factor did not find in literature review on sexual abstinence. Exiting knowledge showed that intention was predictor of sexual abstinence (Hwang, 2001; Buhi, 2006). Intention and commitment to plan of action are closely concept. According to Fishbein and Ajzen (1975), intentionality is a major determinant of volitional behavior. Whereas, commitment to a plan of action in the HPM implies the following underlying cognitive process: (a) commitment to carry out a specific action at a given time and place and (b) identification of definitive strategies (Pender et al.,

2006). Therefore, the study just wants to test that commitment to plan of sexual abstinence related to sexual abstinence as same as other independent variables or not.

However, the previous studies show the existing knowledge about factors influenced sexual abstinence, but all these studies have been conducted out side the traditional Thai context. These findings cannot be appropriate when applied to Thai culture. Besides, the factors that were presented in varying degrees of research design and population. For Thailand, there is little research about sexual abstinence among female middle adolescent. Two studies of Raweewon Danaidussadeekul (2004) and Pinhatai Supametaporn (2006) were found in the correlation research and qualitative research on sexual abstinence. Thus, the lack of knowledge on factors that influence to sexual abstinence are important gap of knowledge on sexual abstinence among Thai female middle adolescents

Therefore, this study needs to study the predictors of sexual abstinence. This is an important point in developing knowledge and determining which variables predict sexual abstinence among Thai female middle adolescents. In order to develop prevention and intervention strategies that are culturally specific to Thai female adolescents.

Research question

The general question was what are the factors related to sexual abstinence among Thai female middle adolescents? The following specific research questions were asked for this study:

What are the predicting factors of sexual abstinence among Thai female middle adolescents: perceived benefits of sexual abstinence, perceived barriers to

sexual abstinence, perceived sexual abstinence self-efficacy, parental influence, peer influence, or commitment to a plan of sexual abstinence variables?

Objective of the study

1. To examine the relationship between perceived benefits of sexual abstinence and sexual abstinence among Thai female middle adolescents.
2. To examine the relationship between perceived barriers to sexual abstinence and sexual abstinence among Thai female middle adolescents.
3. To examine the relationship between perceived sexual abstinence self-efficacy and sexual abstinence among Thai female middle adolescents.
4. To examine the relationship between parental influence and sexual abstinence among Thai female middle adolescents.
5. To examine the relationship between peer influence and sexual abstinence among Thai female middle adolescents.
6. To examine the relationship between commitment to a plan of sexual abstinence and sexual abstinence among Thai female middle adolescents.
7. To identify the predicting factors of sexual abstinence among Thai female middle adolescents

Hypotheses with rationales

Sexual abstinence is sexual health behavior that can prevent the negative outcomes of sexual intercourse during the school year. Many studies found several factors as being influence to sexual abstinence of adolescents. These factors include the perceived benefits of sexual abstinence (Blinn-Pike, 1999; Rasberry, 2006), perceived barriers to sexual abstinence (Rasberry, 2006), perceived sexual abstinence

self-efficacy (Buhi, 2006; Rasberry, 2006; Child, 2007), parental influence (Maguen and Armistead, 2006; Buhi and Goodson, 2007), peer influence (Raweewon Danaidussadeekul, 2004), and commitment to a plan of sexual abstinence (Hwang, 2001; Buhi, 2006).

This study selected the variables that derived from the empirical literature, and used Pender's health promotion model (HPM) to guide for selecting some variables. The hypothesized model of this study was selected from most significant factors reported their effect on sexual abstinence among Thai female middle adolescent in Thailand. Therefore, the research hypotheses are setting in 7 statements as follow:

1. Individuals are more likely to engage in a particular behavior if the benefits or outcomes are considered high (Pender et al., 2006). Perceived benefits of sexual abstinence influence to sexual abstinence because person beliefs that sexual abstinence can offer protection against contracting HIV, unwanted pregnancy, thus increasing life expectancy. In this case, an example of the intrinsic benefit for the adolescent could be "feeling good" about personal health status. The extrinsic benefit may be social recognition for responsible sexual behavior (Rassberry, 2006).

Therefore, perceived benefits of sexual abstinence has a positive relation to sexual abstinence among Thai female middle adolescents.

2. According to Pender et al. (2006) barriers are the blocks, hurdles and personal costs of undertaking a certain behavior and may be real or imagined. Barriers usually arouse motives of avoidance in relation to a give behavior. When readiness to act is low and barriers are high, action is unlikely to occur. Perceived barriers to sexual abstinence is protective factor to sexual abstinence. Female Adolescents'

conceptions about boyfriend pressure and risk situation can be viewed as barriers to sexual abstinence (Pinhatai Supametaporn, 2006; Rasberry, 2006).

Therefore, perceived barriers to sexual abstinence has a negative relation to sexual abstinence among Thai female middle adolescents.

3. Pender et al. (2006) stresses the fact that self-efficacy is not concerned with the skills that one has, but rather with the personal decision of what one can do with whatever skills one possesses in terms of health behaviors. Perceived self-efficacy is a judgment of one's abilities to accomplish a certain level of performance, whereas an outcome expectation is a judgment of the likely consequences. Perceived sexual abstinence self-efficacy influence to sexual abstinence. Female middle adolescents will perform sexual abstinence only if they believe in their ability to perform. Prior study confirmed that sexual abstinence self-efficacy is predictor of sexual abstinence (Buhi, 2006; Child, 2006; Rasberry, 2006).

Therefore, perceived sexual abstinence self-efficacy has a positive relation to sexual abstinence among Thai female middle adolescents.

4. Parent is primary source of interpersonal influence on health-promoting behaviors. Interpersonal influences are perceptions concerning the behaviors, beliefs or attitudes of others. This factor includes expectations of parent, support, and modeling influence to health promotion behavior. (Pender et al., 2006). In Thai society, parents is the first learning source of children and usually expect their children to have a bright future, which can be mainly described as achieving a secured and promising career path, attaining higher education, and having a righteous marital life. Most parents take care and choose the best thing to their children. They have taught and monitored the rules of proper sexual behaviors in Thai society to children

continue from childhood to adulthood. Parents do not want their children have sexual intercourse during the school year, because this act is barrier of success in children's life. Parent want daughter remain sexual abstinence until the right time (Pinhatai Supametaporn, 2006). Prior study confirmed that parent influence is predictor of sexual abstinence (Maguen and Armistead, 2006; Buhi and Goodson, 2007).

Therefore, parental influence has a positive relation to sexual abstinence among Thai female middle adolescents.

5. Peer is primary source of interpersonal influence on health-promoting behaviors. Interpersonal influences are perceptions concerning the behaviors, beliefs or attitudes of others. This factor includes expectations of parent, support, and modeling influence to health promotion behavior. (Pender et al., 2006). The influence of peer groups and intimate friendships is arguably another key supportive factor contributing to adolescents' remain sexually abstinent. The developmental stage of adolescence, peer groups exert an intense influence on the individual's self-evaluation and behavior, hence the term "peer pressure." Although adolescents vary in the extent to which they are sensitive to the wishes, examples and praise of others, they are sensitive to attempt behaviors for which they will be socially reinforced. The evidence demonstrate that peer influence related to sexual abstinence (Raweewon Danaidussadeekul, 2004).

Therefore, peer influence has a positive relation to sexual abstinence among Thai female middle adolescents.

6. According to Pender et al. (2006) commitment to plan of action initiates a behavioral event. This commitment propels the individual into and through the behavior unless a competing demand that cannot be avoided or a competing

preference that is not resisted occurs. Commitment to plan of action is closely with intention, but commitment to plan of action adds identification of definitive strategies. Intention influences to sexual abstinence (Hwang, 2001; Buhi, 2006). Commitment to a plan of sexual abstinence is important factor that relate to sexual abstinence. Supporting, the study of Pinhatai Supametaporn (2006) found that young women setting goal for life security and stability by commitment to study, consideration before entering romantic relationship, and living up to parents' expectations. Young Thai women are intent to abstain from premarital sex or they would wait until some certain goals in their lives are achieved. Therefore, female adolescent establish an attempt to maintain sexual abstinence during their commitment toward goal.

Therefore, commitment to a plan of sexual abstinence is a positive related to sexual abstinence among Thai female middle adolescents.

7. According to Health Promotion Model (Pender et al., 2006) and number of evident support that conform relationship between independent variables and sexual abstinence, can predict female middle adolescent's sexual abstinence. Therefore, perceived benefits of sexual abstinence, perceived barriers to sexual abstinence, perceived sexual abstinence self-efficacy, parental influence, peer influence, commitment to a plan of sexual abstinence can predict sexual abstinence among Thai female middle adolescents.

Scope of the study

This study identifies the predicting factors of sexual abstinence among Thai female middle adolescents. Independent variables are perceived benefits of sexual abstinence, perceived barriers to sexual abstinence, perceived sexual abstinence self-efficacy, parental influence, peer influence, and commitment to a plan of sexual

abstinence. Dependent variable is sexual abstinence. The target population is Thai female student who are public co-education high school students of Matayom 4 to 6 (M 4-6) of the Department of General Education, Office of The Basic Education Commission.

Operational definitions

Sexual Abstinence is defined as a act of Thai female middle adolescents in omitting vaginal, oral, and anal sexual intercourse with males during the school year. It can be measured by “sexual abstinence scale”.

Perceived benefits of sexual abstinence are defined as Thai female middle adolescents’ mental representations of positive or reinforcing consequences of refraining from sexual intercourse during the school year. These consists benefits of health, learning achieved, a successful career, family, sense of social acceptance, positive feelings towards herself, and the acceptance of others**.** It can be measured by “Perceived benefits of sexual abstinence scale.”

Perceived barriers to sexual abstinence are defined as Thai female middle adolescent’s thoughts or beliefs about obstruct or impede of her refraining from sexual intercourse which may be imagined or real. These barriers include boyfriend pressure, peer pressure, risk behavior and family problem. Perceived barriers can be measured by “Perceived barriers to sexual abstinence scale.”

Perceived sexual abstinence self-efficacy is defined as Thai female middle adolescents’ judgment of her ability to refrain from sexual intercourse during the school year in social situations where sex is likely to occur. It can be measured by “Sexual abstinence self-efficacy scale.”

Parental influence is defined as perception of Thai female middle adolescents about their parent's expectations, childrearing, and encouragement of parents regarding engagement in sexual abstinence during the school year. It can be measured by "Parental influence scale."

Peer influence is defined as perception of Thai female middle adolescents on peer's norm, support, and modeling in refraining from sexual intercourse during the school year. It can be measured by "Peer influence scale."

Commitment to a plan of sexual abstinence is defined as intention, and strategies for eliciting, carrying out, and reinforcing of Thai female middle adolescent to refrain from sexual intercourse during the school year. Commitment to a plan of sexual abstinence can be measured by "Commitment to a plan of sexual abstinence scale."

Expected benefits

1. This study will provide a basic knowledge to explain the phenomenon of sexual abstinence among Thai female middle adolescents. The research contributes to the body of knowledge concerning in Pender's health promotion model. The finding will explain the relationship among the selected variables of the theory in the phenomena of sexual abstinence among Thai female middle adolescents. This knowledge can offer important insights for nurses, before promoting sexual abstinence to plan and develop nursing intervention.

2. Health care providers, multidisciplinary teams and policy makers can use this finding develop scientifically-based guideline to provide suitable support and guidance to promote sexual abstinence among Thai female middle adolescents.

3. Nurse will be able to use the finding of this study to develop research and nursing intervention to promote sexual health of female middle adolescents.

CHAPTER II

LITERATURE REVIEW

This chapter presents a comprehensive review of the literature and focuses on major concepts important for this study, including (1) adolescent development, (2) sexual abstinence in Thai female middle adolescents, (3) Pender's Health Promotion Model, and (4) factors related to sexual abstinence.

Adolescent development

Definition of adolescence

Adolescence is defined as the period of time between childhood and adulthood when puberty occurs. During puberty, children have "technically" ended their childhood but have not yet begun adulthood (Burton, Allison, and Obeidallah, 1996). With this broad definition of adolescence, the duration of the adolescent period varies from place to place and culture to culture (Rogol, Roemmich, and Clark, 2002). Yet regardless of the specific time frame of the adolescent period, most people judge adolescence by considering physical growth, and emotional and social development (Caissy, 1994). For instance, the World Health Organization (WHO) defines adolescence as the period of 10 to 19 years old from the perspectives of not only biological development but also psychological development and socioeconomic status (WHO, 2003: online).

The adolescent period is a time of remarkable physical growth and sexual maturation for both males and females and is influenced by nutrition, genetics, and growth hormones. Girls, however, transition to adolescence and change in body size, shape and composition approximately 2 years earlier than boys (11 and 13 years in

girls and boys, respectively) (Rogol et al., 2002). Emotional development is also significant during this period of life. Adolescents' emotional state is associated with their physical growth and development and the challenges they encounter in becoming physically and sexually mature. The increase in various hormones during puberty can cause a temporary chemical imbalance which can account for unstable emotions such as irritability, anger, and moodiness. The end of the adolescent period is when adolescents transition to adulthood. The length of the adolescent period depends on how complete adulthood is defined in a particular culture. Consequently, the definition of an adolescent is ambiguous and varies across cultures.

Age distinction provides another perspective on defining adolescence. Adolescence is the period from 10 years to the early 20s and is further divided into three phases: early (10-13 years old), middle (14-18 years old) and late (19-22 years old) adolescences (Hill, 2008). However, the age distinction varies significantly among definitions. For example, the Oxford English Dictionary (1961) defines adolescence as “the process or condition of growing up; the growing age of human beings; the period which extends from childhood to manhood or womanhood; youth; ordinarily considered as extending from 14 to 25 in males and 12 to 21 in females”(Oxford English Dictionary, 1961). The age distinction is continuously changing and only provides a general guideline, not a standard rule. While researchers agree that puberty is a starting point of adolescence (Petersen and Leffert, 1995), they are still looking for the cessation point of adolescence. This delineation could provide clear definition of what the adult role is.

Neither marriage nor first sexual intercourse are the criteria making the start of adulthood anymore (Pachauri and Santhya, 2002), because many persons engage in

initial sexual intercourse during adolescence in modern societies. Also, the extended duration of education influences the average age of a first marriage, childbearing, and adolescent sexual behavior (The Alan Guttmacher Institute, 2002). Therefore, there is a need to identify the criterion of the adult role for defining adolescence. The following section will briefly explain the characteristics of the three stages of adolescence.

Characteristics of adolescence

Children experience external (e.g. secondary sexual) and internal changes (cognitive and emotional changes) during adolescence (Petersen and Leffert, 1995). Subsequently, social relationships are changed in adolescence (Lerner, 2002; Maxwell, 2002). Children meet different developmental tasks during three phase of adolescence (early, middle, and late adolescence). During the early stage of adolescence, adolescents experiencing pubertal development set new definitions of self and discover sexual identity (Lerner, 2002). The main issue of middle adolescence is changing social relationships (Petersen and Leffert, 1995). During this second stage of adolescence, peer influence increases, the impact of parents is weaker on their child's behavior (Barber and Erickson, 2001). This stage is the one most people regard as stereotypical adolescence. Late adolescence is a newer concept, associated with the characteristics of modern society (e.g., longer education, delayed marriage). During this phase, adolescents experience adult roles (Petersen and Leffert, 1995). Additionally, late adolescents develop formal operational thought, defined as one of characteristics of adults in modern society (Lerner, 2002). According to Piaget, formal operational thoughts make it possible for someone to consider all hypothetical situations and anticipant consequences (Petersen and Leffert, 1995; Lerner, 2002).

However, these characteristics are age related, but not age dependent (Thato, 2002), making it difficult to define when late adolescence ends.

For this study, female middle adolescents were targeting population that important promotion of sexual abstinence in Thai context. Therefore the following section was addressed the female middle adolescence.

Characteristics of female middle adolescence

Middle adolescent is the phase, when a child is on the road of transformation. There are a whole lot of changes that occur, be it, physically, mentally, cognitively or sexually. While most of the girls cross their puberty stage, boys are still on the road of maturing physically. It is that time of life, when your kid would be most concerned about his/her look, body and appearance. Female middle adolescent is the time when, your teenager is developing her unique personality and opinions. Friends play a pivotal role during these years. Young teenagers take great care to maintain their identity in the peer group (Collins and Laursen, 2004).

Competitiveness also becomes a major priority in the life of female middle teens. Many of them try to analyze the experiences they are going through and try to understand their inner turbulence by writing diaries and journals. Remember, female middle teens are more capable of setting goals. However, the goals they set are often too high and as a result succumb to their own expectations. A withdrawal from the parents is also one of the key characteristic found in children of this age. However, there are ways by which, as parents, you can curtail the problems and develop healthy relationship with your teenage child.

There is a somewhat developed sense of self-identity. The focus shifts on self-improvement. Teens lay great emphasis on the body and the outer appearance. The

changes in the body due to puberty may make them self-conscious of their bodies. Sometimes, the girl might feel very inferior to others too. Relationship with the parents becomes stressful (Meeus et al., 2005). The teen finds her parents interfering and thus, may emotionally withdraw from them. The teen may feel that she has lost the support of her parents and this might make her feel sad and lonely. Focus of the teen is on making new friends. The teen identifies with her peer group. Intellectual development starts taking place (Hill, 2008).

Sexual development of female middle adolescent

Middle adolescence is a time of physical, mental, cognitive, and sexual changes for your teenager. Most girls will be physically mature by now, and most will have completed puberty.

Puberty is the physical development of the reproductive and sexual organs that leads to changes in a wide rang of bodily features and enables the individual to produce offspring. The age range for this aspect of puberty is 9.5 to 14.5 years for girls (Hill, 2008). Middle adolescent girls are development of the reproductive system (e.g. breast, pubic hair, and menstruation). Girls are more likely to have negative perceptions of increases in height and weight in their bodies. Girls often report a desire to be thinner than they are after the onset of weight gain resulting from puberty (Archibald, Graber, and Brooks-Gunn, 2003). Greater body mass gain during puberty was related to an elevated probability of developing eating problems among middle adolescent girls who were followed over a period of time (Attie and Brooks-Gunn, 1989; Graber et al., 1994).

During this phase of development, your teenager is developing her unique personality and opinions. Peer relationships are still important, yet your teenager will

have other interests as she develops a more clear sense of identity. Middle adolescence is also an important time to prepare for more independence and responsibility; many teenagers start working, and many will be leaving home soon after high school.

Sexual identity is one's overall understanding of all aspects of her sexuality. Worthington and colleagues propose that sexual identity consists of two components. The first of these components is individual sexual identity, which is recognition and acceptance of one's sexual needs, preferences, and tendencies. Sexual identity also involves a sense of belonging to a particular sexual identity group, as well as attitudes toward other sexual orientation groups; this aspect of one's self-concept is called social identity (Worthington et al., 2002). The formation of sexual identity intensifies around the time of puberty as secondary sex characteristics begin to develop and individual begins to experience increased levels of sexual feelings and desires.

Middle adolescence girls must learn to recognize and understand sexual desires. They must also accustom themselves to experience of sexual stimulation and the emotional reactions associated with sexual arousal. In addition, girls must come to understand the attention they receive from others because of their increased sexual attractiveness and integrate it into their self-concept and value system. They must also explore and crystallize their attitudes about sexual behavior and relationships (Hill, 2008). Finally, they must deal with the meaning of physical and emotional intimacy, and the vulnerability involved in these types of interactions (Worthington et al., 2002).

Normative sexual development can be considered from several perspectives including cognitive/affective, biological and behavioral dimensions. Although these

dimensions are often studied separately, it is important to recognize that these are integrated components of an individual and must have reciprocal effects that should be considered when designing studies or programs. A developmental system model has been described that attempts to integrate social environment and experiential context into the biological models that relate adolescence and puberty to changes in sexual behaviors (Halpern, 2006). This model predicts a reciprocal relationship between the three dimensions that suggest study of only the biological aspects of sexuality may result in misleading conclusions. This model is supported by data from a study that evaluated race, pubertal timing and peer relationship qualities (Cavanagh, 2004). In this study the authors described a mediating effect of race and friendship group measures on the association between pubertal timing and coital debut. In other words, biological development alone was not a sufficient predictor of age at first intercourse. Although biological development is a key element of this transition period, it is beyond the scope of my research project and will not be discussed in great detail.

Cognitive and affective development. A significant component of adolescent sexual development is the formation and evolution of sexual identity. The first phase of this process is the recognition and definition of the sexual self in the period of primary abstinence. In this phase, the construction of identity is based on the recognition of sexual feelings while the physical activities associated with these feelings have yet to be experienced. Mullaney describes this as "…identities based on 'Not Doings'" (Mullaney, 2001) and provides an analysis of fictional literature to demonstrate some Western norms related to such identities. In her review, Mullaney describes the interesting phenomenon of social perceptions outweighing reality in

determining the social identity of virgins versus non-virgins. She provides several descriptions of women who have never engaged in coitus, but are considered to be "soiled" and conversely women who have engaged in coitus, but are considered to be "pure". While this literary analysis is based on 19th century norms and mores, it provides an interesting demonstration of the socially constructed nature of sexual status.

Following the development of an abstinent sexual identity, evolution of this identity is inevitable as individuals' progress into a sexually active state (Buzwell and Rosenthal, 1996). This change should be preceded by recognition of feelings of desire, an area that is woefully underrepresented in academic research. By failing to fully understand sexual desire, and to engage in meaningful dialog intended to help adolescent girls understand and manage their own desires, we leave young women to develop means for handling such desires with poor input from adult role models. In fact, even in those instances where mentoring programs are designed to assist young women with healthy sexual development, the paternalistic nature of our society has indoctrinated the women that serve as mentors and role models to the point that they cannot openly discuss and encourage healthy expressions of sexual desires (Bay-Cheng, and Lewis, 2006). Further, not only is sexual desire a topic that is rarely and poorly discussed with young women in formal settings, when it is addressed, it is predominately from a heterosexual perspective as if that is the only legitimate lifestyle available to young women (Tolman, 2006). These factors combine to silence young women (Tolman et al., 2006) and undermine the development of sexual agency during the critical period of sexual identity development.

The emphasis placed on abstinence in the current social environment and the continued drive to create “feminine” women encourage retention of the identity based on “Not Doing” and place women in the role of “gate keeper”(Weisfeld and Woodward, 2004). In this paradigm, adolescent boys are not held responsible for controlling their own sexual desires (these are considered normal and healthy as opposed to women’s sexual desires). This classically described double standard results in conflict and confusion for young women that may hinder progression of a healthy sexual developmental trajectory (Feldman, Turner, and Araujo, 1999).

Many adolescents erroneously believe that sexual activities are symbols of initiating adulthood; they believe they should become sexually active because they are now sexually mature. According to adolescents with this belief, becoming sexually active at a young age shows their magnetism to attract people of the opposite sex. As a result, it is expected that when these adolescents are dating sexual intercourse will occur. This perception results in early onset of sexual intercourse among many adolescents (Hill, 2008). Various studies have shown that engaging in sexual behaviors including intercourse can bring about a range of problems for adolescents such as unwanted pregnancy, sexually transmitted diseases (STDs), sexual abuse, and decreasing academic achievement (Furman and Shaffer, 2003).

Middle adolescence stage is important period to promote sexual abstinence because girl starts analyzing her inner self and has a heightened sexual energy and may experience love and passion for the first time. Girls form relationships with the opposite sex and may enter and exit relationships very quickly. The female middle adolescent is still discovering her sexuality, considers both homosexuality and heterosexuality. Sex education at this stage, thus, is very essential. A sense of

morality and ethics develops in a teenager. Girl selects her role models and even sets goals for herself.

Sexual abstinence in Thai female middle adolescents

Sexual abstinence is one of sexual health promotion that plays a major role as the safest sexual practice (Chambers, 2003). Abstinence is the first strategy promoted by Healthy People 2010 (WHO, 2000: online). Promotion of abstinence from sex among the youth is the best strategy that has enabled youth to avoid behaviors that could lead to health problems and social problems. Most people acknowledge that "*sexual abstinence*" is the only 100% sure way of preventing negative consequences of sexual activity during adolescence, such as unexpected pregnancy, subsequent abortions, contraction of sexually transmitted diseases (STDs), acquired immune deficient syndrome (AIDS), and psychological maladjustment in adolescence is also associated with early and unprotected sexual behavior (Costa et al., 1995; Sim, 2000; Barber and Erickson, 2001; Guindon, 2002). As well as; multiple sex partners are major contributing factors for contracting HIV/AIDS among adolescents (Childs, 2007), and negative outcomes of adolescent parenthood include low educational achievement, low income, poorer psychological functioning, and greater welfare use (Khumsaen, 2008). Moreover, sexual abstinence is important in the encouragement of success in education and career (Pinthatai Supametaporn, 2006).

Researchers in the U.S. have focused increased attention on sexual abstinence among adolescents, likely due to the high teen pregnancy rates in the 1980s and the resulting increased federal funds for abstinence-only-until-marriage programs (Buhi, 2006; DaoJensen, 2008). A number of programs were developed in order to reduce teen pregnancy by promoting self-discipline and sexual abstinence. To date empirical

research does not yet support the effectiveness of sexual abstinence- only programs that are currently funded by federal monies (Kirby, 2001; Marx and Hopper, 2005). Researchers tried to study and find the cause of the failure, and many scholars have suggested that abstinent youth often have been overlooked by researchers. Some scientists have described research on sexual abstinence in adolescents as “still in its infancy stage” (Norris et al., 2003: 143), and others have suggested that multiple researchers have provided great insight into the many factors that correlate with early sexual initiation among adolescents, although there has not been much systematic study regarding sexual abstinence or why they postpone intercourse until later ages (Dunsmore, 2005; Rasberry, 2006).

As previously stated, the terms “sexual abstinence” and “virginity” found in literature on sexual abstinence and virginity, as they relate to adolescents, are used inconsistently. “Sexual abstinence” is broadly defined as “not engaging in sexual activity” Goodson et al. (2003). Definitions of virginity for women range from never having been touched by a male to having an intact hymen to never having had fully inceptive intercourse (Holland et al., 2000; Carpenter, 2001a; 2001b; Mullaney, 2001; Rosenthal et al., 2001; Stevens-Simons, 2001; Hawkins et al., 2002; Scorgie, 2002; Goodson et al., 2003; Ott et al., 2006).

Abstinence and virginity are not straightforward concepts and the definition of “having sex” is dependent on the population or individuals under study (Beramin et al., 2007; Van Der Pol, 2007). In a study of high school virgins in Los Angeles, Schuster and colleagues (Schuster et al., 1996) found that over one-third of virgins were engaging in some form of partnered sexual activity. These activities ranged from mutual masturbation to oral and anal sex. This study demonstrates that sexual activity

exclusive of vaginal intercourse occur in a large proportion of virgin adolescents and are worthy of further study. Women engaging in sexual activity exclusive of coitus remain at risk for STD albeit lower risk than women engaging in intercourse (O'Donnell et al., 2001).

Although, the definition of sexual abstinence is acknowledged in numerous studies, the term “sexual abstinence” is defined differently in many studies. According to The American Heritage Dictionary of the English Language, abstinence is “the act or practice of refraining from indulging an appetite,” particularly food or alcohol. Thus, abstinence, the deliberate self-denial of pleasurable activities, is often applied to avoiding food, alcoholic beverages and drugs, as well as sexual activity. Then sexual abstinence is defined in dictionaries as "not engaging in sexual intercourse or coitus" (Flexner and Hauck, 1998). In the abstinence-only curriculum under US policy states abstinence specifically refers to refraining from any type of sexual activity outside of marriage (DaoJensen, 2008).

For quantitative studies, Paul (2000) defined sexual abstinence as “not having had sexual intercourse”. While, Norris et al. defined sexual abstinence as a specific set of behaviors used to actively avoid sexual intercourse by persons who are not married but are interested in a romantic relationship with a partner (Norris et al., 2003: 142), nearly Raweewon Danaidussadeekul defined sexual abstinence as “not having had sexual Intercourse with male” (Raweewon Danaidussadeekul, 2004: 5). Interestingly, Alvord defined sexual abstinence as “refraining from sexual intercourse either vaginal or anal” (Alvord, 2005: 3), and Davis-Freeman defined sexual abstinence as refraining from any type of three different types of sexual intercourse; oral, anal or vaginal (Davis-Freeman, 2006: 15).

A review of the qualitative study of Haglund (2003) revealed that most girls described sexual abstinence as refraining from having sex which included kissing, and clothed or unclothed genital and breast contact. In another study, Goodson and others (2003) explored the definition of abstinence among directors of abstinence-only-until-marriage education programs, instructors who are on the programs staffs, and youths, and found that all groups defined sexual abstinence as " not engaging in sexual activity, sexual/vaginal intercourse; oral sex, anal sex, pre-coital behavior that comprised of petting, kissing, and touching, behavior that could lead to sexual intercourse; behaviors with the purpose of sexual arousal; and non sexual behaviors" (Goodson et al., 2003: 94). Interestingly, Bersamin et al. (2007) explored how adolescents between the age of 12-16 years old defined abstinence; they found that adolescents indicated that if they had vaginal intercourse, they were not sexual abstinent, and in a study of Pinhatai Supametaporn's that explored the process of remaining sexually abstinent in Thai female college students, the researcher defined sexual abstinence as refraining from sexual intercourse (Pinhatai Supametaporn, 2006: 9).

Although the term sexual abstinence has had slightly different definitions from various literatures, in most studies the term sexual abstinence meant refraining from heterosexual vaginal intercourse and other forms of genital contact such as oral or anal intercourse included in the definition of sexual activity. Much evidence has proposed that the differences in the definition of sexual abstinence among adolescent definitions of these terms, differed by age, gender, ethnicity, religion, sexual conservative, and sexual experience (Beramin et al., 2007; Byers, Henderson and Hobson, 2008). Some research suggested many high school students know that

abstinence means “not having sex”, but that the definition of sex is subject to individual interpretation (Hawkins et al., 2002).

However, both studies of sexual abstinence in Thailand showed the same definition of sexual abstinence as “not having had sexual Intercourse” (Raweewon Danaidussadeekul, 2004; Pinhatai Supametaporn, 2006). Although, Thai females have greater opportunities to engage in sexual activity than the past because of the rapid changes in sexual norms and increased exposure to urban values (Tangmunkongvorkul, Kane, and Wellings, 2005), most Thais remain abstinent while they are students. Thai adults know the negative consequences of sexual activity when they should be devoting themselves to studying. They expect their children to be abstinent until the right time. Therefore, this research studying Thai female middle adolescents who are students, using the term “sexual abstinence” is defined as not having had sexual intercourse including vaginal, oral, and anal intercourse.

Sexual behavior of current Thai female adolescents

The pattern of sexual behavior among Thai adolescents is problematic. The most common sexual behavior found in this population is accessing sexually explicit media such as pornographic movies, magazines, and cartoons. Many adolescents use the internet to access pornography and most adolescents living in urban areas in Thailand said that pornographic media is very accessible and easy to purchase (ABAC Poll Research Center, 2004; 2006; Suan Dusit Poll Center, 2005).

As previously identified, studies over the last decade indicate that the traditional norms governing sexual practices among female adolescents have changed (ABAC Poll Research Center, 2004; 2005; Suan Dusit Poll Center, 2004b) as evidenced by the increased rates of Thai girls engaging in sexual activity at a young

age (Child Watch, 2007: online), having multiple sexual partners, and having intercourse with unacquainted partners. (Guruge, 2003; Suan Dusit Poll Center, 2004a; Suwit Wibulpolprasert, 2005).

In fact, Department of Disease Control (2005: online) found that 21% of Thai female adolescents, 16 to 17 years of age had early sexual intercourse. The Child Watch Project (Child Watch, 2007: online), supported by The Thailand Research Fund and Thai Health Promotion Foundation, was established as a Social Watchdog System for child and youth problems. Data has been collected yearly since 2001 from Thai students in middle and high school, vocational school, and undergraduate college. Their findings indicate that female students reporting engaging in early sexual activity increased from 21% in 2003 to 28% in 2005 and to 30% in 2006. A survey on sexual behavior, conducted by the Department of Disease Control (2004: online), with Thai female adolescents, found that 6.7% of girls that are under 15 years of age had engaged in sexual activity. As a result of these behavior changes resulting in higher rates of sexual activity among Thai female adolescents, there has been growing concern and attention from the Thai government directed toward female adolescents and their early sexual activity. For example, the 2007 National Agenda to promote Thai traditional held beliefs of sexual abstinence (Ministry of Culture, 2007: online). In addition, according to survey research conducted by Suan Dusit Poll (2004b) with 1,240 parents of teenagers in Bangkok and its Provinces, Thai parents are concerned about the growing trend of early sexual activity among adolescents. Parents indicated that they wanted to solve this problem and protect their children. This position is congruent with survey research findings from a study conducted by the ABAC Poll Research Center with 1,627 (2004) and 3,139 (2006) adolescents 15

to 25 years of age in Bangkok and its Provinces. Results indicate that the family, school and the media were important social support systems to help prevent early sexual initiation by Thai female adolescents. The findings showed that the media influenced adolescents to have risky sexual behaviors (e.g. pornographic by CD 78%, picture 62.3%, website 59%) on the other hand, participants agreed that the media could protect early sexual activity by promoting proper dress and proper role models to adolescents.

It is generally well established that engaging in risky behaviors such as early sexual activity and intercourse (Child Watch, 2007: online) places adolescent Thai girls at risk for increased negative biological and psychosocial health-related consequences. Early sexual activity may result in a number of negative biological health-related consequences including human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS), sexually transmitted diseases (STDs), unplanned pregnancy, and complications following criminal abortion. Induced abortion in Thailand is illegal and therefore criminal except in two cases: 1) when the pregnancy can cause harm to mother, and 2) when the pregnancy is the result of a sexual assault (Ministry of Public Health, 2007: online; Office of the National Culture Commission, 2006: online). The following presents a brief overview of the prevalence of the negative consequences of adolescent early sexual activity.

The prevalence of negative health consequences of early sexual intercourse

The decision to engage in sexual activity at an early age is likely to result in a number of permanent negative consequences that affect the lives of young women. As previously identified, the enduring negative effects can have physical,

psychological, social, and economic outcomes. These effects are most pronounced for girls who become sexually active in their teen years and may be passed onto future generations.

Negative physical health-related outcomes of early sexual intercourse

Early initiation of sexual activity can lead to two well identified and critical public health problems: sexually transmitted diseases (STDs) including Human immunodeficiency virus (HIV), and unintended pregnancy. According to Department of Disease Control (2005) adolescents have the highest age-specific risk for many STDs as well as the highest age-specific proportion of unintended pregnancy in Thailand (Office of the National Commission on Social Welfare, 2007: online).

Sexually transmitted diseases

Sexually transmitted diseases (STDs) are the most common infections in adolescents and young adults, and women are more vulnerable to STDs than men (The Alan Guttmacher Institute, 2002; Weinstock et al., 2004; Zak-Place and Stern, 2004). In Thailand, the STD rates have increased from 22.65 per 100,000 in 2001-2003 to 29.29 in 2004 and 22.67 in 2005. Adolescents have higher rates than any other age group (Ministry of Public Health, 2007: online). It is estimated STD rates for male and female teens aged 15 to 24 years was 5.25 per 100,000 in 2003 and increased to 6.54 in 2005; rates were higher for females compared to males. According to the Ministry of Public Health (2007: online), more than 1,000 Thai adolescents (age 10-24 years old) live with STDs. Women who develop STDs are at increased risk of developing pelvic inflammatory disease, infertility, ectopic pregnancy cervical cancer (The Alan Guttmacher Institute, 2004). Furthermore, STDs

transmitted through oral sex may facilitate oral cancers (Herrero et al., 2003; Rajkumar et al., 2003).

It is more difficult to get accurate STD statistics, especially for adolescents and women, in Thailand. For adolescents, premarital sex is not accepted by society (Pachauri and Santhya, 2002). Therefore, adolescents never visit a clinic to test for STDs and HIV/AIDS before they exhibit severe symptoms. Treatments for these infections are usually prescribed well after young girls have very serious and recognizable symptoms. For young adult women, the societal expectation is that they support the values of being "good girls" and are expected to be sexually ignorant of STD's until marriage (Bullough and Bullough, 1995).

Human immunodeficiency virus

Human immunodeficiency virus (HIV) infection and its progression to acquired immune deficiency syndrome (AIDS) is one of the world's major and most serious infectious health problems in both developed and developing countries. By the end of 2006, there were more than 3 million AIDS deaths, an estimated 5 million people newly infected with HIV bringing to 40 million the number of people worldwide living with HIV according to United Nations Program on HIV/AIDS (UNAIDS) and WHO. In 2007, the estimate of cumulative Thai HIV/AIDS patients was 318,478 leading to an estimated 89,518 deaths (Department of Disease Control, 2007).

Worldwide, 50% of new HIV infections occur among young females aged 15 to24 years (Aidsthai, 2006: online). In Thailand, an estimated 9.5% of annual HIV/AIDS cases occur among those aged 15 to24 years; rates are higher among young women than in men (Aidsthai, 2007: online). The increasing rates of

STDs and HIV/AIDS are due to the increasing number of sexually active adolescents coupled with low rates of consistent condom use (Suwit Wibulpolprasert, 2005).

Teen pregnancy and abortion

It is well established that early initiated unprotected sex can lead to unintended pregnancy in girls (The Alan Guttmacher Institute, 2006), which has been shown to result in personal, health-related, and social consequences depending on the teens decision to keep or abort her pregnancy (Blum, 2002).

With reported low condom use and lack of family planning information for the adolescent population in Thailand, it is not surprising that 13% of all births between 1989,1992, occurred to teenaged mothers.(Department of Public Health Statistics., 1993) Furthermore, in 1995, a reproductive health report by the Ministry of Public Health stated that of all pregnancies among married women ages 15-49, 27.2% were teenage pregnancies (Family Planning and Population Division., 1998) One study among female students ages 15-21 from three vocational colleges in Chiang Rai province of Thailand revealed that 43.1% of students were sexually active and 27.3% of these young women reported having ever been pregnant. Almost 83% of those who got pregnant had an illegally induced abortion.(Allan et al., 2003) Another report from the 'Child Watch' project disclosed that during 2005-2006, more than 70,000 Thai female adolescents under age 19 gave birth and among these teen moms, more than 2,000 were under 14 years old (Child Watch and Ramajitti, 2006). During 2004-2005 in Chanthaburi Province, the site for this study, the rate of teenage pregnancy (15-19 years old) was 3,325/100,000 population, almost 2.5 times higher than that of the whole country (1351/100,000 population) (Child Watch and Ramajitti

Institute, 2006). An estimated 90 per 1,000 Thai teenage pregnancies are unintended pregnancies. This unintended pregnancy rate is higher than Japan (40 per 1,000) and America (49 per 1,000) (Ministry of Social Development and Human Security, 2007: online).Teenage pregnancy is considered high risk since it is associated with various health complications including low birth weight (Gillham, 1997). Many teenage pregnancies are unintentional; thus, the abortion rate among this subpopulation is relatively high (Warakamin et al., 2004). Most unplanned teen pregnancies end up in criminal abortions which can have adverse psychological effects as well as physical morbidity and mortality (Kulczycki, Potts, and Rosenfield, 1996).

Generally, abortion statistics are only a crude estimate of the actual abortion rate. Each year, approximately 300,000 unwanted pregnancies occur among Thai women. Of these, one-fourth is aborted. It is estimated that nearly 80% of abortions in Thailand are either performed by untrained providers or are self-induced (Suwanna Warakamin and Nongluk Boonthai, 2000; Warakamin et al., 2004; Institution for Population and Social Research Mahidol University, 2006). About 45,990 female adolescents experienced complications following illegal abortions between the years 2000 to 2003 (Ministry of Public Health, 2006: online). The most common complications found among women who received abortions out of hospital were infection and uterine perforation (Suwanna Warakamin and Nongluk Boonthai, 2000; Ministry of Public Health, 2006: online).

National statistics of both legal and illegal induced abortion recorded by 787 governmental hospitals throughout Thailand in 1999 revealed that 20% of all induced abortion cases were women below the age of 20. Additionally, the average gestational age at the time of the abortion was 13 weeks, a dangerous period to induce

abortion (Warakamin et al., 2004). Despite the illegality and perceived immorality of induced abortion, the practice is considered quite acceptable by today's adolescents in Thailand. While at least two studies revealed that although the younger generation believes that having an induced abortion reflects poor behavior, they still consider abortions an acceptable practice if an individual chooses to have one in the other words, it is a freedom of choice issue (Arunathai Intarakumhang, 2003; Yo Fengxue, 2003; Pattaraporn Sitthai, 2004).

As a result of the increasing number of Thai teen pregnancy rates, a growing number of teen girls are faced with either choosing to give birth to their babies or seek an elective, criminal abortion. Regardless of the decision these girls make, they are at risk for experiencing a number of negative physical health-related outcomes which can have long-term negative consequences that influence their quality of life and well-being.

Psychological and sociological health-related outcomes of early sexual intercourse

In addition to the negative physical health-related outcomes, Thai girls engaging in early sexual activity are also at risk for a number of psychosocial and social health consequences including; loss of the positive cultural and family image, reputation of being a ‘good Thai girl’, and personal psychological shame, (which often results in depression and suicide) inability to complete their formal education, and a depressed earned income. Thai cultural norms have granted sexual freedom to males but imposed constraints on female sexual behavior (Phattha Assavarak, 2004; Nitirat, 2007). Collected quantitative and qualitative data in unmarried pregnant women, (ages ranged from 11 to 50 years) who were living in

Don Munang Emergency House (a home for unmarried pregnant women who have been ostracized from their families) findings support the impact of social health consequences, particularly the stigmatization that occurs with girls who violate the traditional socio-cultural and family norms of remaining sexually abstinent prior to marriage. Fifty-seven (57.5%) of the women felt they were socially unaccepted and 30.3% felt stigmatized by their family. In addition, girls who violate the socio-cultural expectations of 'purity' and abstaining from sex prior to marriage experienced depression (53.6%) and made suicide attempts (13.1%). Slightly lower suicide attempts were reported by 15 to 25 years old female adolescents in Bangkok and its provinces who participated in a research survey at Assumption University (ABAC Poll Research Center, 2004; 2005). They reported that 10.1% of adolescent girls who had premarital sexual intercourse had attempted suicide.

Other negative social consequences of early sexual activity have been documented, for example, inability to continue formal primary and secondary education (Koster-Oyekan, 1998; Gray and Punpuing, 1999), disruption of personal and family life and child abandonment (Gray and Punpuing, 1999).

Adolescence is a time of learning in school, if Thai adolescents are not concerned about the negative consequences of sexual activity and do not participate in sexual abstinence, they will get into academic trouble. Human attention and motivation are finite; when greater energy and interest are invested in sexual activity, the drive for academic performance is likely to diminish. Sexually active teens may become preoccupied with the present, and long-term academic goals may have diminished importance (Rector and Johnson, 2005).

Over 99% of parents want teens to abstain from sexual activity until their children have at least finished high school or until marriage. According to Rector, and Johnson (2005), in a study sexual abstinence and academic achievement in 14,000 junior-high and high-school–aged students using data from the National Longitudinal Survey of Adolescent Health, adolescent girls and boys who abstain from sexual activity during high school were 60% less likely to be expelled from school, 50% less likely to drop out of high school, and were almost twice as likely to graduate from college.

Pender's Health Promotion Model

The health promotion model, developed by Dr. Pender in 1982 and revised in 1987, 1996, 2002 and 2006, is based on many empirical studies (Pender, 1982; 1987; 1996; 2002; Pender, et al., 2006). Due to the increasing prevalence of chronic diseases after the 1950s, disease prevention and health promotion are important issues in health care policy in the United States. For that reason, the purpose of the HPM is to predict health promoting behavior. The revised HPM uses ten concepts to predict an outcome variable, health-promoting behavior by direct effect or indirectly effect (Pender et al., 2006).

Three constructs comprise eleven concepts in Pender's revised HPM (Pender et al., 2006) (Figure 1). The three constructs include an individual's characteristics and experiences, behavior-specific cognition and affect, and behavioral outcome. Two of the concepts; prior related behavior and personal factors, are included in the construct of an individual's characteristics and experiences. The construct of behavior-specific cognition and affect consists of six concepts; perceived benefits of action, perceived barriers to action, perceived self-efficacy, activity-related affect,

interpersonal influences, situational influences. The behavioral outcome construct involves three concepts; immediate competing demands and preferences, commitment to a plan of action, and health-promoting behavior.

Pender et al., (2006) suggested that individuals engage in health-promoting behaviors through a cognitive process that is related to the individual's intention to accomplish the health-promoting behavior. Predicting of future health-promoting behavior begins with developing awareness of relevant past behavior, and then identifying behavior-specific cognitions and affects. These variables are considered to have major motivational significance because they are subject to modification. The individual variables of perceived benefits of action, personal barriers of action, perceived self-efficacy, activity-related affects, situational influences, and interpersonal influences can be modified to increase health-promoting behaviors.

Perceived benefits of action are defined as beliefs in benefits or positive outcome expectation have been shown to be an important condition for participation in a specific health behavior. Perceived barriers to action affect health-promoting behavior directly as blocks to action, and indirectly through decreasing commitment to a plan of action. Barriers may be imagined or real and consist of perceptions concerning unavailability, inconvenience, expense, or difficulty of a given health behavior. Perceived self-efficacy is defined as the judgment of personal capability to organize and carry out a particular course of action. Activity-related affect is the subjective feelings prior to, during, and following an activity. Interpersonal influences include behaviors, beliefs, and attitudes of others. Pender considers the primary sources of interpersonal behaviors to be family, peers, and health care providers. Situational influences are personal perceptions and cognitions of situation or context can facilitate or impede

behavior. Behavior-specific cognitions and affects are influenced by immediate competing demands and preferences that can lead to a commitment to a plan of action and to health-promoting behavior, which is the desired outcome of the HPM. An important theoretical assertion of Pender's model is that behavior-specific cognitions and affects can increase or decrease commitment to and engagement in health-promoting behavior.

This study will be guided by Pender's Health Promotion Model (HPM). The HPM will be chosen for this study as it not only addresses the present health behaviors of female middle adolescents, but also how to develop future health promotion activities for this population. Pender recommended that relationships among the Health Promotion Model variables should be tested in the adolescent population (Pender, 1996). In addition, Pender et al. (2006) suggested designing health promotion intervention studies in adolescents incorporating HPM variables whose predictive validity have been supported by past studies. Pender et al. (2006) stated, "Health promotion and primary prevention have been shown to have substantial benefits in improving quality of life and longevity" (p. 37). Health promotion and primary prevention are based on behavioral and sociopolitical models of health care that recognize effects of multiple systems on health outcomes. The goal of improving health behaviors within a population is best served by emphasizing health promotion and primary prevention throughout the life span (Kaplan et al., 2003). Health behavior may be motivated by an individual's desire to protect health by avoiding illness or having a desire to increase one's level of health in either the presence or absence of illness (Pender et al., 2006).

The Health Promotion Model (HPM) integrates nursing and behavioral science perspectives into factors that influence health behaviors. The HPM depicts the multidimensional nature of people interacting with their interpersonal and physical environments as they pursue health. The HPM does so by integrating a number of constructs from a social cognitive theory (self-direction, self-regulation and perceptions of self-efficacy), and expectancy-value theory (outcome has a positive personal value) within a nursing perspective of holistic functioning (Pender et al., 2006). The initial HPM was used as a framework for studies that focused on testing its predictive capabilities for an overall health promoting lifestyle.

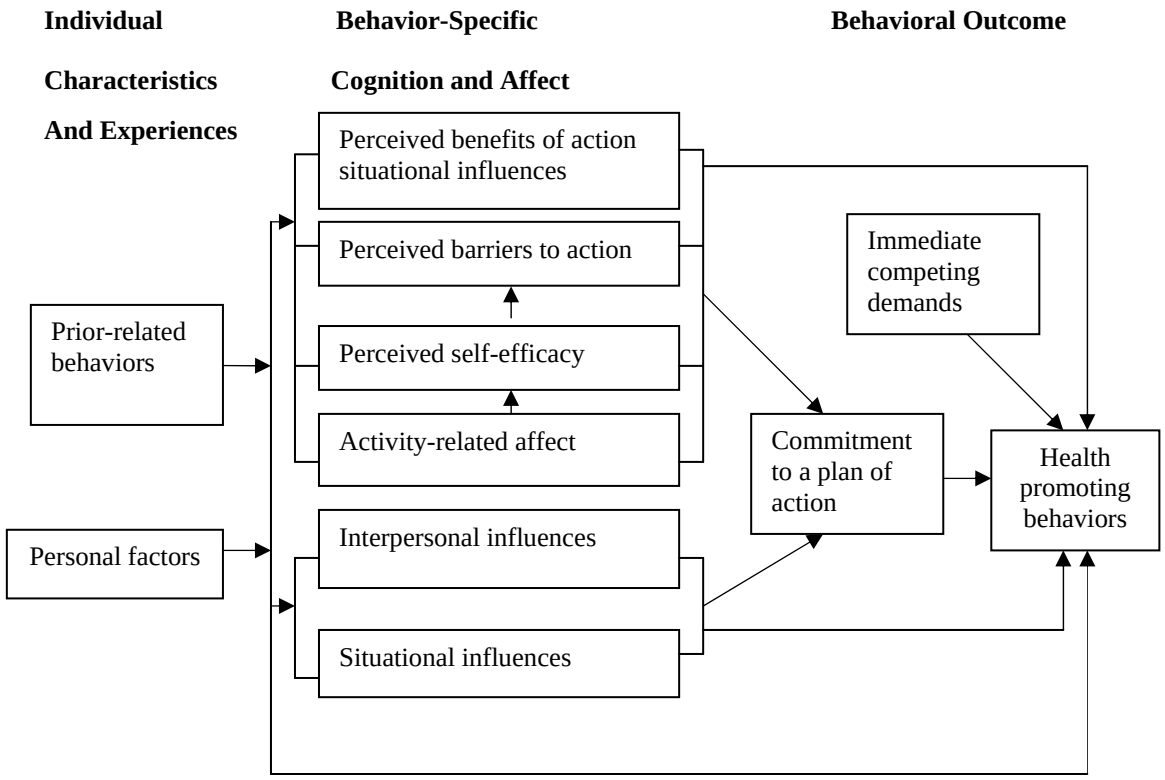

Figure 1. The Health Promotion Model (revised) (Pender et al. 2006)

Factors related to sexual abstinence guide by Pender's Health Promotion model

In recent years, many researchers have examined reasons for adolescent sexual activity and abstinence (Kirby, 1997; Diforio et al., 2004; Santelli et al., 2004), partially due to increased debate over the most appropriate type of sexuality education and abstinence programming for youth (Wiley, 2002). Because sexual abstinence has the potential to reduce health risks (through fewer lifetime partners, fewer non-monogamous relationships, and delayed initiation of intercourse) and also because the US federal government has funneled more and more funding into abstinence-only-until-marriage programs (Thomas, 2000; Wiley and Terlosky, 2000; Bassett et al., 2002; Rosenberg, 2002; Stewart, Shield, and Hwang, 2003; Marx and Hopper, 2005).

In spite of this increased interest, it remains difficult to find a single resource synthesizing (systematically) the antecedents of sexual abstinence (Rasberry, 2006). Instead, the most accessible information is related to antecedents of sexual activity. Many scholars have suggested that abstinent youth often have been overlooked by researchers. Some scientists have described research on sexual abstinence in adolescents as "still in its infancy stage" (Norris et al., 2003: 143), and others have suggested that studying abstinent youth would represent a positive focus on protective rather than detrimental influences (Blinn-Pike, 1999; Blinn-Pike et al., 2004).

The review of the literature is presented using the conceptual framework for this study based on the Health Promotion Model by Pender et al. (2006) and the variables contained in it are being used to assist in the organization of this part. This is a synthesis and critique of published studies that focuses specifically on factors associated with abstinent behavior (as opposed to sexual activity) in adolescents. This includes literature examining relationships between sexual abstinence and the independent variables representing some concepts of Behavior-Specific Cognitions and Affect, and behavior outcome. The discussion included factors such as; perceived benefits of sexual abstinence, perceived barriers to sexual abstinence, perceived sexual abstinence self-efficacy, parental influence, peer influence, and commitment to planed sexual abstinence.

Perceived benefits of sexual abstinence

Perceived benefits of action were defined as an individual’s expectations to engage in a particular behavior hinging on the anticipated benefits that it will occur (Pender et al., 2006). In the HPM, perceived benefits are proposed to directly motivate behavior as well as indirectly motivate behavior through determining the

extent of commitment to a plan of action to engage in the behaviors from which the anticipated benefits will result. Anticipated benefits of action are mental representations of the positive or reinforcing consequences of a behavior. According to the expectancy-value theory, the motivational importance of anticipated benefits is based on personal outcomes from prior direct experience with the behavior or vicarious experience through observing others engaging in the behavior. Individuals tend to invest time and resources in activities that have a high likelihood of increasing their experience of positive outcomes. Benefits from performance of the behavior may be intrinsic or extrinsic. Examples of intrinsic benefits include increased alertness and decreased feelings of fatigue. Extrinsic benefits include monetary rewards or social interactions possible as a result of engaging in the behavior. Initially, extrinsic benefits of health behaviors may be highly significant, whereas intrinsic benefits may be more powerful in motivating continuation of health behaviors. These perceived benefits of action effect a person including physically psychologically and socially (Sechrist, Walker, and Pender, 1987; Cecil, Pinkerton, and Bogart, 1999). Supported by a study of Hsiu-Fen Lin (2007) that showed that extrinsic focuses on goal-driven reasons, (e.g. rewards or benefits earned when performing an activity), while intrinsic indicates the pleasure and inherent satisfaction derived from a specific activity. Together, extrinsic and intrinsic influence individual intentions regarding an activity as well as their actual behaviors.

In this study the perceived benefits of sexual abstinence are defined as Thai female middle adolescents' mental representations of positive or reinforcing consequences of refraining from sexual intercourse during the school year. These consists benefits of health, learning achieved, a successful career, family, sense of

social acceptance, positive feelings towards herself, and the acceptance of others**.** These issues can separate for 2 type: physical and psychological.

1. Physical is extrinsic benefit that more powerful for engaging in sexual abstinence. Adolescent girl has got rewords from performing a sexually abstinent behavior that show the concrete benefits such as healthy (Blinn-Pike et al., 1999; Oman et al., 2003; Loewenson et al., 2004; Dunsmore, 2005; Rasberry, 2006), succeeding in a career, life achievement (Donnelly et al.,1999; Oman et al., 2003), success in school (Rasberry, 2006), and praise from other (Pinhatai Supametaporn, 2006).

Several studies have reported that adolescents wanted to have good health practices such as prevention of STDs, HIV, unwanted pregnancy (Blinn-Pike et al., 1999; Oman et al., 2003; Loewenson et al., 2004; Dunsmore, 2005; Rasberry, 2006) and avoid psychological maladjustment in adolescence that is also associated with early and unprotected sexual behavior (Sim, 2000; Barber and Erickson, 2001; Guindon, 2002).

Blinn-Pike (1999) has conducted the most research regarding factors that influence sexually abstinent persons' sexual decision making. Blinn-Pike conducted a study in 20 Missouri schools with 697, 8^{th} through 10^{th} graders who had indicated on a survey of sexual attitudes and behaviors that they had not had sex (from a larger sample of 1,112 students). This group of students filled out an 18-item Reasons for Abstinence Scale (RAS - a scale developed by the researcher that is a part of a larger instrument with 137 questions) identifying reasons why they had not had sex. The RAS was administered by trained classroom teachers in intact classrooms. The most frequent reasons participants gave for not having sex were; fear of AIDS, fear of

becoming pregnant or getting someone pregnant, and fear of getting a disease. Closely related was a qualitative study of Rasberry (2006) who interviewed 20 undergraduates at Texas University. Researcher found that the reasons for sexual abstinent behavior were that participants desired to avoid negative physical consequences because they believed that sexual abstinence had benefits. In additions, studies of Dunsmore (2005) and Pinhatai Supametaporn (2006) found that the praise from other is one of reasons that girls engage in sexual abstinent behavior. Finding found that participants wanted to get the praise about their sexually abstinent behavior because these seem that they be good Thai girl. Closely, related Nonglak Pongyuen (2004) found that sexual expression and experimentation were viewed as acceptable activities for Thai male adolescents, yet unacceptable for Thai females. Thus, females did not want to get a gossip.

2. Psychological is intrinsic benefit that more powerful for sexually abstinent adherence. This benefit is abstract benefit as the pleasure or positive mental outcome of sexually abstinent behavior. These benefits are female middle adolescents' thoughts regarding the overall happiness when they engage in sexual abstinent behaviors (Dunsmore, 2005).

Dunsmore (2005) found that participants who had sexual abstinence perceived that they were happy. This is supported by study of Phinhatai Supametaporn (2006) that found that participants were happy when they could remain sexually abstinent while they were a student because they wanted to be a good girl. Moreover, Sexual abstinence not only maintains power within a relationship with parent and boy/girl friends (Rasberry, 2006), but also got respect of others as well as acceptance (Dunsmore, 2005; Pinhatai Supametaporn, 2006). Acceptance is important

cause to push female middle adolescents to set goals for life or orientation towards the future (future goal and aspirations) (Oman et al., 2003; Donnelly et al.,1999), they will intend to be abstinent until right time. The adoption of social value became the conditions of female middle adolescents set goals of succeeding in a career, life achievement (Donnelly et al.,1999; Oman et al., 2003), and success in school (Rasberry, 2006).

Pender et al. (2006) stated if adolescent believe that benefits are associated with participation in health-promoting behaviors, they are more likely to do the activity. The studies found that adolescents were more likely to intend to remain sexually abstinent if they believed that the benefits of waiting for the future outweigh the costs (Donnelly et al.,1999; Oman et al., 2003; Dunsmore, 2005; Pinhatai Supametaporn, 2006; Rasberry, 2006). The study of Pinhatai Supametaporn (2006) found that social context had strong influences on the process of young Thai women to remain sexually abstinent. The traditional Thai values of being good Thai girls was a strong issue on a process of remaining sexually abstinent.

Benefits associated with sexual abstinence in female adolescents' have been acknowledged in previous literature. Adolescents expect to receive positive outcomes when they have sexual abstinent behavior. Thus, this is evidence that adolescents intend to have sexual abstinent behavior. Researchers found that the perceived benefits of sexual abstinence (Donnelly et al., 1999; Paradise et al., 2001; Oman et al., 2003) also was an important predictor (Blinn-Pike et al., 2004; Rasberry, 2006).

A recent qualitative study also found that participants could remain sexually abstinent by learning the benefits of sexually abstinent behavior. They will gain future success when they remain sexual abstinent (Pinhatai Supametaporn, 2006).

Perceived barriers to sexual abstinence

Pender et al. (2006) reported that the perceived barriers to action are obstacles that prevent individuals from participating in health-promoting behaviors. Anticipated barriers have been repeatedly found to affect intentions to engage in a particular behavior and to execute the behavior. Barriers may be imagined or real. They consist of perceptions concerning the unavailability, inconvenience, expense, difficulty, or hurdles, and personal costs of undertaking a given behavior.

Perceived barriers to sexual abstinence are defined as Thai female middle adolescent's thoughts or beliefs about obstruct or impede of her refraining from sexual intercourse which may be imagined or real.

Barriers are described as those factors that are perceived as problems, challenges, or difficulties within their puberty period. These barriers include boyfriend pressure, peer pressure, risk behavior and family problem (Nonglak Pongyuen, 2004; Rasserry, 2006).

Smith (2003) found that young women are significantly more likely to engage in unwanted coitus than young men. In a study by Whitten and colleagues (2003) reported most young women knew they may be more likely to be in relationship of poor quality, if they maintain a sexual abstinence. Whereas Thai female adolescents indicated the reason, they first had sexual intercourse. They were in love and they would give whatever the boy wanted, would make the boy feel good (Nonglak Pongyuen, 2004, Sittipong Wongwiwat, 2005). The study of Nonglak Pongyuen (2004) showed that some girls thought that pleasing their partner when having sex was more important than pleasing them. They feared that they would be beaten or their partners would leave them if they refused to have sex. They wanted to

please him and keep him. Moreover, this study found that girls believed that most of her friends were having sex, there could be intense pressure-internally as well as externally- to conform. Many teenage girls also felt pressured to engage in sex because they wanted to accept from their friends.

Pender et al., (2006) stated that if the adolescent has negative perceptions, they are likely not to participate in an activity. There are few studies that focus on the barriers to participate in sexual abstinence. One of the studies was the research of Rasberry (2006) who studied 6,000 undergraduate students in Texas. The researcher found that the perceived barriers to sexual abstinence were a significant predictor of sexual abstinent behavior. Results for the final model (with all variables) revealed fewer perceived barriers ($\beta = -.331$; $p < .000$) In this study, the researcher showed that boy/girlfriend's pressure can obstruct the practice of sexual abstinence. Students knew they may lose their boy/girlfriend if they maintained sexual abstinence. Closely related, a study of Pinhatai Supametaporn (2006) found that participants felt it was hard to be single and without dates, but they permitted the loss a boyfriend if the male wanted to have sex.

Perceived sexual abstinence self-efficacy

Pender's Health Promotion Model was developed by using multiple theories such as expectancy value, stimulus response, decision making, and social cognitive theory (Pender et al., 2006). Perceived self-efficacy is an important component in this model. Pender et al. (2006) defined perceived self-efficacy as the judgment of personal capability to organize and carry out a particular course of action.

Bandura (1977; 1986) indicates the importance of personal mastery expectations of an individual regarding a desired behavior. According to Bandura

(1986) behavior and behavioral change depend on both outcome expectations and personal efficacy expectations. Outcome expectations consist of beliefs about whether a particular behavior will lead to particular consequences. Self-efficacy refers to a person's expectation regarding his capability to realize a desired behavior. It does not reflect a person's skills, but rather one's judgments of what one can do with whatever skills one possesses.

According to Bandura, efficacy expectations vary along dimensions of magnitude, strength, and generality (Bandura, 1977; 1982). Each of these dimensions has important implications for performance and each implies slightly different measurement procedures. "Magnitude" refers to the ordering of tasks by difficulty level. Self-efficacy expectations may be limited to simple tasks (low magnitude), or can include difficult tasks as well (high magnitude) (Strecher et al., 1986). "Strength" refers to the probabilistic judgment of how certain one is of one's ability to perform a specific task (Bandura, 1984). The third dimension, "generality" is concerned with the extent to which efficacy expectations about a particular situation or experience generalize to other situations. Self-efficacy beliefs are hypothesized to vary depending on the domain of functioning and circumstances surrounding the occurrence of a behavior. Measures that are consistent with self-efficacy theory should share three features: beliefs, behaviors, and circumstances (Forsyth and Carey, 1998).

According to Bandura (1986), as cited by Pender et al. (2006), perceived self-efficacy is a person's own belief that he/she has the capacity to organize and carry out a specific action. Self-efficacy is not concerned with skills that individuals have, but with personal judgments of what individuals can do with their individual skills. Judgments of personal efficacy are distinguished from outcome expectations, because

outcome expectations are beliefs of likely consequences from the benefits of health-promoting behavior. Personal efficacy (self-efficacy) is a judgment of whether individuals can accomplish the health-promoting behavior (Pender et al., 2006). If they feel successful in performance, they are likely to engage more frequently in the health-promoting behavior. Increased self-efficacy results in decreased perception of barriers. Thus, self-efficacy can motivate health-promoting behaviors directly by itself and indirectly by affecting perceived barriers.

Perceived sexual abstinence self-efficacy is defined as is defined as Thai female middle adolescents' judgment of her ability to refrain from sexual intercourse during the school year in social situations where sex is likely to occur. The literature review has been evaluated in the context of adolescent sexuality in general as well as that of virginity and abstinence (Smith, 1998; Young, Denny, and Spear, 1999; Ellen and Adler, 2001; Nagy, Watts and Nagy, 2003; Fergus and Zimmerman, 2005; Goodson, Buhi, and Dunsmore, 2006). These studies suggest that self-efficacy is related to the ability to act on that desire.

Findings further showed that participants who reported higher sexual abstinence self-efficacy were likely to be abstinent of any type of sexual activity (Santelli et al., 2004). In a similar study, Sionean and colleagues (2002) explored behavioral factors related to refusal of sex among 522 African American adolescent girls aged 14 to 18 years. Findings showed that participants who reported high sexual abstinence self-efficacy were more likely to refrain from engaging in unwanted sexual activity. Findings from study of Bersamin et al. (2006) support self-efficacy as a protective factor against engaging in sexual activity. Closely related, all of the studies of Buhi and Goodson (2007); Childs (2007); and Rassberry and Goodson (2007)

found that sexual abstinence self- efficacy was a predictive factor of sexual abstinence.

There are few measurements in self- efficacy for sexual abstinence. All scales were adapted from social cognitive theory (Bandura, 1977; 1982).

Hulton (2001) developed Adolescent Self-Efficacy Scale for Sexual Abstinence (ASESSA). She was adapted from self-efficacy scales for alcohol use (Snow, 1991), weight control (Clark et al., 1991), and smoking cessation (Velicer et al., 1990). The measurement of self-efficacy in other problem behaviors reflects 4 categories of questions (Velicer et al., 1990; Clark et al., 1991; Snow, 1991; Jeng and Braun, 1995; Forsyth and Carey, 1998). These include (1) positive affect, (2) situational cues, (3) testing personal control, and (4) social pressure. Responses were scored based on a 5 point Likert-type scale ranging from (1) Not at all sure that I could to (5) Very sure that I could. The reliability and validity was based on 7^{th} graders from a school system in central Virginia. Cronbach's α in the study was .71.

Norris and Lopez de Victoria (1998) developed sexual abstinence self-efficacy scale with a seven-item scale through focus group work with low income adolescent Latinos and Anglos and consultation with key informants. Items assess how sure the respondent is of his or her ability to carry out a variety of behaviors related to abstinence (e.g., saying "no," telling self that the girl/boy is not worth it if you disagree about sex). Response options range from 1 (not at all sure) to 4 (extremely sure). Support for reliability and validity was found in low-income adolescent and middle-income to upper-income college student samples $\alpha = .83$ ($n = 85$); significant mean differences between those who had and had not engaged in heavy petting behavior or sexual intercourse (Norris and Lopez de Victoria, 1998).

Split half reliability for randomly constructed halves was .80. Additional correlations with other randomly constructed halves replicated this initial value (r = .79-.81).

Validity was supported in two ways. First, scores were correlated with Pearlin and Schooler (1978) Mastery Scale, particularly in the college student subsample (r =.52). Second, as predicted by Bandura (1997) Social Cognitive Theory, small to moderate correlations between sexual abstinence self-efficacy scores and measures of abstinence behavior (e.g., r = .10 to .31) were obtained for both the adolescent and college student sub-sample. Validity analyses were conducted separately for each sample subgroup because scores on mastery and abstinence behavior measures differed significantly in the two groups ($p < .05$).

Norris et al. (2003) examined sexual abstinence self-efficacy scale for content validity with 113 African American seventh-grade students (58% male, 42% female) taking a health education class at a middle school in the immediate Birmingham, Alabama, area. Cronbach's α in the study was .80. Support for validity, consistent with SCT predictions was found in moderately and positive correlations with responses to the two measures of abstinence behaviors, saying no to sex (r = .36), and telling self that one has made the right decision by waiting to have sex (r = .35) ($p < .01$). A similarly sized correlation, but in the predicted, opposite direction, was observed with intention to engage in intercourse (r = -.33, $p < .01$).

Eun-Seok Cha (2005) modified from Norris et al. (2003)'s Sexual Abstinence Self-efficacy. Originally this scale consisted of 7 items and an optional item. The optional item is only asked of students having engaged in sexual behavior, but refrained from actual sex. The Cronbach's alphas of the original version (Norris et al., 2003) and the Korean version in the pilot study conducted on Korean college

students were both 0.83. Response options range from 1 (not at all sure) to 4 (extremely sure).

Buhi (2006) developed Self-Efficacy to Remain Abstinent. This scale was assessed using two items (“I can remain abstinent until marriage” and “If I am pressured to have sex, I can resist”), scaled on a four-point response format, from “not confident at all” to “extremely confident.” Test-retest reliability scores for the two questions were .47 to .60 ($p < .05$), respectively, with 451 Texas middle school students who were taking part in a broader statewide evaluation study of Title V-funded abstinence-only-until-marriage (Wave 1) Cronbach’s α of .71.

Rasserry (2006) developed Self-Efficacy to Remain Abstinent. This scale was assessed using one item and measured by students' responses to "How confident are you that you can keep your commitment to abstinence" on a scale of 1 (not at all confident) to 4 (very confident). The scaled variables were created by summing scores on multiple items to arrive at a single score for the factor of interest with 1,133 undergraduates in Texas University. Cronbach’s α of .86.

Interpersonal influences about sexual abstinence

The concept of interpersonal influences of HPM (Pender et al., 2006) are the cognitions concerning the behaviors, benefits, or attitudes of others. These cognitions may not correspond with reality. Primary sources of interpersonal influence on health promotion behaviors are family (parents or siblings), peers, and health care providers. Interpersonal influences include norms, social support, and modeling. Norm was defined as expectations of others regarding engagement in health promoting behavior. Social support was defined as instrumental and emotional encouragement offered by others that act as a sustaining source for health promoting behavior. Modeling was

defined as vicarious learning through observing others engaged in health promoting behavior (Pender et al., 2006).

Three interpersonal processes affect individuals' predisposition to engage in health promoting behavior. An important theoretical assertion of Pender's model is that families, peers, and health care providers are important sources of interpersonal influences that can increase or decrease commitment to and engagement in health-promoting behavior (Pender et al., 2006). Among Thai adolescents interpersonal influences appear to be very important. According to Rasaminari et al. (2007); Thato et al. (2003); and Sittipong Wongwiwat (2005) found that parental rearing styles and peer are directly or indirectly associated with appropriateness of adolescents' behaviors. Parents and peers are predictors of sexual behaviors. Most researches of both factors studied sexual activity and condom use. Rarely did studies focus on sexual abstinent behavior. However, Raweewon Danaidussadeekul (2004) and Sittipong Wongwiwat (2005) found parents and peers were important factors that related to sexually abstinent behavior. Therefore, two major sources of interpersonal influences, parents and peers, will be examined in the current study.

Parental influence

Parental influence is defined as perception of Thai female middle adolescents about their parent's expectations, childrearing, and encouragement of parents regarding engagement in sexual abstinence during the school year.

Parental norms is as a parent's expectations, positive benefits beliefs, and desire to be praised by another. Parents who consider the outcome of sexual abstinence as positive and assumes that they want their daughter to perform the sexual abstinence is more likely to perform the sexual abstinence. Parental norms toward

sexual abstinence have been discussed as an influential predictor of adolescent sexual abstinence (Dittus and Jaccard, 2000; Miller, 2002; Buhi, 2006). These norms include expectations, positive benefits beliefs, and desire to be praised by another. Expectations of parents refer to parents' judgment concerning to daughter to perform sexual abstinence until right time. Parents want their life's daughter gain future achievement. They recognized the negative consequences of having sex during student, they did not want their daughter face those negative outcome (Pinthatai Supametaporn, 2006). Parents had a strong positive feeling of regard and affection towards their daughters. They perceived benefits of sexual abstinence affect to girls include physical psychological and social.

Parental support is as parent's guiding, childrearing, emotional encouragement, and instruments to promote positive behavior. Parental supports about sexual abstinent behaviors were exposed by parental relationships and parental monitoring. Monitoring did not require constant parental supervision or intrusiveness, but meant that the parents were interested and involved in the child's everyday life (Pinthatai Supametaporn, 2006). Parental monitoring included the awareness of the child's friends and the child's whereabouts and activities when the parents were not present. Research findings on the influence of parents have been found to play a role in timing of the onset of sexual activity and sexually abstinent behavior (Buhi, 2006; Rassberry, 2006). Several studies have suggested that parental involvement and communication play a role in an increased length of abstinence (Raine et al., 1999; Lammers et al., 2000; Calhoun-Davis and Friel, 2001; Longmore et al., 2001; Rosenthal et al., 2001; Wu and Thomson, 2001; Hutchinson, 2002; French and Dishion, 2003). Communication with parents about sexual issues was also shown to

be a significant predictor of not engaging in unwanted sexual activity (Gutierrez, Oh, and Gillmore, 2000; Clawson and Reese-Weber, 2003; Hutchinson et al., 2003). Although, the generalization of each of these studies may be restricted because of the difficulty in sampling a representative population, the preponderance of data, all suggesting that the parental relationship is an important factor, gives strength to the argument. Buhi and Goodson (2007) and Maguen and Armistead (2006) found that parental expectations and influences were an important predictor of sexually abstinent behavior. The factor element was the most complex predictor, followed by the varying empirical findings pertaining to parental involvement/closeness, quality of the relationship with parents, rules/boundaries, parental support, and parental monitoring/supervision. For example, Ramirez-Valles, Zimmerman and Juarez (2002) found that more time spent with the mother is correlated with delaying first intercourse for girls but not for boys. Regarding parental relationship quality, Dittus and Jaccard, (2000) found that higher quality mother-child relationship was associated with delayed sexual intercourse. Interestingly, Davis and Friel, (2001) and Rose et al., (2005) found mixed effects i.e., higher quality mother-child relationship associated with delayed sexual intercourse initiation for girls but not for boys. Moreover, the research findings of Robinson, Telljohann and Price (1999) found that parental support was a protective effect i.e., as support for *not* having sex increased, the likelihood of abstaining from sex increased. Closely related, Raweewon Danaidussadeekul (2004) found the correlation between parental relation and sexual abstinent behavior. In addition, parents expected their child to do the good thing, and success in their life is an important factor.

Peer influence

The influence of peer groups and intimate friendships is arguably another key supportive factor contributing to adolescents' sexual abstinence. The majority of studies (Zwane, Mngadi, and Nxumalo, 2004; Jaccard, Blanton, and Dodge, 2005) evaluating sexual abstinence cite peer pressure, peer influence, and peer support as variables which either affirm or reject a chosen decision towards sexual abstinence.

For this study, peer influence is defined as perception of Thai female middle adolescents on peer's norm, support, and modeling in refraining from sexual intercourse during the school year.

Peer norms defined as peer's expectations, positive benefit beliefs, and to be praised by another. Peer who considers the outcome of sexually abstinent behavior as positive and assumes that they want to perform the sexually abstinent behavior is more likely to perform the sexually abstinent behavior. Thai research findings regarding the influence of peers on the sexual abstinence of individuals were important. Research studied of Raweewon Danaidussadeekul (2004) showed that Thai female adolescents who were sexually abstinent were influenced by their close friend's virginity status. This result is congruent with Pinhatai Supametaporn (2006) who found that peers are one of the crucial factors that lead one to remain sexually abstinent. Other studies support the strong relationship between perceived peer norms and youth sexual behaviors or abstinence (Stanton et al., 1996; Alexander and Hickner, 1997; Kinsman et al., 1998; Kirby, 2001; Kotchick et al., 2001; Santelli et al., 2004).

Peers attitudes, beliefs, and perceptions of norms have been shown to be significant predictors of the age of sexual initiation by O'Donnell and colleagues (O'Donnell et al., 2003). In a study of urban minority youth, a group with high rates of early sexual initiation, attitudes and norms were found to be the factors that best predicted early sexual debut. The authors suggest that this indicates the importance of both school and parental interventions at early ages in an effort to affect these attitudes and establish appropriate norms. Similar findings have been reported by other studies (Kinsman and Romer, 1999; Holland et al., 2000; Cavanagh, 2004; Tolman, 2006) lending weight to the generalization of the conclusion that peer norms are an important determinant of abstinence states.

Peer support defined as a peer's guiding, emotional encouragement or praised for engaging in sexually abstinent behavior. Peer groups are a component of the social experience that helps adolescents develop norms and attitudes regarding a variety of lifestyle factors including sexual behaviors (Kinsman and Romer, 1999). Zimmer-Gembeck and colleagues developed a model which included both physical characteristics and peer relationship qualities (Zimmer-Gembeck, Siebenbruner, and Collins, 2004). In this study of 155 young men and women, friendship quality predicted age of first sexual intercourse.

Peer modeling defined as vicarious learning through observing peers. Peers begin to serve as role models for new behaviors. In addition, researchers agree that the behavioral choices adolescents make are determined in part by how acceptable those behaviors are among their peers (Millstein, Petersen, and Nightingale, 1993). Oman et al. (2003) found that peers were important role models when associated with sexually abstinent behavior. Closely related, the findings of

Buhi and Goodson (2007) found that the perception of peer disapproval of sex or negative attitudes toward sex were a factor in influencing sexual abstinence practice.

Commitment to a plan of sexual abstinence

Commitment to a plan of action propels the individual into and through the behavior unless a competing demand that cannot be avoided or a competing preference that is not resisted occurs. This concept defined as commitment to carry out a specific action at a given time and place and with specified persons or alone, irrespective of competing preferences; and identification of definitive strategies for eliciting, carrying out, and reinforcing the behavior (Pender et al., 2006). In this study, commitment to a plan of sexual abstinence is defined as intention, and strategies for eliciting, carrying out, and reinforcing of Thai female middle adolescent to refrain from sexual intercourse during the school year.

Researches found that female adolescent who are setting goals to have bright future and intend to practice sexual abstinence achieve the goal (Dunsmore, 2005; Pinhatai Supametaporn, 2006). The study of Pinhatai Supametaporn (2006) found the same for young women who set a goal for life security and stability by committing to study, and taking consideration before entering romantic relationships, and living up to parents' expectations. These young Thai women are intent on abstaining from premarital sex or said they would wait until some certain goal in their lives is achieved. Buhi (2006) found that intention of sexual abstinence was predictor of sexual abstinence.

Conceptual framework

This study was developed from literature review and used Pender's Health Promotion Model (HPM) (Pender et al., 2006) guided to select factors that related to sexual abstinence. The conceptual framework for the study show as follows:

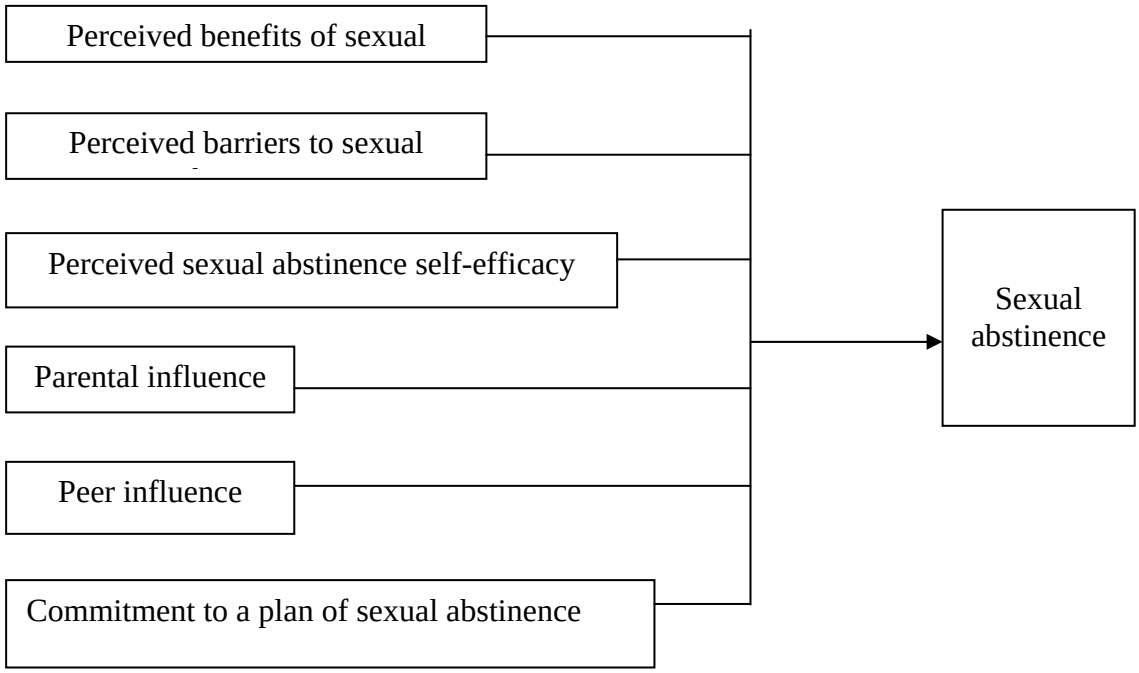

Figure 2 The conceptual framework

CHAPTER III

METHODOLOGY

This chapter described the design of proposed study, population, sampling technique and sample selection, instrumentations, data collection procedure, protection of human subjects, and data analysis methods.

Research design

The study used a cross-sectional, descriptive correlational research design using self-reported questionnaires. The purpose of study was to examine the relationships of perceived benefits of sexual abstinence, perceived barriers to sexual abstinence, perceived sexual abstinence self-efficacy, parental influence, peer influence, commitment to a plan of sexual abstinence, and sexual abstinence among Thai female middle adolescents.

Population and sample

The population for this study were Thai female middle adolescents who are public co-education high school students of Matayom 4 to 6 (M 4-6) of the Department of General Education, Office of The Basic Education Commission.

Sample size calculation

The sample size was estimated from proportions (the percentage of female middle adolescents who having sexual abstinence). This calculator determined the minimum sample size in order for sample to meet the desired precision requirements for a study. It was used when the primary measures of a study are proportions as

opposed to means. The method was to combine responses into two categories and then use a sample size based on proportion (Smith, 1983).

Using the formula $n = \frac{z^2_{\alpha/2}\, p(1-p)}{e^2}$

Where, n = Sample size

$\alpha = 0.05$

p = Prevalence of sexual abstinence = 91%

Z = Confidence coefficient = $(1-\alpha)$ = 95%

e = The precision of estimation = 0.05

The sample size which can estimate the incidence rate of sexual abstinence among Thai female middle adolescents is calculated by used the prevalence from preliminary study. Therefore the total of sample size is 1,328 students.

Sampling technique

The following steps were followed in order to obtain subjects:

Thailand is divided into seven regions according to the geographical area (1) Bangkok and perimeter, (2) Central, (3) Eastern, (4) Northeastern, (5) Southern, (6) Upper-Northern, and (7) Lower-Northern). The sample in this study used multistage random sampling.

1.1 Simple random sampling was used to select two provinces from each region (14 provinces) by used selection without replacement of sampling frame. Bangkok, Samutphakran, Ratchaburi, Ayuthaya, Chiangmai, Lampang, Phichit, Phitsanulok, Chachoengsao, Chonburi, Mahasarakham, Ubonratchathani, Chumphon, and Songkhla were randomly selected.

1.2 One school was randomly selected from each province (14 schools) by used selection without replacement of sampling frame.

1.3 In each school, systematic random sampling was used to select students from a name list. Every second name in the list selected until reaching the required sample. In each school, 95 students were selected and add more 20 extra names were picked from each list in case some participants might not be willing to participate in this study or did not meet the criteria.

Sample selection

The target population in the present study was Thai female middle adolescents. The following criteria were used to select the participants.

1) Thai nationality.

2) Willing to participate in this study.

3) Permission from parent or guardian for student who was the age below 18 years.

The criteria for exclusion from the study included:

1) Having health problems including mental problems or handicapped.

2) Participants who withdrew at anytime.

Instrumentation

The instruments used in this study include 1) personal data sheet, 2) perceived benefits to sexual abstinence scale, 3) perceived barriers to sexual abstinence scale, 4) perceived sexual abstinence self-efficacy, 5) parental influence scale, 6) peer influence scale, 7) commitment to a plan of sexual abstinence scale, and 8) sexual abstinence scale.

Whereas instruments for sexual abstinence were less developed in studies, there was little study about sexual abstinence in Thailand. Therefore, all instruments were developed by researcher.

The personal data sheet elicited the following information from subjects: (1) age; (2) education level; (3) religion; (4) family structure (lives with one or both parents; lives with an adult other than mother or father) and siblings; (5) parental status; (6) education of father and mother; (7) career of father and mother and (8) income.

Other 7 questionnaires were developed as the same procedure. Therefore, the detail of instrumentation was described two parts. One was developing questionnaires as a tool for data collection. The other was evaluation the psychometric properties of scales.

Part 1: Developing questionnaires

The instrument employed was 7 instruments paper and pencil tool designed to measure the major variables of the study. The instrument development for this study represented two constructs of HPM (Pender et al., 2006), including behavior-specific cognitions and affect, and behavioral outcome. Behavior- specific cognitions and affect include: 1) perceived benefits to sexual abstinence scale, 2) perceived barriers to sexual abstinence scale, 3) perceived sexual abstinence self-efficacy, 4) parental influence scale, and 5) peer influence scale. Other behavior outcome includes commitment to a plan of sexual abstinence scale. Lastly, sexual abstinence was measured with by using self report.

The questionnaires were developed items based on content analysis of Pinhatai Supametaporn (2006) who explained about sexual abstinence in Thai female and also other literature reviews. This was studied to elicit content for developing population specific measures of constructs in the HPM (Pender et al., 2006). In

particular, the guidelines for scale development proposed by Burns and Grove (2001) and DeVillis (2003) were integrated and applied into this phase.

In scale development procedures, there were five major tasks; identifying the scale's format, generating the item pool, investigating content validity, constructing the second draft of the scale, and testing psychometric properties of the scale. Each of these tasks was examined in details.

1.1 Identifying a format of the scale

The intended use of the scales were to measure factors related to sexual abstinence and sexual abstinence of Thai female middle adolescents for research purposes. All the following 5 scales were measured with a 4- point Likert scale. Behavior-specific cognitions and affects included: (1) perceived benefits of sexual abstinence scale (BeSA), (2) perceived barriers to sexual abstinence scale (BaSA), (3) perceived sexual abstinence self-efficacy (SASE), (4) parental influence scale (PaIN), and (5) peer influence scale (PeIN).

Other behavior outcomes included a commitment to a plan of sexual abstinence scale (CSA) were measured with a 4- point scale (never (1) – often (4)). Lastly, sexual abstinence (SA) was measured by using a self report. Sexual abstinence was assessed with four items on the self- report. Example "Have you had vaginal intercourse with a male?" (Yes=0, No=1). A student who has sexual abstinence must have 4 points.

1.2 Generating item pool

Generating an item pool was started with identifying an operational

definition of perceived benefits of sexual abstinence, perceived barriers to sexual abstinence, perceived sexual abstinence self-efficacy, parental influence, peer influence, commitment to a plan of sexual abstinence, and sexual abstinence.

An item pool of the 7 scales were generated from reviewing literature based on operational definitions. Information from the literature reviewing was integrated for constructing item statements of the item pool.

Each item was constructed by writing a short declarative statement reflecting the cognition of sexual abstinence of Thai female middle adolescents. In order to cover all aspects of the operational definitions, items were constructed from a item pool as large as possible which was expected to be representative the universal items of the scales. For the 7 constructs; there were 27 items for perceived benefits of sexual abstinence, 20 items for perceived barriers to sexual abstinence, 14 items for perceived sexual abstinence self-efficacy, 24 items for parental influence, 26 items for peer influence, 13 items for a commitment to a plan of sexual abstinence, and 4 items for sexual abstinence. Therefore, the total pool of 128 items had potential to reflect all aspects of the constructs of the cognition of sexual abstinence and sexual abstinence of Thai female middle adolescents.

1.3 Content validity

Content validity concerns whether the scale and the items it contains are representative of the content domain that the researcher intends to measure (LoBiondo-Wood and Haber, 2002). Validating content, two key issues; whether individual item are relevant and appropriate in term of the construct and whether the items adequately measure all dimensions of the construct (Polit and Hungler, 1999) were examined by a panel expert. Mishel (1998) and DeVellis (2003) suggested that

asking for feedback in relation to accuracy, appropriateness, relevant to the test specification, and readability of each item, all of these suggestions were recommended. The results from the content validity were to identify the items that should be refined, changed, or deleted following comments or suggestions of a panel expert.

Regarding a number of experts, at least three experts were recommended, but a larger number are also advised if the construct is complex (Polit and Hungler, 1999). Therefore, this study had confirmed content validity by expert content by using two times of experts for content validity (Polit, Beck, and Owen, 2007). Before the scales were tested for content validity by experts, face validity was tested first with 6 female high school students (M.4= 2 students, M.5=2 students, and M.6= 2 students). Also, instrument drafts were sent to panel experts for two rounds. The first round, content validity was tested by five experts in the field of nursing (2 experts) and sexual health/sexuality education (2 experts), and an expert in the area of instrument development (1 expert) to establish content validity of the items. The five experts were asked by the content validity form place each item in one of four-point scales that would reflect relevance to the operational definition and content domain 1 = not relevant, 2 = somewhat relevant, 3 = quite relevant, 4 = very relevant, and 2) Clarify the items using open suggestions . In this part, the items content validity index (I-CVI) of scales were 0.8-1. Next, minor item revisions were needed based on the first round results. The second round, three expert panels in the field of nursing (1 expert) and sexual health/ sexuality education (1 expert), and an expert in the area of instrument development (1 expert) to establish content validity. The three experts were asked about the content validity form in the same format as that of the first round. The scale content validity index (S-CVI/ UA) of scales were 0.8-1 as follows:

(1) Perceived benefits to sexual abstinence scale = 0.89.

(2) Perceived barriers to sexual abstinence scale = 0.80

(3) Perceived sexual abstinence self-efficacy = 0.86

(4) Parental influence scale = 0.85

(5) Peer influence scale = 0.85

(6) Commitment to a plan of sexual abstinence scale = 0.85

(7) Sexual abstinence scale = 1

After content validity was tested, the pilot-test was subsequently conducted with a convenience sample of 30 female high school students. Cronbach's alpha coefficient was 0.75 -1 as follows:

(1) Perceived benefits to sexual abstinence scale: $\alpha = 0.90$.

(2) Perceived barriers to sexual abstinence scale: $\alpha = 0.95$

(3) Perceived sexual abstinence self-efficacy scale: $\alpha = 0.95$

(4) Parental influence scale: $\alpha = 0.88$

(5) Peer influence scale: $\alpha = 0.92$

(6) Commitment to a plan of sexual abstinence scale: $\alpha = 0.75$

(7) Sexual abstinence scale: $\alpha = 1$

1.4 Constructing the second draft of the scales

The pretest study was conducted to construct the second draft of the scales. Before the researcher printed out the items in a form for the study using a large sized sample, it was a good idea to try out the items on a small group of samples (Croker and Algina, 1986). In this study, the pretest study was conducted to; 1) determine the amount of items that it took to complete the scale, 2) establish the scale to see if its instructions were unclear, and 3) identify clarity and appropriateness of the scale use to

see if participants found anything objectionable or inappropriate about the scale (Pett, Lackey, and Sullivan, 2003).

To meet the purposes of the pretest study, the first draft of the 7 scales was examined by using item analysis and item review. Item analysis was employed to obtain statistical data.

1.4.1 Item analysis

Item analysis was employed to select the appropriate items which were a representative of a sample domain of the item universe for constructing the second draft scale. Therefore, descriptive statistics of each item, item-total correlation, item-item correlation, and Chronbach's alpha coefficient were examined.

Descriptive statistics of each item were examined by using mean, standard deviation, skewness, and kurtosis. The items which represented normal distribution were selected. Therefore, criteria for selecting the appropriate items were skewness values falling inside the range of -1 to +1 (Hair et al., 1998), magnitude of kurtosis was less than 2 (Wagner, Schnoll, and Gipson, 1998).

Corrected item-total correlation was proposed in terms of the precision of the item indicated and how strongly an individual item reflected the total scale. Regarding a common rule of thumb, the corrected item-total correlation should be between 0.30 and 0.70. Those less than 0.30 were not contributing much to the measurement of the concept while those greater than 0.70 were probably redundant (Polit and Hungler, 1995). Therefore, items with corrected item-total correlation of less than 0.30 would be deleted, and the paired items with item-item correlation greater than 0.70 were considered keeping the best one of each paired item.

Chronbach's alpha coefficient, which represented an internal

consistency of the scale, was used as the criterion for keeping appropriate items. If any items were deleted when the alpha coefficient was less than 0.7, those items would be retained. In addition, Chronbach's alpha coefficient of the first draft scale should be at least 0.70 for the newly developed instrument (Nunnally and Bernstein, 1994).

1.4.2 Item review

An item review was employed to determine appropriateness and clarity of each item wording of the first draft of the scales. The first drafts of 7 scales were reviewed by 10 Thai female high school students. Results of the review were used for improving items that were difficult to understand or answer.

In the pretest study, both statistical and qualitative data were used as criteria for selecting, revising and improving items appropriately to construct the second draft scale. After completing the pretest study, some items in the first draft of 7 scales were reduced and were used for constructing the second draft of the scales.

The result of pretest study

The pretest study was determined what items to use in order to determine the second draft of the sexual abstinence scales used in the psychometric testing. In the pretest study, item analysis and item reviews were performed to identify appropriate items, and improve the items quality that would be contained in the second draft scale. Data for the pretest study was collected through a convenient sampling method in the part central and the eastern region of Thailand. The samples, for item analysis procedure were 300 Thai female students living in the central and eastern region of Thailand, and also were studying in the 2nd semester of the 2009 academic year.

Item distribution was examined by using mean, standard deviation,

skewness, and kurtosis. For the second draft scale, their means ranged and standard deviation ranged as following: BeSA scale (means ranged from 3.51 to 3.91, standard deviation ranged from 0.3 to 0.67), BaSA scale (means ranged from 1.95 to 2.67, standard deviation ranged from 1 to 1.3), SASE scale (means ranged from 3.52 to 3.74, standard deviation ranged from 0.58 to 0.74), PaIN scale (means ranged from 2.55 to 3.89, standard deviation ranged from 0.35 to 1.1), PeIN scale (means ranged from 3.05 to 3.73, standard deviation ranged from 0.554 to 1), CSA scale (means ranged from 2.43 to 3.66, standard deviation ranged from 0.78 to 1.22), and SA scale (means ranged from 0.93 to 0.98, standard deviation ranged from 0.14 to 0.26). The two statistic indicators that represented normal distribution were skewness and kurtosis. In this study, there were 20 items of BaSA, 4 items of PaIN, 2 of PeIN, and 4 of CSA obtained skewness values falling inside the range of -1 to +1 which represented normal distribution (Hair et al., 1998). The high negative values of skewness indicated that for each item a number of large individual scores was greater than a number of small individual scores.

The precision of the items was examined using corrected item-total correlations. Results of the pretest study showed that almost all items of all scales had the item-total correlations greater than 0.3 except 1 of 27 items of BeSA had the item-total correlations less than 0.3. For the correlation matrix, when, there were 36 paired-items of BeSA, 7 paired-items of SASE, 4 paired-items of PaIN, 3 paired-items of PeIN, 2 paired-items of CSA, and 1 paired-items of SA which had inter-item correlation ≥ 0.7.

Chronbach's alpha coefficient of the first draft scale was quite high ($\alpha = 0.83$ to 0.96) which indicated that a number of items of the second draft scale would be reduced due to many redundant items. Additionally, the value of Chronbach's alpha coefficients, if any item was deleted, was still high and ranged

from 0.78 to 0.96.The item review by ten female students was used to investigate the appropriateness and clarity of each items wording. It was found that during the questionnaires, some respondents demonstrated such as long pauses, scribbing, or answer-changing. These behaviors were recorded including the causes behind those response behaviors such as misunderstanding, having difficulty understanding, or reluctance to answer some item statements. This finding was used for modifying those item statements. Time used for answering the questionnaires was varied and ranged from 20 minutes to 45 minutes. After completing the questionnaires, a briefing had taken place in which respondents were invited to comment on each item and offer suggestions.

Guidances for selecting appropriate items were conducted from item distribution and the results of both item analysis and item reviews. Although statistical data had been very useful for item selection, the final decision to include or reject any items in the final scale should be primarily based on human judgment regarding what the item analysis showed (Nunnally and Bernstein, 1994). Therefore, corrected item-total, inter-item correlation, operational definition of each construct, and results of item review, were cooperated in making the decision to select the items. Based on the findings from the pretest study, 25 items of BaSA were retained and 2 items were deleted, 19 items of BeSA were retained and 1 item was deleted, 12 items of SASE were retained and 2 items were deleted, 18 items of PaIN were retained and 6 items were deleted, 21 items of PeIN were retained and 5 items were deleted, 11 items of CSA were retained and 2 items were deleted, and 3 items of SA were retained and 1 item was deleted.

Principle components analysis resulted in the rotation of factors for the

six scales based on eigen values higher than 1.0 and the scree plot results. Accurate identification of factors using eigen values greater than 1.0 and a scree plot is ensured if based on the following conditions: N>250 and a mean communality ≥.60 (Stevens, 1996). Six scales met both criteria, with N = 300 and a range of communality from .60 to .82. All items loaded successfully on at least one factor. Each scale was presented as follows:

1. Cumulatively, the six components of BaSA accounted for 65% of the variance. All of the items had factor loadings of .484 and above.

2. Cumulatively, the three components of BeSA accounted for 82% of the variance. All of the items had factor loadings of .581 and above.

3. Cumulatively, the two components of SASE accounted for 70.2 % of the variance. All of the items had factor loadings of .650 and above.

4. Cumulatively, the four components of PaIN accounted for 60 % of the variance. All of the items had factor loadings of .471 and above.

5. Cumulatively, the three components of PeIN accounted for 60 % of the variance. All of the items had factor loadings of .465 and above.

6. Cumulatively, the two components of CSA accounted for 65 % of the variance. All of the items had factor loadings of .616 and above.

This process of PCA can be thought of as laying out the evaluation of the factor structure. The bottom line, however, always rests squarely on the sensibility of interpretation of the factor structure as formulated by the researcher (Meyer, Gamst, and Guarino, 2006). Based on the results from the exploratory factor analysis, empirical milieu of content domain of sexual abstinence from literature reviews, and

the reasonableness of the interpretation; components or factors in final decision of six scales, was presented as follows:

1) BaSA scale included seven subscales (or factors) were: perceived benefits about health (F1), learning achieved (F2), a successful career (F3), family (F4), sense of social acceptance (F5), positive feelings towards herself (F6), and the acceptance of others (F7)**.**

2) BeSA scale included four subscales (or factors) were: boy-friend's pressure (F1), friend's pressure (F2), risk situation (F3), and family status (F4).

3) SASE scale included four subscales (or factors) were: The ability to negotiate (F1), the ability to deny (F2), ability to assure (F3), and the ability to adapt circumstances (F4).

4) PaIN scale included three subscales (or factors) were: Perceptions about the expectations of parents (F1), childrearing (F2), and encouragement of parents (F3).

5) PeIN scale included three subscales (or factors) were: Perceptions about the norm of peer (F1), support of peer (F2), and modeling of peer (F3).

6) CSA scale included two subscales (or factors) were: intention (F1), and strategy (F2).

Part 2. Psychometric testing

The psychometric testing phase was operated to test validity and reliability of The sexual abstinence scales. This section consisted of two steps. First, a confirmatory factor analysis was used to test the construct validity of 6 scales (BaSA,

BeSA, SAS, PaIN, PeIN, and CSA) on a large group of samples in the field test study. Second, there was psychometric testing phase was an investigation of internal consistency reliability.

Validity

The construct validity was confirmed by confirmatory factor analysis (CFA). The internal consistency reliability of scales was tested by 339 Thai female students.

The results of CFA revealed that the six measurement models had good overall model fit (Table 3.1). The second-order CFA showed that all measurements had low Chi-square values resulting in non-significant difference level of 0.05. The χ^2 /df ratio fell within the recommended level of 2, with both GFI and AGFI values close to 1.00 and equal to 1.00 respectively. The RMSEA values ranged from 0.02 to 0.03, indicating a validity of measurement constructs (Confirmatory factor analysis of the measurement models are presented in Appendix E).

Table 3.1 Statistical Overall Fitted Index Values of measurement models (n=339)

Construct	χ^2	df	χ^2/df	p-value	GFI	AGFI	RMSEA
BeSA	238.12	204	1.17	.051	0.95	0.92	0.02
BaSA	109.09	87	1.25	.055	0.97	0.93	0.03
SASE	48.72	35	1.39	.062	0.98	0.95	0.03
PaIN	99.30	81	1.23	.082	0.97	0.93	0.03
PeIN	159.78	137	1.17	.089	0.96	0.93	0.02
CSA	31.45	25	1.23	.175	0.98	0.96	0.03

Note:

GFI = Goodness of fit index
AGFI = Adjusted goodness of fit index
RMSEA = Root mean square error of approximation

Reliability

Perceived benefits of sexual abstinence was measured with 25 items. For this scale, Cronbach's alpha reached 0.92 (Table 3.2).

Perceived barriers to sexual abstinence was measured with 19 items. Cronbach's α for scaled was 0.97 (Table 3.2).

Perceived sexual abstinence self-efficacy was measured with 12 items. Cronbach's alpha for perceived sexual abstinence self-efficacy was 0.95 (Table 3.2).

Parental influence was measured with 18 items. For this scale, Cronbach's alpha reached 0.89 (Table 3.2).

Peer influence was measured with 21 items. Cronbach's alpha for peer influence was 0.93 (Table 3.2).

Commitment to a plan of sexual abstinence was measured with 11 items. For this scale, Cronbach's alpha reached 0.92 (Table 3.2).

Sexual abstinence was measured with 3 items. Cronbach's alpha for sexual abstinence was 0.76 (Table 3.2).

Table 3.2 Reliability Coefficients for Instruments (n=339)

Instrument	Number of items	Scoring Range	Cronbach Alpha
Perceived benefits of sexual abstinence scale	25	1-4	0.92
Perceived barriers to sexual abstinence scale	19	1-4	0.97
Perceived sexual abstinence self-efficacy scale	12	1-4	0.95
Parental influence scale	18	1-4	0.89
Peer influence scale	21	1-4	0.93
Commitment to a plan of sexual abstinence scale	11	1-4	0.92
Sexual abstinence scale	3	0-1	0.76

Instrument summary

Eight instruments were developed by researcher (Personal data, BeSA, BaSA, SASE, PaIN, PeIN, CSA, and SA). The procedures of developing the 7 scales (BeSA, BaSA, SASE, PaIN, PeIN, CSA, and SA) could be summarized as shown in Figure 3.

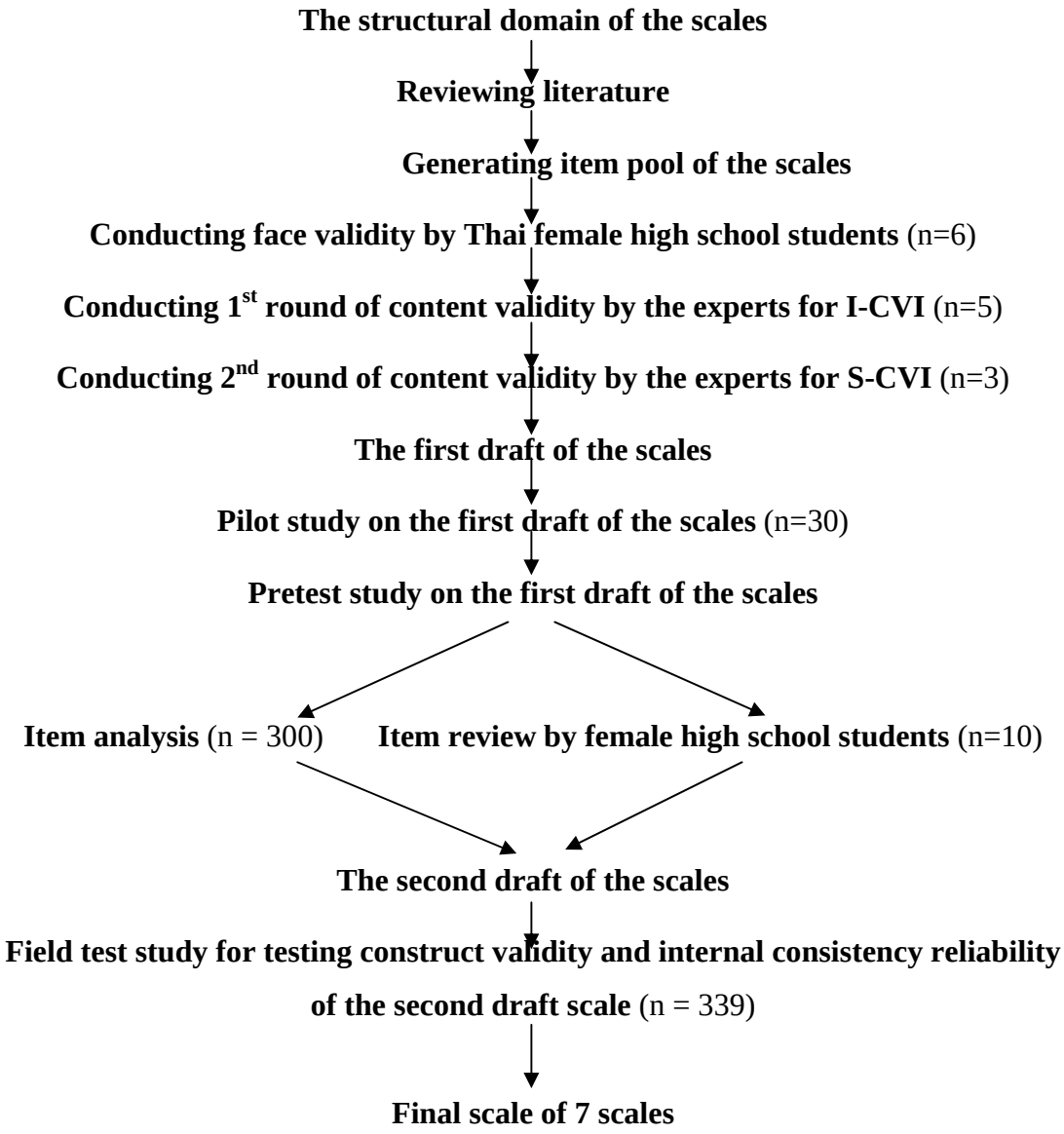

Figure 3: The flow chart of the scales of development procedures

Perceived benefits of sexual abstinence scale (BeSA)

Perceived benefits of sexual abstinence were measured with 25 items. This scale measured an individual's perception about positive or reinforcing consequences of refraining from sexual intercourse during the school year. The response format was a 4 point Likert scale from strongly disagree (1) to strongly agree (4). The total scale

is scored by computing the mathematical mean across all items yielding a possible mean score range from 1 to 4 with higher mean scores indicating more perceived benefits of sexual abstinence.

Perceived barriers to sexual abstinence scale

Perceived barriers to sexual abstinence was measured with 19 items. This scale measured an individual's perception about obstruction or impediment to her refraining from sexual intercourse during the school year which may be imagined or real. The response format was a 4 point Likert scale from strongly disagree (1) to strongly agree (4). The total scale is scored by computing the mathematical mean across all items yielding a possible mean score range from 1 to 4 with higher mean scores indicating more perceived barriers to sexual abstinence.

Perceived sexual abstinence self-efficacy scale

Perceived sexual abstinence self-efficacy was measured with 12 items. This scale measured an individual's perception about judgment of her ability to refrain from sexual intercourse in social situations where sex is likely to occur. The response format was a 4 point Likert scale from not sure at all (1) to very sure (4). The total scale is scored by computing the mathematical mean across all items yielding a possible mean score range from 1 to 4 with higher scores indicating greater confidence.

Parental influence scale

Parental influence was measured with 18 items. This scale measured an individual's perception about their parents' expectation and support in refraining from sexual intercourse during the school year. The response format was a 4 point Likert scale from Strongly disagree (1) to strongly agree (4). The total scale is scored by

computing the mathematical mean across all items yielding a possible mean score range from 1 to 4 with higher average scores indicating greater parental influence.

Peer influence scale

Peer influence was measured with 21 items. This scale measured an individual's perception about their peer's norm, support, and modeling in refraining from sexual intercourse during the school year. The response format was a 4 point Likert scale from strongly disagree (1) to strongly agree (4). The total scale is scored by computing the mathematical mean across all items yielding a possible mean score range from 1 to 4 with higher average scores indicating greater peer influence.

Commitment to a plan of sexual abstinence scale

Commitment to a plan of sexual abstinence was measured with 11 items. The response format was a 4 point scale from never (1) to often (4). This scale measured an intention, or promise, and strategies for eliciting, carrying out, and reinforcing Thai female middle adolescents to refrain from sexual intercourse during the school year. The total scale is scored by computing the mathematical mean across all items yielding a possible mean score range from 1 to 4 with higher mean scores indicating more commitment to a plan of sexual abstinence.

Sexual abstinence scale

Sexual abstinence was measured with 3 items. Those who had sexual activity with a male; including vaginal, oral, or anal sex. The questions on the self- report from subjects were responded "yes" or "no" as to whether they had engaged in vaginal, oral, and/or anal intercourse. Subjects who respond "no" in every item was considered abstinent. Sexually abstinent girl was coded as "1" and sexually active girl was coded as "0" for logistic regression analysis.

Data collection

Data were gathered during December 2009 to February 2010. Data were only collected after obtaining approval from the Ethical Review Committee for Research Involving Human Research Subjects, Health Sciences Group, Chulalongkorn University (ECCU). The following describes the data collection procedures for this study.

1. Fourteen schools in fourteen provinces of Thailand were contacted. A letter asking for permission to collect data in the selected schools had been sent to each head of school.

2. After receiving permission, researcher contacted the principal of each school to recruit students. Under the guidance of the principals and coordinators, the researcher met with the responsible teachers for each class, described the study, and asked for their cooperation.

3. Once permission to access classes were obtained, the researcher met the students in the classrooms, summarized the study to students, and explained to them that if they want to participate; they and their parents had to sign the assent/consent forms.

4. The researcher gave assent/consent forms to prospective participants for their parents to sign at home and asked them to return the signed forms before completing the package of questionnaires.

5. After obtaining assent/consent forms, the researcher worked with the principals and teachers of each school to arrange the best times and private locations for students to complete the questionnaires.

6. The researcher asked students to complete a packet of questionnaires. Students took 45-60 minutes to complete a packet of the questionnaires. If the volunteers did not complete the questionnaires the first time, the researcher allowed them to take them home and asked them to return them to their teachers the next day.

7. At the last meeting the researcher gave each of them a stationary gift set for participating in the study.

Protection of human subjects

This study was approved by the Ethical Review Committee for Research Involving Human Research Subjects, Health Sciences Group, Chulalongkorn University (ECCU). Participants and their parents signed the assent/consent forms before the data was collected. The potential risks to participants are minimal, such as emotional discomforts when answering some questions. Participants were encouraged that if at any time they felt discomfort or embarrassment, they were able to discuss the importance of the question with the researcher and they can refuse to answer any question. Their names were not addressed in the data; a code number was used to ensure confidentiality. There was no harm to the participants in this study. Participants took 45-60 minutes to complete a packet of the questionnaires. After completing the questionnaire, participants put it in an envelope and sealed it. Data was computerized and accessible only by researcher. Results of the study were reported as a total picture. Any personal information which could be able to identify person under the researcher’s care and did not appear in the report. All master lists containing names were locked up for storage and destroyed upon the completion of the study.

Data analysis

Both of descriptive and inferential statistics were utilized to describe the research hypotheses. The process of data analysis was as follows:

1. Descriptive statistics were described the basic features of the demographic of sample. In this study used frequencies, percentages, the standard deviation and the range.

2. Pearson's Product Moment Correlation was used to explore the relationship among the predicting factors.

3. Chi-square was used to explore the relationship between independent variables and dependent variable.

4. Multiple logistic regressions was used to examine the predictability among the predicting factors and outcome variable. Forward stepwise was used for this study. Stepwise regression was a model-building rather than model-testing procedure (Tabachnick, 2001). Since this was an exploratory study, this method allowed the investigator to determine which variables best predicted sexual abstinence among Thai female middle adolescents.

CHAPTER IV

RESULTS

The purpose of this study was to examine factors that may relate to sexual abstinence among Thai female middle adolescents. Senior high school female students, Matayom 4 to 6 (M.4-M.6), in seven regions of Thailand were the study population. A total of 1,360 students participated in the study. The results of data analyses are presented in this chapter. Descriptive statistics were computed for demographic and other predictor variables. Forward stepwise logistic regression was used to test the relationship between perceived benefits of sexual abstinence, perceived barriers to sexual abstinence, perceived sexual abstinence self-efficacy, parental influence, peer influence, commitment to a plan of sexual abstinence, and sexual abstinence.

1. Descriptive analysis of the study sample

1.1 Characteristics of the study sample

The majority of the samples were female students who studied in M.5 (39%). The age ranged from 14 to 19 years old, the average age was 16.83 (SD = 0.89) and most of the participants (41%) were 17 years old. Almost of them were Buddhist (96%). In terms of family characteristics, 84.2% of participants stayed with their parents. Most 74.3% parents of students were married and lived together. Approximately 78.5% of participants reported that they got money from their mother and the incomes per month ranged from 1,000 to 1,500 baht. Less than half of the samples felt they had enough and could save money (48.5%). Most parents of the

samples attained elementary educations (30.7% of father and 37.1% of mother). In addition, 25.9% of father and 24.6% of mother were employees (Table 4.1).

Table 4.1 Demographic characteristics of the study samples (n = 1,360)

Demographic characteristics	n	%
Age		
14	1	0.1
15	94	6.9
16	374	27.5
17	560	41.2
18	323	23.7
19	8	0.6
Level of education		
M.4	442	32.5
M.5	526	38.7
M.6	392	28.8
Religion		
Buddhist	1307	96.1
Muslim	6	0.4
Christian	39	2.9
Other	8	0.6
Residing with parent		
Alone	48	3.5
Father/Mother	1145	84.2
Boy friend	4	0.3
Friend (Female)	6	0.4
Relative	134	9.9
Dormitory	23	1.7
Income (Baht per month)		
Below 1000	219	16.1
1000-1500	460	33.8
1501-2000	214	15.7
2001-2500	112	8.2
2501-3000	156	11.5
3001-3500	92	6.8
More than 3500	107	7.9

Table 4.1 (con't) Demographic characteristics of the study samples (n = 1,360)

Demographic characteristics	n	%
Enough Income		
Enough and can save	669	49.2
Enough	257	18.9
Sometimes enough	374	27.5
Not enough	60	4.4
Person who give money (answer more than one)		
Father	756	55.6
Mother	1068	78.5
Relative	219	16.1
Boyfriend	30	2.2
Friend	3	0.2
Part time work	48	3.5
Parent status		
Married and stay together	1011	74.3
Married and sometime stay together	33	2.4
Father deceased	79	5.8
Mother deceased	22	1.6
Divorced	135	9.9
Not divorced but separated	61	4.5
Unknown	19	1.5
Father's career		
Not work	41	3.0
Agriculturist	268	19.7
Employee	352	25.9
Officer	295	21.7
State enterprises	52	3.8
Trade	117	8.6
Business	146	10.7
Other (Deceased, unknown)	89	6.6
Mother's career		
Not work	174	12.8
Agriculturist	252	18.5
Employee	335	24.6
Officer	239	17.6
State enterprises	30	2.2
Trade	185	13.6
Business	110	8.1
Other (Deceased, unknown)	35	2.6

Table 4.1 (con't) Demographic characteristics of the study samples (n = 1,360)

Demographic characteristics	n	%
Fathers education		
Did not study	7	0.5
Elementary	417	30.7
Secondary school	162	11.9
High school	178	13.1
Vocational certificate	85	6.3
Diploma	124	9.1
Bachelor degree	316	23.2
Master degree	50	3.7
Doctoral degree	4	0.3
Unknown	17	1.4
Mothers education		
Did not study	31	2.3
Elementary	505	37.1
Secondary school	139	10.2
High school	159	11.7
Vocational certificate	56	4.1
Diploma	115	8.5
Bachelor degree	281	20.7
Master degree	63	4.6
Unknown	11	0.8

1.2 Characteristics of Sexually Abstinent and Sexually Active Girls

Adolescents' sexual behavior was measured by three item questions. They were asked 1) "Have you ever had oral sex?" 2) "Have you ever had vaginal sex?" and 3) "Have you ever had anal sex?" The student, who answers "no" every item, was sexually abstinent girl. For this study, the total of sexually abstinent girls was 1,197 (88%) and the total of sexually active girl was 163 (12%).

For sexually active girls reported that they had oral sex experience 8.8% (n=120), vaginal sex experience 9.1% (n=124), and anal sex experience 3% (n=41).Also, some sexually active girls reported that they had experienced just 1 type of sexual behavior, some had experienced 2 or every type of sexual behavior (Table 4.2).

Table 4.2 Type of sexual activity experience of Sexually Active Girls (N=163)

Sexual behavior	Sexual abstinence		Sexual activity		Total	
	n	%	n	%	n	%
Oral sex						
action	0	0	120	8.8	120	8.8
never	1,197	88	43	3.2	1,240	91.2
Total	1,197	88	163	12.0	1,360	100.0
Vaginal sex						
action	0	0	124	9.1	124	9.1
never	1,197	88	39	2.9	1,236	90.9
Total	1,197	88	163	12.0	1,360	100.0
Anal sex						
action	0	0	41	3	41	3.0
never	1,197	88	122	9	1,319	97.0
Total	1,197	88	163	12.0	1,360	100.0

Age

A majority of sexually abstinent girls were 17 years old (n = 499; 41.7%) and, the majority of sexually active girls were 17 years old (n=61; 37.4%) (Table 4.3). Interestingly, the sexually active girls reported that the youngest age of initiation of intercourse was 10 years old.

Level of education

Thirty nine point eight percents of sexually abstinent girls studied in M.5. Whereas, sexually active girls (36.2%) studied in M.4 and M.6 (33.7%) (Table 4.3).

Religion

One thousand and one hundred fifty five (96.4%) sexually abstinent girls and one hundred fifty two (93.3%) sexually active girls were Buddhist. Among the sexually abstinent girl, thirty three (2.8%) were Christian and six (3.7%) of sexually active girls were Christian (Table 4.3).

Residing with parent

Most of sexually abstinent girls (85.4%) and sexually active girls (75.6%) stayed with their parents. 14.1% that stayed with relative were sexually abstinent. (Table 4.3).

Income

The majority of sexually abstinent girls (79.6%) and sexually active girls (70.6%) reported that they got money from their mother and the income per month ranged from 1,000 to 1,500 baht as sexually abstinent girls (33.3%), and sexually active girls (38%). More than half of the sexually abstinent girls felt they had enough and could save money (51.7%).Whereas, 44.8% of sexually active girls felt they only sometimes had enough money (Table 4.3).

Parents status

The parents status of the most of sexually abstinent girls (74.9%) and sexually active girls (69.9%) were married and lived together (Table 4.3).

Parents career

Most fathers of sexually abstinent girls (25.5%) and sexually active girls (28.8 %) reported that were employees. Nearly, 24.7% of the mothers of sexually abstinent girls, and 23.9% of the mothers of sexually active girls reported that were employees (Table 4.3).

Parents education

Most parents of sexually abstinent girls had attained elementary educations (29.9% of father and 36.5% of mother) and bachelor's degrees (23.4% of fathers and 20.5% of mothers). Among the parents of sexually active girls, 36.2% of fathers and

42.3% of mothers had attained elementary educations. Moreover, 22.1% of parents of sexually active girls had attained a bachelor's degree (Table 4.3).

Table 4.3 Characteristics of Sexually Abstinent and Sexually Active Girls

Characteristics of sample	Sexually abstinent		Sexually active		Total	
	n	%	n	%	n	%
Age (year)						
14	1	0.1	0	0	1	0.1
15	82	6.9	12	7.4	94	6.9
16	339	28.3	35	21.5	374	27.5
17	499	41.7	61	37.4	560	41.2
18	272	22.7	51	31.3	323	23.7
19	4	0.3	4	2.4	8	0.6
Total	1,197	100	163	100	1,360	100
Level of education						
M.4	383	32.0	59	36.2	442	32.5
M.5	477	39.8	49	30.1	526	38.7
M.6	337	28.2	55	33.7	392	28.8
Total	1,197	100	163	100	1,360	100
Religion						
Buddhist	1,155	96.5	152	93.3	1,307	96.1
Muslim	5	0.4	1	0.6	6	0.4
Christian	33	2.8	6	3.7	39	2.9
Other	4	0.3	4	2.4	8	0.6
Total	1,197	100	163	100	1,360	100
Living with parent						
Alone	39	3.3	9	5.5	48	3.5
Father/Mother	1,022	85.4	123	75.5	1,145	84.2
Boyfriend	2	0.2	2	1.2	4	0.3
Friend(Female)	6	0.5	0	0	6	0.4
Relative	111	9.3	23	14.1	134	9.9
Dormitory	17	1.4	6	3.7	23	1.7
Total	1,197	100	163	100	1,360	100
Income (Baht per month)						
Below 1,000	202	16.9	17	10.4	219	16.1
1,000-1,500	398	33.2	62	38.0	460	33.8
1,501-2,000	195	16.3	19	11.7	214	15.7
2,001-2,500	103	8.6	9	5.5	112	8.2
2,501-3,000	134	11.2	22	13.5	16	11.5
3,001-3,500	84	7.0	8	4.9	92	6.8
More than 3,500	81	6.8	26	16	107	7.9
Total	1,197	100	163	100	1,360	100

Table 4.3 (con't) Characteristics of Sexually Abstinent and Sexually Active Girls

Characteristics of sample	Sexually abstinent		Sexually active		Total	
	n	%	n	%	n	%
Enough Income						
Enough and can save	626	52.3	43	26.4	669	49.2
Enough	228	19.0	29	17.8	257	18.9
Sometimes enough	301	25.1	73	44.8	374	27.5
Not enough	42	3.5	18	11.0	60	4.4
Total	1,197	100	163	100	1,360	100
Parent status						
Married and stay together	897	74.9	114	70.0	1,011	74.3
Married and sometime stay together	33	2.8	0	0	33	2.4
Father deceased	71	5.9	8	4.9	79	5.8
Mother deceased	20	1.7	2	1.2	22	1.6
Divorced	111	9.3	24	14.7	135	10.0
Not divorced but separated	49	4.1	12	7.4	61	4.5
Unknown	16	1.3	3	1.8	19	1.4
Total	1,197	100	163	100	1,360	100
Father's career						
Does not work	36	3	5	3.1	41	3
Agriculturist	236	19.7	32	19.6	268	19.7
Employee	305	25.5	47	28.8	352	25.9
Officer	251	21	44	27	295	21.7
State enterprises	44	3.7	8	4.9	52	3.8
Trade	106	8.9	11	6.7	117	8.6
Business	136	11.4	10	6.1	146	10.7
Other	82	6.8	6	3.7	88	6.4
Total	1,197	100	163	100	1,360	100
Mother's career						
Does not work	156	13	18	11	225	18.8
Agriculturist	225	18.8	27	16.6	252	18.5
Employee	296	24.7	39	23.9	335	24.6
Officer	210	17.5	29	17.8	239	17.6
State enterprises	26	2.2	4	2.5	30	2.2
Trade	158	13.2	27	16.6	185	13.6
Business	98	8.2	12	7.4	110	8.1
Other	28	2.3	7	4.3	35	2.6
Total	1,197	100	163	100	1,360	100

Table 4.3 (con't) Characteristics of Sexually Abstinent and Sexually Active Girls

Characteristics of sample	Sexually abstinent		Sexually active		Total	
	n	%	n	%	n	%
Father's education						
Did not study	3	0.3	4	2.5	7	0.5
Elementary	358	29.9	59	36.2	417	30.7
Secondary school	142	11.9	20	12.3	162	11.9
High school	162	13.5	16	9.8	178	13.1
Vocational	76	6.3	9	5.5	85	6.3
Diploma	113	9.4	11	6.7	124	9.1
Bachelor degree	280	23.4	36	22.1	316	23.2
Master degree	44	3.7	6	3.7	50	3.7
Doctoral degree	3	0.3	1	0.6	4	0.3
Unknown	16	1.3	1	0.6	17	1.3
Total	1,197	100	163	100	1,360	100
Mother's education						
Did not study	26	2.2	5	3.1	31	2.3
Elementary	436	36.5	69	42.3	505	37.2
Secondary school	124	10.4	15	9.2	139	10.2
High school	145	12.1	14	8.6	159	11.7
Vocational	52	4.3	4	2.5	56	4.1
Diploma	103	8.6	12	7.4	115	8.5
Bachelor degree	245	20.5	36	22.1	281	20.7
Master degree	58	4.8	5	3.1	63	4.6
Doctoral degree	0	0	0	0	0	0
Unknown	7	0.6	3	1.8	10	0.7
Total	1,197	100	163	100	1,360	100

2. Statistical analysis to test factors influencing the female middle adolescents' sexual abstinence.

Research question

The research question was what the predicting factors of sexual abstinence

among Thai female middle adolescents are, perceived benefits of sexual abstinence, perceived barriers to sexual abstinence, perceived sexual abstinence self-efficacy, parental influence, peer influence, or commitment to a plan of sexual abstinence?

Chi-square tests and bivariate correlation results between predictor variables and sexual abstinence are displayed in Table 4.4.

All the independent variables found to have significant relationships with sexual abstinence were: perceived benefits of sexual abstinence (χ^2 =103.919, p =.000), perceived barriers to sexual abstinence (χ^2 = 135.543, p =.000), perceived sexual abstinence self-efficacy (χ^2 = 355.929, p =.000), parental influence (χ^2 = 92.490, p =.000), peer influence (χ^2 = 214.727, p =.000), and commitment to a plan of sexual abstinence (χ^2 = 259.078, p=.000).

Table 4.4 Bivariate correlation results between independent variables and sexual abstinence

Independent variables	Correlation coefficient	χ^2	p-value
Perceived benefits of sexual abstinence	.276	103.919	.000
Perceived barriers to sexual abstinence	.316	135.543	.000
Perceived sexual abstinence self-efficacy	.512	355.929	.000
Parental influence	.261	92.490	.000
Peer influence	.397	214.727	.000
Commitment to a plan of sexual abstinence	.436	259.078	.000

Multicollinearity testing

To assess the relationships among the variables, a Pearson's correlation matrix was performed. Six variables served as predictors of sexual abstinence in the logistic regression analysis, for all of the 1,360 participants. The results showed that

correlation of each variable was less than 0.65 (Burn and Grove, 1993) (Table 4.5). Therefore, the variables were not multicollinearity that was not cause a potential problem during the logistic regression analysis.

Table 4.5 Correlations among the independent variables (n=1,360)

Variables	X1	X2	X3	X4	X5	X6
X1	1	-.002	.200**	.421**	.443**	.207**
X2		1	-.146**	-.021	-.042	-.051
X3			1	.325**	.461**	.468**
X4				1	.579**	.334**
X5					1	.368**
X 6						1

**p < .01

Note: X1= Perceived benefits of sexual abstinence
X2= Perceived barriers to sexual abstinence
X3= Perceived sexual abstinence self-efficacy
X4= Parental influence
X5= Peer influence
X6= Commitment to a plan of sexual abstinence

Logistic regression analysis on sexual abstinence

There were six independent variables to be analyzed including perceived benefits of sexual abstinence, perceived barriers to sexual abstinence, perceived sexual abstinence self-efficacy, parental influence, peer influence, and commitment to a plan of sexual abstinence. Forward stepwise logistic regression analysis method was chosen to find the predictor variables influencing the sexual abstinence among Thai female middle adolescents. Because stepwise procedures may be useful for the phenomenon that it is so new or so little studied (that existing “theory” amounts to little more than empirically unsupported hunches about explanations for the phenomenon) and also be useful for identifying a model, which is a set of factors

providing accurate predictions of some phenomenon (Menard, 1995). After entering selected factors that had the highest correlation with sexual abstinence in each step of the forward logistic regression analysis, the result showed as following:

The chi-square was based on the difference between successive -2LLs. In other words, did adding our predictors do anything for the model? It tests the null hypothesis that the coefficients for the independent variables equal 0. For this finding, three variables were in last model of forward stepwise logistic analysis. -2LL changed from the initial value of 997.239 to the current value of 224.568. The difference between those two values was 772.671. The result was significant (p= .000). The null hypothesis is rejected, indicating that the three variables add to the model (Appendix F).

In the model summary table there were values for Cox & Snell and Nagelkerke R Squares. The variance explained thus far is only 15.2% to 29.3%. The Nagelkerke was a modification of the Cox & Snell, which could not equal 1 (Table 4.6).

Table 4.6 Forward stepwise logistic regression results on sexual abstinence

Predictor Variable	B	S.E.	Wald	Sig	Odds Ratio	95% CI for OR	
						Lower	Upper
Parental influence	-.064	.017	14.149	.000*	.938	.908	.970
Peer influence	.048	.010	24.136	.000*	1.049	1.029	1.070
Perceived sexual abstinence self-efficacy	.149	.014	117.421	.000*	1.161	1.130	1.193
Constant	-3.250	.920	12.471	.000*	.039		

*p <.001

Model chi-square (df=3) = 224.568, p = .000

R^2 Cox & Snell = 0.152

R^2 Nagelkerke = 0.293

Overall predictive accuracy is 88.9%.

The Table 4.6 was last step of forward stepwise logistic regression using three composite scale variables together. The additive scales were parental influence, peer influence, and perceived sexual abstinence self-efficacy. All variables were significantly related to the likelihood of having sexual abstinence among female middle adolescents.

The coefficients for parental influence (-.064) were negative and significant. As such this indicates that lower scores in the parent influence scale were associated with a significantly higher likelihood that the adolescents have sexual abstinence. Whereas, the coefficients for peer influence (.048) were positive and significant; indicating that higher scores in the peer influence scale were associated with a significantly higher likelihood that the adolescents have sexual abstinence. The coefficients for perceived sexual abstinence self-efficacy (.149) were positive and

significant; indicating that higher amount of perceived sexual abstinence self-efficacy is predictive of adolescent's sexual abstinence.

Exp (B) is the exponentiation of the B coefficient (an odds ratio) that helps us to find the actual impact of likelihood of occurrence. Among three of the statistically significant variables, perceived sexual abstinence self-efficacy with Exp (B) 1.161 has the higher potential impact to the likelihood of the success/occurrence (in this case, sexual abstinence of Thai female middle adolescents) than that of parental influence with Exp (B) of .938, and peer influence with Exp (B) of 1.049.

The other three predictors (perceived benefits of sexual abstinence, perceived barriers to sexual abstinence, and commitment to a plan of sexual abstinence) were not significant predictors of sexual abstinence among Thai female middle adolescents.

In summary, all independent variables found to have significant relationship with sexual abstinence. The final logistic regression model contained three variables that correctly classified 88.9% of the participants. Higher perceived sexual abstinence self-efficacy (OR= 1.161), higher peer influence (OR= 1.049), and lower parental influence (OR= .938) increased the probability of having sexual abstinence.

Therefore, the best equation of logistic regression for explaining the variables of sexual abstinence was:

Logit P (Sexual abstinence) = -3.250 +.149 (SELF-EFFICACY)

+.048(PEER) -.064 (PARENT)

The model accounts for 29.3% of the variance (R^2) and the power of prediction of 88.9%.

CHAPTER V

CONCLUSION, DISCUSSION, AND SUGGESTION

In this chapter, the findings are summarized and discussed. Then, implications for nursing practice and future research are proposed. Finally, the limitations of the study are addressed.

Conclusion

This study was a cross section of descriptive corelational research design. The purpose of the study was to identify the predicting factors of sexual abstinence among Thai female middle adolescents.

Multistage random sampling was used identify the subjects. The participants were 1,360 female students who studied at a public co-education high schools, M.4 to M.6 of the Department of General Education, Office of The Basic Education Commission in 7 regions of Thailand (Bangkok and perimeter, Central, Eastern, Northeastern, Southern, Upper-Northern, and Lower-Northern). The data collection was performed between January and February 2010.

The majority of the samples were students who attended in M.5 (39%). Most of participants were 17 years old (41%) and 96% of sample were Buddhist. 84.2% stayed with their parents. Monthly income mostly, ranged from 1,000 to 1,500 baht. The finding reported that most student got money from their mother (78.5%).

Most parents of the samples were married and lived together (74.3%). They attained elementary educations (30.7% of father and 37.1% of mother) and also 25.9% of father and 24.6% of mother were employee.

All instruments used in this study, were developed by the researcher as follows:

1. Personal data sheet
2. Perceived benefits of sexual abstinence scale (BeSA) (25 items)
3. Perceived barriers to sexual abstinence scale (BaSA) (19 items)
4. Perceived sexual abstinence self-efficacy (SASE) (12 items)
5. Parental influence scale (PaIN) (18 items)
6. Peer influence scale (PeIN) (21 items)
7. Commitment to a plan of sexual abstinence scale (CSA) (11 items)
8. Sexual abstinence scale (SA) (3 items)

The Questionnaires were developed with items based on a study of Pinhatai Supametaporn (2006) who explained about sexual abstinence in Thai females. This was studied to elicit content for developing population specific measures of constructs in the Health Promotion Model (Pender et al., 2006). Content validity of 7 scales was confirmed by a panel of experts twice. In the first round, items content validity index (I-CVI) of scales was tested By 5 experts. The items content validity index (I-CVI) of scales were 0.8-1. The second round, the scale content validity index (S-CVI/UA) was tested by 3 experts. The scale content validity index (S-CVI/UA) of scales were 0.8-1.

Face validity was then performed via review of the questionnaire by 6 female high school students. Minimal formatting changes were made to scales after input from the participant's comment. In addition, reliability of the scores was assessed with a convenience sample of 30 female high school students. Cronbach's alpha coefficient was 0.75 -1.

The pretest study was conducted to construct the second draft of the scales. Item analysis and item review were examined. The second drafts scale was composed of the 128 items in the first draft scales was reduced to 109 items covering the six constructs of cognition about the sexual abstinence of Thai female middle adolescents and sexually abstinent behavior that was provided in the operational definitions.

The psychometric testing was operated to test validity and reliability of the scale. A confirmatory factor analysis was used to test the construct validity of the scale on a large group of samples in the field test study. Internal consistency reliability of the scales were investigated. The outcome of this phase is a valid and reliable research instrument for measuring the cognition of the ability to refrain from sexual activity during the school year among Thai female adolescents.

The researcher contacted the principal of each school to recruit students. Under the guidance of the principals and coordinators, the researcher met with the responsible teachers for each class, described the study, and asked for their cooperation.

Once permission to access classes was obtained, the researcher met the students in the classrooms, summarized the study to students, and explained to them what to do if they wanted to participate; they and their parents had to sign the assent/consent forms. The researcher gave assent/consent forms to prospective participants for their parents to sign at home and asked them to return the signed forms before completing the package of questionnaires. After obtaining assent/consent forms, the researcher worked with the principals and teachers of each school to arrange the best times and locations for students to complete the questionnaires. The researcher asked students to complete a packet of questionnaires.

Students took 45-60 minutes to complete a packet of the questionnaires. If the volunteers did not complete the questionnaires the first time, the researcher allowed them to take them home and asked them to return them to their teachers the next day. At the last meeting the researcher gave each of them a stationary gift set for participating in the study.

This study used 14 schools to collect data. 95% of questionnaires were returned. There was no missing data. The distribution of the quantitative data was used descriptive statistics including frequencies, percentages, mean, and standard deviations. Finally, forward stepwise logistic regression was conducted to analyze the relationship between predictor variables and outcome variable.

The results showed that perceived benefits of sexual abstinence, perceived barriers to sexual abstinence, perceived sexual abstinence self-efficacy, parental influence, peer influence, and commitment to a plan of sexual abstinence had relation with sexual abstinence among Thai female middle adolescents. The findings of multiple logistic regression revealed the predictors of sexual abstinence among Thai female middle adolescents were perceived sexual abstinence self-efficacy (OR= 1.16, p=.000), peer influence (OR= 1.05, p=.000), and parental influence (OR=.94, p=.000). The best equation of logistic regression for explaining the variables of sexual abstinence was:

Logit P (Sexual abstinence) = -3.250 +.149 (SELF-EFFICACY)

+.048 (PEER) -.064 (PARENT)

The model accounts for 29.3 % of the variance (R^2) and the overall predictive accuracy is 88.9%.

Discussion

This research investigated which of the independent variables examined (perceived benefits of sexual abstinence, perceived barriers to sexual abstinence, perceived sexual abstinence self-efficacy, parental influence, peer influence, commitment to a plan of sexual abstinence) could predict sexual abstinence in female middle adolescents. It was found that predictors of sexual abstinence were perceived sexual abstinence self-efficacy, parental influence, and peer influence.

Hypotheses testing results

Hypothesis one: *Perceived benefits of sexual abstinence has a positive relation to sexual abstinence among Thai female middle adolescents.*

As expected, the results of the current study support the hypothesis that perceived benefits of sexual abstinence was a significant related with sexual abstinence ($p<.05$). Individuals tend to invest time and resources in activities that have a high likelihood of increasing their experience of positive outcomes. Benefits may be more powerful in motivating continuation of health behaviors. These perceived benefits of action effect a person including physically psychologically and socially (Sechrist et al., 1987; Cecil et al., 1999). This results of this study was closely with study of Hsiu-Fen Lin (2007) that showed that perceived benefit related to actual behaviors.

Hypothesis two: *Perceived barriers to sexual abstinence has a negative relation to sexual abstinence among Thai female middle adolescents.*

The results of this study support the hypothesis that perceived barriers to sexual abstinence was a significant related with sexual abstinence ($p<.05$). Barriers are often viewed as mental blocks, hurdles, and personal costs of undertaking

a given behavior. Perceived barriers to sexual abstinence is protective factor to sexual abstinence. Female Adolescents' conceptions about boyfriend pressure and risk situation can be viewed as barriers to sexual abstinence (Pinhatai Supametaporn, 2006; Rasberry, 2006). Rassberry (2006) found that Perceived barriers to sexual abstinence related to sexual abstinence. Boyfriend's pressure can obstruct the practice of sexual abstinence. Girls knew they may lose their boyfriend if they maintained sexual abstinence.

Hypothesis three: *Perceived sexual abstinence self-efficacy has a positive relation to sexual abstinence among Thai female middle adolescents.*

The results of the study support the hypothesis that perceived sexual abstinence self-efficacy was a significant related with sexual abstinence ($p<.05$). Perceived self-efficacy is a person's own belief that he/she has the capacity to organize and carry out a specific action Bandura (1986). Therefore, if person has confidence, he/she is likely to perform behavior. In a similar study, Sionean and colleagues (2002) explored behavioral factors related to refusal of sex among 522 African American adolescent girls aged 14 to 18 years. Findings showed that participants who reported high sexual abstinence self-efficacy were more likely to refrain from engaging in unwanted sexual activity.

Hypothesis four: *Parental influence has a positive relation to sexual abstinence among Thai female middle adolescents.*

This results of the study support the hypothesis that parental influence was a significant related with sexual abstinence ($p<.05$). Primary sources of interpersonal influence on health promotion behaviors are parents. Individuals vary in the extent to which they are sensitive to the wishes, examples, and praise of others. They are likely

to undertake behaviors for which they will be admired and socially reinforced. In Thai society, parents is the first learning source of children and usually expect their children to have a bright future, which can be mainly described as achieving a secured and promising career path, attaining higher education, and having a righteous marital life. Most parents take care and choose the best thing to their children. They have taught and monitored the rules of proper sexual behaviors in Thai society to children continue from childhood to adulthood. Parents do not want their children have sexual intercourse during the school year, because this act is barrier of success in children's life. Parent want daughter remain sexual abstinence until the right time (Pinhatai Supametaporn, 2006). Studies of Thato et al. (2003), Sittipong Wongwiwat (2005), Rasaminari et al. (2007) found that parental rearing styles are associated with appropriateness of adolescents' behaviors.

Hypothesis five: *Peer influence has a positive relation to sexual abstinence among Thai female middle adolescents.*

As expected, the results of the current study support the hypothesis that peer influence was a significant related with sexual abstinence ($p<.05$). Peer is primary source of interpersonal influence on health-promoting behaviors. The influence of peer groups and intimate friendships is arguably another key supportive factor contributing to adolescents' remain sexually abstinent. The developmental stage of adolescence, peer groups exert an intense influence on the individual's self-evaluation and behavior, hence the term "peer pressure." Although adolescents vary in the extent to which they are sensitive to the wishes, examples and praise of others, they are sensitive to attempt behaviors for which they will be socially reinforced. The results

of this study was closely with study of Raweewon Danaidussadeekul (2004) found that peer influence related to sexual abstinence.

Hypothesis six: *Commitment to a plan of sexual abstinence is a positive related to sexual abstinence among Thai female middle adolescents.*

As expected, the results of the current study support the hypothesis that commitment to a plan of sexual abstinence was a significant related with sexual abstinence ($p < .05$). Commitment to plan of action is closely with intention, but commitment to plan of action adds identification of definitive strategies. Intention influences to sexual abstinence (Hwang, 2001; Buhi, 2006). Although, there were not a study of commitment to plan of action on sexual abstinence. But many researches showed the finding that commitment to plan of action related to health behavior (e.g. smoking, condom use).

Hypothesis seven: *Perceived benefits of sexual abstinence, perceived barriers to sexual abstinence, perceived sexual abstinence self-efficacy, parental influence, peer influence, commitment to a plan of sexual abstinence can predict sexual abstinence among Thai female middle adolescents.*

The finding in this study revealed the predictors of sexual abstinence among Thai female middle adolescents were perceived sexual abstinence self-efficacy, peer influence, and parental influence.

Perceived sexual abstinence self-efficacy

Self efficacy motivates health promoting behavior directly by efficacy expectations and indirectly by affecting perceived barriers and level of commitment or persistence in pursuing a plan of action (Pender et al., 2006). Self efficacy is commonly defined as the belief in one's capabilities to achieve a goal or an outcome.

People with a strong sense of efficacy are more likely to challenge themselves with difficult tasks and be intrinsically motivated (Bandura, 1994).

Perceived sexual abstinence self-efficacy was found to have significant relationship with sexual abstinence. In the final model, perceived sexual abstinence self-efficacy emerged as a strong predictor of abstinence (B = .149, p =.000). SASE scores were as likely to predict sexual abstinence scores. The results showed that female middle adolescents who had a high score of perceived sexual abstinence self-efficacy were more likely to having sexual abstinence. This finding was also significant for Sionean and colleagues (2002) who explored behavioral factors related to refusal of sex among 522 African American adolescent girls aged 14 to 18 years. Findings showed that participants who reported high sexual abstinence self-efficacy were more likely to refrain from engaging in sexual activity. Findings from a study of Bersamin et al., (2006) support self-efficacy as a protective factor against engaging in sexual activity. Closely related, all of the studies of Buhi and Goodson (2007), Childs (2007), and Rassberry and Goodson (2007) found that sexual abstinence self- efficacy was a predictive factor of sexual abstinence.

In additions, many researches on health promotion behavior found that self-efficacy was important predictor. The greater the perceived self-efficacy, the more vigorous and persistent individuals will engage in a behavior, even in the face of obstacles and aversive experiences (Bandura, 1997). Individuals derive their sense of self-efficacy for a given behavior by weighting and integrating efficacy information from these diverse sources. The most powerful input to self-efficacy is successful performance of a behavior (Pender et al., 2006).This results partially support hypothesis

Parental influence

The results showed partially support hypotheses. Parental influence was a predictor of sexual abstinence as expected but the direction of the relation was in the opposite direction from positive to negative.

This study found that parental influence was negative statistically significant in predicting sexual abstinence among Thai female middle adolescents (B =-.064, p =.000). The results showed that female middle adolescents with a lower parental influence were more likely to having sexual abstinence. This result was different with a study of Buhi (2006) found that parents were a positive predictor of sexual abstinence. However, there are explanations for this finding.

Middle adolescent is the period of developing unique personality and opinions. Middle adolescent girls put more emphasis on maintaining their identity in the peer group than being obedient to their parents (Collins and Laursen, 2004). Relationship with the parents during this period becomes more stressful (Meeus, Iedema, Maassen, and Engels, 2005). Girl finds her parents interfering and may emotionally withdraw from them. Thus, female middle adolescents tend to do things opposite to the parent's expectation and teaching.

Another explanation is that middle adolescents want to set their own goals. Sometimes the goals they set are too high, however, they are the results of their own expectation (Hill, 2008). Pinhatai Supametaporn (2006) found that Thai female adolescents remain sexually abstinent because they realized that it is the way to achieve their goal, security in life. This goal came from their parents' expectation about their security in the future. However, it was not the parents' expectation about sexual abstinence that determine their sexual abstinence.

Peer influence

Peer is important interpersonal influence to adolescence stage. Adolescents focus increasingly on peers and activities outside the family (Brown 2004; Larson et al., 1996). Peer influence was positive and statistically significant in predicting sexual abstinence among Thai female middle adolescents (B =1.064, p =.000). The results showed that female middle adolescents with a higher perception on peer's norm, support, and modeling in refraining from sexual intercourse during the school year were more likely to having sexual abstinence. There appeared to be support in the literature for these findings. In this study, for example, when girls perceived sexual abstinence to be the norm, support, and modeling among same-aged peers, they more often reported more sexually abstinent behavior. Gillmore et al. (2002), similarly, found youth who had not had sexual intercourse perceived those around them as positively favoring abstinence, or conversely, negatively favoring having sex at that age. Other studies support the strong relationship between perceived peer norms and youth sexual behaviors or abstinence (Stanton et al., 1996; Alexander and Hickner, 1997; Kinsman et al., 1998; Di Clemente et al., 2001; Kirby, 2001; Kotchick et al., 2001; Santelli et al., 2004). Moreover, Thai literature supported that girls are not well educated by their parents with factual information on sexuality. They receive inaccurate sexual message from their peers (Sunanta Thongpat, 2006; Nitirat, 2007).

Other variables in the Logistic Regression Analyses

Perceived benefit of sexual abstinence

The perceived benefits of sexual abstinence are defined as Thai female middle adolescents' mental representations about positive or reinforcing consequences of refraining from sexual intercourse during the school year. Perceived benefits of sexual

abstinence was found to have significant relationship with sexual abstinence, but perceived benefits of sexual abstinence failed to predict sexual abstinence. Although, this finding contrast with other studies of Blinn-Pike et al. (2004) and Rasberry (2006) that found that the perceived benefits of sexual abstinence was an important predictor. The reason for this contrast results may come from the very high scores of perceived benefits of sexual abstinence of both groups. Comparing the mean score of perceive benefit of sexual abstinence between the sexually abstinent girls and the sexually active girls no significant difference was found (mean score of sexually abstinent girls = 93.48, SD= 7.76; mean score of sexually active girls = 92.09, SD= 8.86) (t= 1.902, p= .059) (see appendix G). Those adolescents may know very well about the benefits of sexual abstinence through school-based sexual education and social campaigns with small variation of the perceived benefits of sexual abstinence, relationship between perceived benefits of sexual abstinence, Therefore, cannot be detected.

Perceived barrier to sexual abstinence

Barriers are the blocks, hurdles and personal costs of undertaking certain behavior and may be real or imagined. Perceived barriers to action affect intentions to engage in particular behavior and to execute the behavior. When readiness to act is low and barriers are high, action is unlikely to occur. When readiness to act is high and barriers are low, the probability of action is much greater (Pender et al., 2006).

The perceived barriers to sexual abstinence are defined as Thai female middle adolescent's thoughts or beliefs about the obstruction or impediment of her refraining from sexual intercourse during school which may be imagined or real. These barriers include pressure of boyfriends and peers, risk behaviors, and family problems. The

result showed that perceived barriers to sexual abstinence had significant relationship with sexual abstinence, at the level of .05. In the logistic regression equations, perceived barrier to sexual abstinence failed to predict sexual abstinence. Although, the results showed the significantly relationship, but it was not a strong enough in the model of logistic regression. Students reported higher levels of perceived barrier to sexual abstinence (mean score =44.33, SD =15.13) for sexually activity girls, whereas sexually abstinent girls was below (mean score =39, SD =16.91). The mean score difference between sexually abstinent girls and sexually activity girls was statistically significant (t= -4.156, p= .000), which it also logical when considering that sexually activity girls have faced barriers to sexual abstinence, as they have already sexual activity, whereas, sexually abstinent girls never have faced experience. Similarly by study of Rasberry (2006), the results showed that perceived barrier to sexual abstinence was predictor of second sexual abstinence but was not predictor of primary sexual abstinence.

Commitment to a plan of sexual abstinence

Commitment to a plan of action propels the individual into and through the behavior unless a competing demand that cannot be avoided or a competing preference that is not resisted occurs. This concept defined as commitment to carry out a specific action at a given time and place and with specified persons or alone, irrespective of competing preferences; and identification of definitive strategies for eliciting, carrying out, and reinforcing the behavior (Pender et al., 2006).

This variable had relation with sexual abstinence but did not predict sexual abstinence among Thai female adolescents. Although, literature showed that intention was a predictor of sexual abstinence (Hwang, 2001; Buhi, 2006). It may be a

difference of operational definition engaging a different result. All researches studied a particular intention, they had a few questions for this variable (e.g. I will or will not "Have vaginal sex before marriage"). Whereas, commitment to a plan of sexual abstinence was not defined only by intention but also included strategies for eliciting, carrying out, and reinforcing of Thai female middle adolescents to refrain from sexual intercourse during the school year. Therefore, the scale contained 11 items.

Even though the finding showed the mean difference of the scores between sexually abstinent girls and sexually active girls was statistically significant (t= 8.418, p= .000) (see appendix G), and also had good reliability of CSA (Cronbach's α = 0.91), the results found that a commitment to a plan of sexual abstinence was not a predictor of sexual abstinence among Thai female middle adolescent. Interestingly, this variable was removed in every model of the logistic regression equations. Moreover, all literature varied in racial make-up and socioeconomic background, whereas, the sample for this study consisted of Thai female middle adolescents. Therefore, the contradictory finding may be attributed to the differences in the characteristics of the sample. These points are important issue for future research.

Limitation

There were several limitations to this study.

1. Study of a sensitive topic created a limitation for the researcher in terms of being able to get honest answers. Therefore, the sensitive nature of the topic requires a cautious approach to interpreting and generalizing the findings. However, this study used several strategies to ensure the obtaining of accurate answers. First, the researcher used an anonymous method as the data collection method. All participants had a unique identification (ID) number and no direct contact was established to

preserve anonymity. Thus, participants should have felt free to provide accurate information to the researcher without a concern for lack of confidentiality. Second, an informational letter which described the purposes of the study and procedures of data protection addressed confidentiality issues. The information letter was included in each questionnaire packet. Third, the confidentiality issue was readdressed before students completed sensitive items (e.g. sexual history). Fourth, in the process of try out instruments, at the end of the Background and Sexual Behavior Questionnaire, the students were asked about the accuracy and honesty of their responses regarding this specific questionnaire. Lastly, the students were asked to record the accuracy level of the information which they provided to the researcher in the feedback questionnaires. Some participants reported that they provided dishonest answers either for the sensitive items in the questionnaire or the feedback questionnaires. Thus, these subjects' data were carefully reviewed (e.g. comparing their data with other students' data) before adding them for final data analyses. These procedures may reduce bias, but could not get rid of the possibility of dishonest answers.

2. BaSA scale contains items several double negative items. Although, the research tried to revise these items several items, it was hardly to find better items. This may lead to misunderstanding of the girls when they answered these items.

3. Finally, generalizing the study's findings is limited to public co-education high school girls. However, the findings from this study will be beneficial in the research development of culturally sensitive targeting Thai girls.

Implications and Recommendations

The implications and recommendations of this study focus on the implications for nursing knowledge and nursing practice.

The results showed new knowledge about predictor of sexual abstinence among Thai female middle adolescents. This knowledge can offer important insights for nurses to plan and develop nursing intervention.

These findings indicated that perceived sexual abstinence self-efficacy, peer influence, and parental influence were predictors of sexual abstinence among Thai female middle adolescents. Perceived sexual abstinence self-efficacy was a major predictor of sexual abstinence. Based on findings in this study, nurses can applied and develop the nursing intervention program to promote sexual abstinence in female middle adolescents by encourage sexual abstinence self-efficacy to female middle adolescent. Nurses build self-efficacy by providing female middle adolescents with strategies to performing sexual abstinence as well as enhancing confidence. Besides, peer influence was found to play a significant role in determining female middle adolescents' having sexual abstinence. It is of strategic importance to utilize existing friendship network among female middle adolescents to disseminate sexual abstinence. Thus, nurses should apply and develop intervention for promoting sexual abstinence by use peer. For parents, nurses need to advise them about their daughter's development. Middle adolescence wants increasing autonomy and individuation (Collins and Laursen, 2004). They do not like parent talk very often about warning to have sexual intercourse. Therefore, parents should not to teach repeatedly or too much emphasis in sexual abstinence to their daughters. However, parents should indoctrinate their daughters about sexual abstinence at the children.

Future Research

A benefit of this research is that it provided insights into the sexual abstinence of high school female students. This study identified the need for future research in

several areas. Most Thai middle adolescents are student who study at high school and vocation school. Therefore, future research should study with vocational school female students too.

Moreover, this study showed that three predictors can explain 29.3 percent of the variance, these indicate that there are other predictors can explain 70.7 percent. Therefore, Future studies are needed to examining the impact of the other variables that increase quality of sexual abstinence promotion. Particularly, setting the goals for life security, that is the interest variable need to study.

Finally, there is also a need to revise and reduce weakness of the instrument that would measure the perceived barrier to sexual abstinence to add more of quality of this instrument.

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APPENDICES

APPENDIX A

APPROVAL OF DISSERTATION PROPOSAL

ประกาศ คณะพยาบาลศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย
เรื่องการอนุมัติหัวข้อดุษฎีนิพนธ์ ครั้งที่ 3/2550 ประจำปีการศึกษา 2550

นิสิตผู้ทำวิจัยและอาจารย์ที่ปรึกษาดุษฎีนิพนธ์

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อาจารย์ที่ปรึกษา	ศาสตราจารย์ ดร. วีณา จีระแพทย์
อาจารย์ที่ปรึกษาร่วม	ผู้ศาสตราจารย์ ดร. ชนกพร จิตปัญญา
ชื่อหัวข้อดุษฎีนิพนธ์	โมเดลเชิงสาเหตุของการเข้ามารับการรักษาช้าในผู้ป่วยโรคกล้ามเนื้อหัวใจตายเฉียบพลัน A CAUSAL MODEL OF DELAY IN SEEKING TREATMENT AMONG THAI PATIENTS WITH ACUTE MYOCARDIAL INFARCTION
ครั้งที่อนุมัติ	3/2550
ระดับ	ปริญญาเอก

นิสิตผู้ทำวิจัยและอาจารย์ที่ปรึกษาดุษฎีนิพนธ์

รหัสนิสิต	4877976136
ชื่อ-นามสกุล	พ.ต.ต.หญิง สมสุข ภาณุรัตน์
สาขา	พยาบาลศาสตร์ (นานาชาติ)
อาจารย์ที่ปรึกษา	รองศาสตราจารย์ ร.ต.อ.หญิง ดร. ยุพิน อังสุโรจน์
อาจารย์ที่ปรึกษาร่วม	รองศาสตราจารย์ ดร. วราภรณ์ ชัยวัฒน์
ชื่อหัวข้อดุษฎีนิพนธ์	ปัจจัยที่มีความสัมพันธ์ต่อการละเว้นเพศสัมพันธ์ของวัยรุ่นหญิงตอนกลางไทย FACTORS RELATED TO SEXUAL ABSTINENCE AMONG THAI FEMALE MIDDLE ADOLESCENT
ครั้งที่อนุมัติ	3/2550
ระดับ	ปริญญาเอก

NEB_thesis_Dr

APPENDIX B

APPROVAL OF THE IRB OF CHULALONGKORN UNIVERSITY

AF 02-11

The Ethical Review Committee for Research Involving Human Research Subjects, Health Science Group, Chulalongkorn University
Institute Building 2, 4 Floor, Soi Chulalongkorn 62, Phyat hai Rd., Bangkok 10330, Thailand.
Tel: 0-2218-8147 Fax: 0-2218-8147 E-mail: eccu@chula.ac.th

COA No. 153/2009

Certificate of Approval

Study Title No. 126.1/ 52 : **FACTORS RELATED TO SEXUAL ABSTINENCE AMONG THAI FEMALE MIDDLE ADOLESCENTS**

Principle Investigator : Pol. Maj.Somsuk Panurat, Ph.D. candidate

Place of Proposed Study/Institution : Faculty of Nursing, Chulalongkorn University

The Ethical Review Committee for Research Involving Human Research Subjects, Health Science Group, Chulalongkorn University, Thailand, has approved constituted in accordance with the International Conference on Harmonization – Good Clinical Practice (ICH-GCP) and/or Code of Conduct in Animal Use of NRCT version 2000.

Signature: Prida Tasanapradit Signature: Nuntaree Chaichanawongsaroj

(Associate Professor Prida Tasanapradit, M.D.) (Assistant Professor Dr. Nuntaree Chaichanawongsaroj)

Chairman Secretary

Date of Approval : December 24, 2009 Approval Expire date : December 23, 2010

The approval documents including

1) Research proposal
2) Patient/Participant Information Sheet and Informed Consent Form
3) Researcher
4) Questionnaire

Protocol No. 126.1/52
Date of Approval 24 DEC 2009
Approval Expire Date 23 DEC 2010

The approved investigator must comply with the following conditions:

1. The research/project activities must end on the approval expired date of the Ethical Review Committee for Research Involving Human Research Subjects, Health Science Group, Chulalongkorn University (ECCU). In case the research/project is unable to complete within that date, the project extension can be applied one month prior to the ECCU approval expired date.
2. Strictly conduct the research/project activities as written in the proposal.
3. Using only the documents that bearing the ECCU's seal of approval with the subjects/volunteers (including subject information sheet, consent form, invitation letter for project/research participation (if available); and return the first subject's copy of the above documents to the ECCU.
4. Report to the ECCU for any serious adverse events within 5 working days
5. Report to the ECCU for any change of the research/project activities prior to conduct the activities.
6. Final report (AF 03-11) and abstract is required for a one year (or less) research/project and report within 30 days after the completion of the research/project. For thesis, abstract is required and report within 30 days after the completion of the research/project.
7. Annual progress report is needed for a two- year (or more) research/project and submit the progress report before the expire date of certificate. After the completion of the research/project processes as No. 6.

APPENDIX C

LIST OF THE EXPERTS

LIST OF EXPERTS

1. **Associate Professor Dr. Saovakol Virasiri**

   Faculty of Nursing, Khon Kaen University

2. **Associate Professor Dr. Ratsiri Thato**

   Faculty of Nursing, Chulalongkorn University

3. **Assistant Professor Dr. Arpaporn Powwattana**

   Faculty of Public Health, Mahidol University

4. **Assistant Professor Dr. Rungrat Srisuriyawet**

   Faculty of Nursing, Burapha University

5. **Assistant Professor Dr. Preekamol Ratchanakul**

   Faculty of Nursing, Thammasat University

APPENDIX D

INFORMED CONSENT FORM AND

PARTICIPANTS INFORMATION SHEET

AF 05-09

หนังสือแสดงความยินยอมเข้าร่วมการวิจัย

ทำที่.....

วันที่.....เดือน.....พ.ศ. .....

เลขที่ ประชากรตัวอย่างหรือผู้มีส่วนร่วมในการวิจัย.....

ข้าพเจ้า ซึ่งได้ลงนามท้ายหนังสือนี้ ขอแสดงความยินยอมเข้าร่วมโครงการวิจัย

ชื่อโครงการวิจัย ปัจจัยที่มีความสัมพันธ์ต่อการละเว้นเพศสัมพันธ์ของวัยรุ่นตอนกลางหญิงไทย

ชื่อผู้วิจัย พ.ต.ต.หญิงสมสุข ภาณุรัตน์ ตำแหน่ง นิสิตดุษฎีบัณฑิตคณะพยาบาลศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย

สถานที่ติดต่อผู้วิจัย (ที่ทำงาน) วิทยาลัยพยาบาลตำรวจ สำนักงานตำรวจแห่งชาติ

(ที่อยู่) 19/22 ม.6 แขวงออเงิน เขตสายไหม กทม. โทรศัพท์ (ที่ทำงาน) 02-2076101

โทรศัพท์ที่บ้าน 02-3471518 โทรศัพท์มือถือ 081-3768822 E-mail :somsukp22@yahoo.com

ข้าพเจ้า **ได้รับทราบ**รายละเอียดเกี่ยวกับที่มาและวัตถุประสงค์ในการทำวิจัย รายละเอียดขั้นตอนต่างๆ ที่จะต้องปฏิบัติหรือได้รับการปฏิบัติ ความเสี่ยง/อันตราย และประโยชน์ซึ่งจะเกิดขึ้นจากการวิจัยเรื่องนี้ โดยได้อ่านรายละเอียดในเอกสารชี้แจงผู้เข้าร่วมการวิจัยโดยตลอด และ**ได้รับคำอธิบาย**จากผู้วิจัย**จนเข้าใจเป็นอย่างดี**แล้ว

ข้าพเจ้าจึง**สมัครใจ**เข้าร่วมในโครงการวิจัยนี้ ตามที่ระบุไว้ในเอกสารชี้แจงผู้เข้าร่วมการวิจัย โดยข้าพเจ้ายินยอมตอบแบบสอบถาม เรื่องปัจจัยที่มีความสัมพันธ์ต่อการละเว้นเพศสัมพันธ์ของวัยรุ่นตอนกลางหญิงไทย *โดยแบบสอบถามมีทั้งหมด 7 ชุดคำถาม ประกอบไปด้วย 1.แบบสอบถามการรับรู้ประโยชน์ของพฤติกรรมการละ เว้นเพศสัมพันธ์ จำนวน 27 ข้อ 2.แบบสอบถามการรับรู้อุปสรรคต่อการปฏิบัติพฤติกรรมการละเว้นเพศสัมพันธ์ จำนวน 20 ข้อ 3. แบบสอบถามการรับรู้ความสามารถของตนเองในการปฏิบัติพฤติกรรมการละเว้นเพศสัมพันธ์ จำนวน 14 ข้อ 4. แบบสอบถามอิทธิพลของพ่อแม่ จำนวน 24 ข้อ 5. แบบสอบถามอิทธิพลของเพื่อน จำนวน 26 ข้อ 6. แบบสอบถามความมุ่งมั่นต่อแผนการมีพฤติกรรมการละเว้นเพศสัมพันธ์ จำนวน 13 ข้อ และ 7. แบบสอบถามข้อมูลทั่วไปและพฤติกรรมการละเว้นเพศสัมพันธ์ จำนวน 22 ข้อ รวมทั้งสิ้น 146 ข้อ ซึ่งจะใช้เวลาในการตอบแบบสอบถามประมาณ 45-60 นาที*

ข้าพเจ้ามีสิทธิ**ถอนตัว**ออกจากการวิจัยเมื่อใดก็ได้ตามความประสงค์ **โดยไม่ต้องแจ้งเหตุผล** ซึ่งการถอนตัวออกจากการวิจัยนั้น จะไม่มีผลกระทบในทางใดๆ ต่อสิทธิประโยชน์ทางการศึกษาหรืออื่นๆ ข้าพเจ้าได้รับคำรับรองว่า ผู้วิจัยจะปฏิบัติต่อข้าพเจ้าตามข้อมูลที่ระบุไว้ในเอกสารชี้แจงผู้เข้าร่วมการวิจัย และข้อมูลใดๆ ที่เกี่ยวข้องกับข้าพเจ้า ผู้วิจัยจะ**เก็บรักษาเป็นความลับ** โดยจะนำเสนอข้อมูลการวิจัยเป็นภาพรวมเท่านั้น ไม่มีข้อมูลใดในการรายงานที่จะนำไปสู่การระบุตัวข้าพเจ้าหรือโรงเรียนของข้าพเจ้า

หากข้าพเจ้าไม่ได้รับการปฏิบัติตรงตามที่ได้ระบุไว้ในเอกสารชี้แจงผู้เข้าร่วมการวิจัย ข้าพเจ้าสามารถร้องเรียนได้ที่คณะกรรมการพิจารณาจริยธรรมการวิจัยในคน กลุ่มสหสถาบัน ชุดที่ 1 จุฬาลงกรณ์มหาวิทยาลัย ชั้น 4 อาคารสถาบัน 2 ซอยจุฬาลงกรณ์ 62 ถนนพญาไท เขตปทุมวัน กรุงเทพฯ 10330 โทรศัพท์ 0-2218-8147 โทรสาร 0-2218-8147 **E-mail: eccu@chula.ac.th**

Protocol No. 126.1/52

Date of Approval 24 DEC 2009

Approval Expire Date 23 DEC 2010

AF 05-09

ข้าพเจ้าได้ลงลายมือชื่อไว้เป็นสำคัญต่อหน้าพยาน ทั้งนี้ข้าพเจ้าได้รับสำเนาเอกสารชี้แจงผู้เข้าร่วมการวิจัย และสำเนาหนังสือแสดงความยินยอมไว้แล้วลงชื่อ.....

(สมสุข ภาณุรัตน์)
ผู้วิจัยหลัก

ลงชื่อ.....
(.....)
ผู้มีส่วนร่วมในการวิจัย

ลงชื่อ.....
(.....)
พยาน

Protocol No. 126.1/52
Date of Approval 24 DEC 2009
Approval Expire Date 23 DEC 2010

AF 05-09

หนังสือแสดงความยินยอมเข้าร่วมการวิจัย

สำหรับผู้ปกครอง

ทำที่.....

วันที่.....เดือน.....พ.ศ. .....

เลขที่ ประชากรตัวอย่างหรือผู้มีส่วนร่วมในการวิจัย.....

ข้าพเจ้า ซึ่งได้ลงนามท้ายหนังสือนี้ ขอแสดงความยินยอมให้.....

ซึ่งเป็น บุตร/เด็กในปกครองของข้าพเจ้า เข้าร่วมโครงการวิจัย

ชื่อโครงการวิจัย ปัจจัยที่มีความสัมพันธ์ต่อการละเว้นเพศสัมพันธ์ของวัยรุ่นตอนกลางหญิงไทย

ชื่อผู้วิจัย พ.ต.ต.หญิงสมสุข ภาณุรัตน์ ตำแหน่ง นิสิตคณะพยาบาลศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย

สถานที่ติดต่อผู้วิจัย (ที่ทำงาน) วิทยาลัยพยาบาลตำรวจ สำนักงานตำรวจแห่งชาติ

(ที่อยู่) 19/22 ม.6 แขวงออเงิน เขตสายไหม กทม. โทรศัพท์ (ที่ทำงาน) 02-2076101

โทรศัพท์ที่บ้าน 02-3471518 โทรศัพท์มือถือ 081-3768822 E-mail :somsukp22@yahoo.com

ข้าพเจ้าและบุตร/เด็กในปกครอง **ได้รับทราบ**รายละเอียดเกี่ยวกับที่มาและวัตถุประสงค์ในการทำวิจัย รายละเอียดขั้นตอนต่างๆ ที่จะต้องปฏิบัติหรือได้รับการปฏิบัติ ความเสี่ยง/อันตราย และประโยชน์ซึ่งจะเกิดขึ้นจากการวิจัยเรื่องนี้ โดยได้อ่านรายละเอียดในเอกสารชี้แจงผู้เข้าร่วมการวิจัยโดยตลอด และ **ได้รับคำอธิบาย**จากผู้วิจัย **จนเข้าใจเป็นอย่างดี**แล้ว

ข้าพเจ้าจึง**ยินยอมให้บุตร/เด็กในปกครอง**เข้าร่วมในโครงการวิจัยนี้ ตามที่ระบุไว้ในเอกสารชี้แจงผู้เข้าร่วมการวิจัย โดยข้าพเจ้ายินยอมให้บุตร/เด็กในปกครองตอบแบบสอบถาม เรื่องปัจจัยที่มีความสัมพันธ์ต่อการละเว้นเพศสัมพันธ์ของวัยรุ่นตอนกลางหญิงไทย ซึ่ง*แบบสอบถามมีทั้งหมด 7 ชุด คำถาม ประกอบไปด้วย 1.แบบสอบถามการรับรู้ประโยชน์ของพฤติกรรมการละ เว้นเพศสัมพันธ์ จำนวน 27 ข้อ 2.แบบสอบถามการรับรู้อุปสรรคต่อการปฏิบัติพฤติกรรมการละเว้นเพศสัมพันธ์ จำนวน 20 ข่อ 3. แบบสอบถามการรับรู้ความสามารถของตนเองในการปฏิบัติพฤติกรรมการละเว้นเพศสัมพันธ์ จำนวน 14 ข้อ 4. แบบสอบถามอิทธิพลของพ่อแม่ จำนวน 24 ข้อ 5. แบบสอบถามอิทธิพลของเพื่อน จำนวน 26 ข้อ 6. แบบสอบถามความมุ่งมั่นต่อแผนการมีพฤติกรรมการละเว้นเพศสัมพันธ์ จำนวน 13 ข้อ และ 7. แบบสอบถามข้อมูลทั่วไปและพฤติกรรมการละเว้นเพศสัมพันธ์ จำนวน 22 ข้อ รวมทั้งสิ้น 146 ข้อ จะใช้เวลาในการตอบแบบสอบถามประมาณ 45-60 นาที*

บุตร/เด็กในปกครองของข้าพเจ้ามีสิทธิ**ถอนตัว**ออกจากการวิจัยเมื่อใดก็ได้ตามความประสงค์ **โดยไม่ต้องแจ้งเหตุผล** ซึ่งการถอนตัวออกจากการวิจัยนั้น จะไม่มีผลกระทบในทางใดๆ ต่อสิทธิประโยชน์ทางการศึกษาหรืออื่นๆ

ข้าพเจ้าได้รับคำรับรองว่า ผู้วิจัยจะปฏิบัติต่อบุตร/เด็กในปกครองของข้าพเจ้าตามข้อมูลที่ระบุไว้ในเอกสารชี้แจงผู้เข้าร่วมการวิจัย และข้อมูลใดๆ ที่เกี่ยวข้องกับบุตร/เด็กในปกครองของข้าพเจ้า ผู้วิจัยจะ

AF 05-09

เก็บรักษาเป็นความลับ โดยจะนำเสนอข้อมูลการวิจัยเป็นภาพรวมเท่านั้น ไม่มีข้อมูลใดในการรายงานที่จะนำไปสู่การระบุตัวบุตร/เด็กในปกครองของข้าพเจ้า หรือโรงเรียน

หากบุตร/เด็กในปกครองของข้าพเจ้าไม่ได้รับการปฏิบัติตรงตามที่ได้ระบุไว้ในเอกสารชี้แจงผู้เข้าร่วมการวิจัย ข้าพเจ้าสามารถร้องเรียนได้ที่คณะกรรมการพิจารณาจริยธรรมการวิจัยในคน กลุ่มสหสถาบัน ชุดที่ 1 จุฬาลงกรณ์มหาวิทยาลัย ชั้น 4 อาคารสถาบัน 2 ซอยจุฬาลงกรณ์ 62 ถนนพญาไท เขตปทุมวัน กรุงเทพฯ 10330 โทรศัพท์ 0-2218-8147 โทรสาร 0-2218-8147 E-mail: **eccu@chula.ac.th**

ลงชื่อ.....
(สมสุข ภาณุรัตน์)
ผู้วิจัยหลัก

ลงชื่อ.....
(.....)
ผู้มีส่วนร่วมในการวิจัย

ลงชื่อ.....
(.....)
ผู้ปกครอง

ลงชื่อ.....
(.....)
พยาน

AF 04-09

ข้อมูลสำหรับกลุ่มประชากรหรือผู้มีส่วนร่วมในการวิจัย

ชื่อโครงการวิจัย ปัจจัยที่มีความสัมพันธ์ต่อการละเว้นเพศสัมพันธ์ของวัยรุ่นตอนกลางหญิงไทย

ชื่อผู้วิจัย พ.ต.ต.หญิงสมสุข ภาณุรัตน์ ตำแหน่ง นิสิตคณะพยาบาลศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย

สถานที่ติดต่อผู้วิจัย (ที่ทำงาน) วิทยาลัยพยาบาลตำรวจ สำนักงานตำรวจแห่งชาติ

(ที่อยู่) 19/22 ม.6 แขวงออเงิน เขตสายไหม กทม. โทรศัพท์ (ที่ทำงาน) 02-2076101

โทรศัพท์ที่บ้าน 02-3471518 โทรศัพท์มือถือ 081-3768822 E-mail :somsukp22@yahoo.com

ข้าพเจ้า พ.ต.ต.หญิงสมสุข ภาณุรัตน์ นิสิตปริญญาเอก คณะพยาบาลศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย กำลังสนใจและทำการวิจัยเกี่ยวกับการละเว้นเพศสัมพันธ์ของวัยรุ่นหญิงในวัยเรียน เนื่องจากจำนวนของวัยรุ่นหญิงซึ่งอยู่ในวัยเรียนมีเพศสัมพันธ์มากขึ้น ทำให้ส่งผลเสียในทุกระดับ ทั้งปัญหาสุขภาพส่วนบุคคล ครอบครัว เศรษฐกิจ การเมืองและสังคม การละเว้นเพศสัมพันธ์ เป็นการส่งเสริมสุขภาพทางเพศที่สำคัญ และเป็นการป้องกันผลลัพธ์ทางลบอันเกิดจากการมีเพศสัมพันธ์ในวัยเรียน อย่างไรก็ตามองค์ความรู้ในเรื่องของการละเว้นเพศสัมพันธ์ในวัยเรียนยังมีไม่มากนัก รวมทั้งยังไม่ทราบว่าปัจจัยใดที่จะนำไปสู่การละเว้นเพศสัมพันธ์ในวัยเรียน

อนึ่งวัตถุประสงค์ของเอกสารฉบับนี้จัดทำเพื่อบอกเล่าเกี่ยวกับข้อมูลของผู้ทำวิจัยและการดำเนินการวิจัย ซึ่งท่านสามารถเข้าใจและตัดสินใจแสดงความประสงค์ในการเข้าร่วมหรือไม่เข้าร่วมในการวิจัยครั้งนี้ได้

ข้อมูลที่เกี่ยวข้องกับการให้คำยินยอมและเอกสารอื่นๆในการวิจัย ประกอบด้วย

(1) การศึกษาวิจัยนี้มุ่งค้นหาและอธิบายปัจจัยของพฤติกรรมการละเว้นเพศสัมพันธ์ในนักเรียนหญิง

(2) ประโยชน์ของงานวิจัยครั้งนี้ ทำให้ทราบถึงความสัมพันธ์ของตัวแปรต่างๆ และช่วยให้พยาบาลและทีมสุขภาพมีความเข้าใจตัวแปรที่มีอิทธพลต่อ การละเว้นเพศสัมพันธ์ของวัยรุ่นหญิง โดยสามารถนำผลการศึกษาไปเป็นแนวทางในการปฏิบัติ ตลอดจนการวางแผนกำหนดนโยบาย เพื่อที่จะส่งเสริมการละเว้นเพศสัมพันธ์ของวัยรุ่นหญิง นำไปสู่การการป้องกันผลลัพธ์ทางลบที่เกิดจากการมีเพศสัมพันธ์ในวัยเรียนซึ่งส่งผลในทุกระดับ ทั้งตัวบุคคลและ ครอบครัว นอกจากนี้ยังเป็นการลดค่าใช้จ่ายทางด้านการรักษาและลดปัญหาสังคมที่เกิดขึ้น และที่สำคัญคือ เป็นการส่งเสริมให้วัยรุ่นหญิงเหล่านี้เติบโตเป็นผู้ใหญ่ที่ดีในอนาคต

(3) ในงานวิจัยครั้งนี้ ผู้มีส่วนร่วมในการวิจัยเป็นวัยรุ่นหญิงซึ่งกำลังศึกษาในชั้นมัธยมศึกษาตอนปลาย (ม.4-5-6) สายสามัญศึกษา ของภาคปลายปีการศึกษา 2552 ในโรงเรียนแบบสหศึกษาของรัฐบาล สังกัดการปฐมศึกษาขั้นพื้นฐาน ทั้งในเขตเมืองและนอกเมือง ผู้มีส่วนร่วมในงานวิจัยต้องมีสัญชาติไทย มีสภาพร่างกายและจิตใจที่ปกติ อาศัยอยู่กับบิดาหรือมารดาหรือผู้ปกครอง และยินดีเข้าร่วมการวิจัย กรณีที่อายุต่ำกว่า 18 ต้องได้รับการยินยอมจากผู้ปกครอง หากผู้มีส่วนร่วมในงานวิจัยถอนตัวระหว่างตอบแบบสอบถาม จะถือว่าผู้นั้นไม่ได้เป็นผู้มีส่วนร่วมในงานวิจัย

การเก็บข้อมูลทำเป็น 2 ช่วง ช่วงที่1 คือการพัฒนาเครื่องมือเพื่อใช้ในการวิจัย ใช้วิธีการเลือกกลุ่มตัวอย่างแบบสะดวก โดยแยกเก็บ 2 ครั้ง (1. วิเคราะห์รายข้อคำถาม และ 2. ทดสอบคุณภาพของ

แบบสอบถาม) รวมจำนวนทั้งสิ้น 600 คน ช่วงที่2 เป็นการเก็บข้อมูลในขั้นสุดท้าย ใช้วิธีการสุ่มตัวอย่างแบบหลายขั้นตอน โดยในการคำนวณหาขนาดกลุ่มตัวอย่าง แบ่งเป็นภาคต่างๆ 7 ภาค ได้ขนาดกลุ่มตัวอย่างทั้งสิ้น 987 คน

หลังได้รับอนุมัติให้เก็บรวบรวมข้อมูลจากโรงเรียนต่างๆ แล้ว ผู้วิจัยจะสอบถามความสมัครใจและยินยอมจากผู้มีส่วนร่วมในการวิจัยก่อน และให้นำเอกสารการยินยอมไปให้ผู้ปกครองได้รับทราบและเซ็นต์ยินยอมอนุญาตให้เข้าร่วมวิจัย หลังได้รับการยินยอมจากผู้ปกครองแล้ว ผู้วิจัยจึงจะให้ผู้มีส่วนร่วมในการวิจัยได้ตอบแบบสอบถาม

(4) *ผู้มีส่วนร่วมในการวิจัยจะได้รับการแจ้งจากผู้วิจัยถึงวัตถุประสงค์และกระบวนการของการเก็บรวบรวมข้อมูล เริ่มจากผู้มีส่วนร่วมในการวิจัยจะได้รับทราบว่า ข้อมูลที่จะตอบในแบบสอบถามจะเก็บเป็นความลับ จะไม่มีผู้ใดรู้ว่าแบบสอบถามนี้เป็นของใคร ผู้มีส่วนร่วมในการวิจัยไม่ต้องกรอกชื่อ-นามสกุล เมื่อทำเสร็จแล้วให้นำแบบสอบถามใส่ซองที่เตรียมไว้ให้ทันทีโดยไม่ต้องให้ผู้ใดเห็นคำตอบในแบบสอบถาม และปิดผนึกให้เรียบร้อย นอกจากนี้ผู้มีส่วนร่วมในการวิจัยจะได้รับการแจ้งว่าการตอบคำถามแต่ละข้อไม่มีข้อใดถูกหรือผิด เป็นเพียงความคิดเห็นและพฤติกรรมของผู้มีส่วนร่วมในการวิจัยเท่านั้น จะไม่มีผลต่อคะแนนใดๆ ทั้งสิ้น แบบสอบถามมีทั้งหมด 7 ชุดคำถาม ประกอบไปด้วย 1.แบบสอบถามการรับรู้ประโยชน์ของพฤติกรรมการละ เว้นเพศสัมพันธ์ จำนวน 27 ข้อ 2.แบบสอบถามการรับรู้อุปสรรคต่อการปฏิบัติพฤติกรรมการละเว้นเพศสัมพันธ์ จำนวน 20 ข้อ 3. แบบสอบถามการรับรู้ความสามารถของตนเองในการปฏิบัติพฤติกรรมการละเว้นเพศสัมพันธ์ จำนวน 14 ข้อ 4. แบบสอบถามอิทธิพลของพ่อแม่ จำนวน 24 ข้อ 5. แบบสอบถามอิทธิพลของเพื่อน จำนวน 26 ข้อ 6. แบบสอบถามความมุ่งมั่นต่อแผนการมีพฤติกรรมการละเว้นเพศสัมพันธ์ จำนวน 13 ข้อ และ 7. แบบสอบถามข้อมูลทั่วไปและพฤติกรรมการละเว้นเพศสัมพันธ์ จำนวน 22 ข้อ รวมทั้งสิ้น 146 ข้อ จะใช้เวลาในการตอบแบบสอบถามประมาณ 45-60 นาที*

(5) ความไม่สะดวกหรือความไม่สบายใจที่จะตอบแบบสอบถาม ผู้มีส่วนร่วมในการวิจัยสามารถหยุดการตอบแบบสอบถามได้ทุกเวลา ผู้มีส่วนร่วมในการวิจัยมีสิทธิในการปฏิเสธการเข้าร่วมวิจัยหรือถอนตัวได้ตลอดเวลา ทั้งนี้การปฏิเสธหรือถอนตัวจะไม่มีผลกระทบต่อผู้มีส่วนร่วมในการวิจัย และจะไม่มีผลต่อสิทธิประโยชน์ทางการศึกษาใดๆ

(6) หากผู้มีส่วนร่วมในการวิจัยมีข้อสงสัยให้สอบถามเพิ่มเติมได้จากผู้วิจัย โดยสามารถติดต่อผู้วิจัยได้ตลอดเวลาที่ พ.ต.ต.หญิงสมสุข ภาณุรัตน์ วิทยาลัยพยาบาลตำรวจ สำนักงานตำรวจแห่งชาติ โทรศัพท์ที่ทำงาน 02-2076101 โทรศัพท์ที่บ้าน 02-3471518 โทรศัพท์มือถือ 081-3768822 และหากผู้วิจัยมีข้อมูลเพิ่มเติมที่เป็นประโยชน์หรือโทษเกี่ยวกับการวิจัย ผู้วิจัยจะแจ้งให้ผู้มีส่วนร่วมในการวิจัยทราบอย่างรวดเร็ว เพื่อให้ผู้มีส่วนร่วมในการวิจัยทบทวนว่ายังสมัครใจจะอยู่ในงานวิจัยต่อไปหรือไม่

(7) การวิจัยครั้งนี้มีการมอบเครื่องเขียนราคาประมาณ 20 บาทเป็นที่ระลึกแก่ผู้มีส่วนร่วมในการวิจัยเมื่อสิ้นสุดการตอบแบบสอบถาม หรือถอนตัวระหว่างการศึกษา

(8) ข้อมูลที่ได้จากการตอบแบบสอบถามของผู้มีส่วนร่วมในการวิจัยจะถูกไปรวมกับข้อมูลของผู้มีส่วนร่วมในการวิจัยคนอื่นๆ โดยข้อมูลจะถูกเก็บเป็นความลับ ผู้วิจัยใช้รหัสแทนชื่อ-นามสกุล ในแบบบันทึกข้อมูล หากผู้วิจัยตีพิมพ์ผลการศึกษา ผู้วิจัยจะไม่มีการระบุชื่อหรือโรงเรียนของผู้มีส่วนร่วมในการ

วิจัยไม่ว่ากรณีใดๆ

(9) หากผู้มีส่วนร่วมในการวิจัยไม่ได้รับการปฏิบัติตามข้อมูลดังกล่าวสามารถร้องเรียนได้ที่ คณะกรรมการพิจารณาจริยธรรมการวิจัยในคน กลุ่มสหสถาบัน ชุดที่ 1 จุฬาลงกรณ์มหาวิทยาลัย ชั้น 4 อาคารสถาบัน 2 ซอยจุฬาลงกรณ์ 62 ถนนพญาไท เขตปทุมวัน กรุงเทพฯ 10330 โทรศัพท์ 0-2218-8147 โทรสาร 0-2218-8147 E-mail: eccu@chula.ac.th

Protocol No. 126.1/52
Date of Approval 24 DEC 2009
Approval Expire Date 23 DEC 2010

AF 05-09 (Eng)

Form of
Informed Consent Form

Address ....
Date .....

Code number of participant .....

I who have signed here below agree to participate in this research project
Title "Factors related to sexual abstinence among Thai female middle adolescents"
Principle researcher's name Pol.Maj.Somsuk Panurat
Contact address 19/22 M.6 Nantawan villege, Or-ngern, Saimai, Bangkok 10220
Telephone (home) 02-3471518 **Cell phone** 081-3768822
E-mail: somsukp22@yahoo.com

I have **read or been informed** about rationale and objectives of the project, what I will be engaged with in details, risk/ham and benefit of this project. The researcher has explained to me and I **clearly understand with satisfaction.**

I willingly **agree** to participate in this project and consent the researcher to response to questionnaires about Factors related to sexual abstinence among Thai female middle adolescents. *The questionnaires have 146 items that include (1) perceived benefits to sexual abstinence scale= 27, (2) perceived barriers to sexual abstinence scale= 20, (3) perceived sexual abstinence self-efficacy= 14, (4) parental influence scale= 24, (5) peer influence scale= 26, (6) commitment to a plan of sexually abstinent behavior scale= 13, and (7) sexually abstinent behavior scale and personal data= 22). Participants will take 45-60 minutes to complete a packet of the questionnaires.*

I have **the right** to withdraw from this research project at any time as I wish with no need to **give any reason**. This withdrawal **will not have any negative impact upon me. I still receive the usual in education and another).**

Researcher has guaranteed that procedure(s) acted upon me would be exactly the same as indicated in the information. Any of my personal information will be **kept confidential.** Results of the study will be reported as total picture. Any of personal information which could be able to identify me or my school will not appear in the report.

If I am not treated as indicated in the information sheet, I can report to the Ethical Review Committee for Research Involving Human Research Subjects, Health Sciences Group, Chulalongkorn University (ECCU). Institute Building 2, 4 Floor, Soi Chulalongkorn 62, Phyat hai Rd., Bangkok 10330, Thailand. Tel: 0-2218-8147 Fax: 0-2218-8147 E-mail: eccu@chula.ac.th

I also have received a copy of information sheet and informed consent form

Sign .....
(.....)
Researcher

Sign .....
(.....)
Participant

Sign .....
(.....)
Witness

AF 05-09 (Eng)

Form of
Informed Consent Form
For parent or guardian

Address .....
Date .....

Code number of participant .....

I who have signed here below is (indicate: father/mother/legal guardian) of (name of participant) ..... agree to participate in this research project

Title "Factors related to sexual abstinence among Thai female middle adolescents"
Principle researcher's name Pol.Maj.Somsuk Panurat
Contact address 19/22 M.6 Nantawan villege, Or-ngern, Saimai. Bangkok 10220
Telephone (home) 02-3471518 **Cell phone** 081-3768822
E-mail: somsukp22@yahoo.com

I and person under my care have been informed about rational and objective(s) of the project, and what will be done in details upon the person under my care, risk/harm and benefit of this project. I have read details in the information sheet and **clearly understand with satisfaction.**

I willingly **agree** to let the person under my care participate in this project and consent the researcher to response to questionnaires. *The questionnaires have 146 items that include (1) perceived benefits to sexual abstinence scale= 27, (2) perceived barriers to sexual abstinence scale= 20, (3) perceived sexual abstinence self-efficacy= 14, (4) parental influence scale= 24, (5) peer influence scale= 26, (6) commitment to a plan of sexually abstinent behavior scale= 13, and (7) sexually abstinent behavior scale and personal data= 22). Participants will take 45-60 minutes to complete a packet of the questionnaires.*

Either the person under my care have **the right** to withdraw from this research project at any time as wished, with no need **to give any reason**. This withdrawal **will not have any negative impact upon person under my care. She still receives the same usual in educatien or another).**

Researcher has guaranteed that procedure(s) which will be acted upon the person under my care would be exactly the same as indicated in the information. Any personal information of person under my care will be **kept confidential.** Results of the study will be reported as total picture. Any personal information which could be able to identify person under my care, my self, and school name will not appear in the report.

If the person under my care **is not treated as indicated in the information sheet,** I can report to the Ethical Review Committee for Research Involving Human Research Subjects, Health Sciences Group, Chulalongkorn University (ECCU). Institute Building 2, 4 Floor, Soi Chulalongkorn 62, Phyat hai Rd., Bangkok 10330, Thailand, Tel: 0-2218-8147 Fax: 0-2218-8147 E-mail: eccu@chula.ac.th

I also have received **a copy of information sheet and informed consent form.**

Sign .....
(Somsuk Panurat)
Researcher

Sign .....
(.....)
Participant

Sign .....
(.....)
Parents or guardian of participant

Sign .....
(.....)
Witness

AF 04-09 (Eng)

Form of
Patient/ Participant Information Sheet

Title of research project Factors related to sexual abstinence among Thai female middle adolescents.
Principle researcher's name Pol.Maj.Somsuk Panurat **Position** Doctoral student in nursing. Faculty of Nursing, Chulalongkorn University.
Office address Police Nursing College, Henry-Dunant Road, Phatumwan, Bangkok.
Home address 19/22 M.6 Nantawan villege, Or-ngern, Saimai, Bangkok.
Telephone (office) 02-2076101 **Telephone (home)** 02-3471518
Cell phone 081-3768822 **E-mail:** somsukp22@yahoo.com

I am Pol.Maj.Somsuk Panurat, nursing student in doctoral degree at Chulalongkorn University. I am interesting in sexual abstinence among Thai female adolescents who are students. The potential for a larger number of Thai female middle adolescents, who are likely to engage in sexual activity during student which often leads to negative consequences, has a number of health problems, family, economic, political, and social consequences. Sexual abstinence behavior is important sexual health promotion to prevent negative outcome of sexual abstinence during adolescent. However, there are rarely knowledge in sexual abstinence in Thailand, and also unknown what factor related to sexual abstinence among Thai female adolescents.

The objective of information sheet is the explanation about information and process of the study. You can understand and determine to cooperate as participant in my study.

The detail of this study as follows:

1. The objectives of this study are to identify factors that can explain the variation in sexually abstinent behavior among Thai female students.

2. *This study will provide data base about the relationships among the selected variables. It is crucial to help nurse and health care provides to understand the predictor of sexually abstinent behavior among Thai female adolescents. The finding will provide a scientifically-based guideline for health care providers, multidisciplinary teams and policy makers to provide suitable support and guidance to promote sexually abstinent behavior among Thai female adolescents. Moreover, sexually abstinent behavior leads to prevent negative outcome include person and family problem. Besides, this behavior can reduce medical fee and social problem. Most important is female adolescent will be good adult.*

3. *Participants in this study are Thai female adolescent who are high school students of Matayom 4 to 6 (M 4-5-6) and study at public co-education high school of Department of General Education, Office of The Basic Education Commission. These schools include rural and urban area. They attend on 2nd semester of academic year 2009.*

The following criteria will be used to select the participants include 1) female student who study in M.4-5-6, 2) Thai nationality, 3) residing with parent or guardian, 4) willing to participate in this study, and 5) permission from parent or guardian for student who below 18 years old. Criteria for exclusion from the study included: having health problems including mental problem, handicap, and participant who withdraw at anytime.

This study will be corrected two phases. Firstly phases, to developing instruments, this phase will be used convenience sampling for item analysis and field test, total 600 participants. Last phases, multistage random sampling will be used to select two provinces from each part of seven parts. The total participants are 987.

When receive permission from Head of school. Researcher will be asked permission from participants and their parents or guardian. They will be sign in informed consent form and assent form before participant will complete questionnaire.

4. *The participants will receive the information from the researcher about objective of the study and the process of data collection. Firstly, participants will receive information*

related directly to you will be kept confidential. Each questionnaire does not know who completed it. After obtaining complete questionnaire, participants will be put it in an envelope and seal. Do not show the questionnaire to other. The participants will receive the information that there does not effect to graduation of the participants in this study. The answers do not correct or incorrect, they just opinion and behavior of participant. The questionnaires have 146 items that include (1) perceived benefits to sexual abstinence scale= 27, (2) perceived barriers to sexual abstinence scale= 20, (3) perceived sexual abstinence self-efficacy= 14, (4) parental influence scale= 24, (5) peer influence scale= 26, (6) commitment to a plan of sexually abstinent behavior scale= 13, and (7) sexually abstinent behavior scale and personal data= 22). Participants will take 45-60 minutes to complete a packet of the questionnaires.

5. Participation to the study is voluntary and participant has the right to withdraw from the study at any time, no need to give any reason, and there will be no bad impact upon that participant or no effect to graduation.

6. If you have any question or would like to obtain more information. Participants can contact the researcher Pol.Maj.Somsuk Panurat, Police Nursing College, The Royal Thai Police, via office phone number 02-2076101, home phone number 02-3471518, and cell phone number 081-3768822 all the time. Researcher will notify immediately about benefit or harm to participants. Participants will have the right to remain or withdraw from the study.

7. Participant will receive stationary gift set from the researcher, the price 20 baht. Although, participants will withdraw from the study.

8. *Information related directly to you will be kept confidential. Results of the study will be reported as total picture. Their names are not addressed in the data; a code number is used to ensure confidentiality. Any indirect information which could be able to identity you or school will not appear in the report.*

9. If researcher does not perform upon participants as indicated in the information, the participants can report the incident to the Ethical Review Committee for Research Involving Human Research Subjects, Health Sciences Group, Chulalongkorn University (ECCU). Institute Building 2, 4th Floor, Soi Chulalongkorn 62, Phyathai Rd., Bangkok 10330, Thailand, Tel: 0-2218-8147 Fax: 0-2218-8147 E-mail: eccu@chula.ac.th

APPENDIX E

INSTRUMENT DEVELOPMENT

ID…….

Faculty of Nursing
Chulalongkorn University

A Study of Factors Related to Sexual Abstinence among Thai Female Middle Adolescents

Sexual abstinence in school is the best solution to prevent STD—Sexual Transmitted Diseases (ex. Gonorrhea, AIDS), unwanted pregnancy and other social problems influenced by immature sex. The information in this study will be advantages in launching a program to promote sexual abstinence in school in Thai female adolescents.

Please do not fill your names or surnames in this questionnaire. The number on the top right corner is a personal code of the informant; thus, all information is held in the strictest confidence.

Answering all questions is voluntary. The participation in this survey has no influence on the informant's academic records. So, please feel free to answer the questions based on your opinions and perception as truthfully as possible. The researcher is purely interested in your opinions.

Thank you for your cooperation

Instruction The following questions are related to advantages of sexual abstinence in school. Please feel free to answer all questions since there are no definite answers.

Please tick √ the statements that apply to your opinions.

Strongly agree refers to the statement that corresponds with your opinions or perspectives the most.

Agree refers to the statement that rather corresponds with your opinions or perspectives.

Disagree refers to the statement that does not correspond with your opinions or perspectives to a high degree.

Strongly disagree refers to the statement that does not correspond with your opinions or perspectives to the highest degree.

No.	Questions	Strongly agree	Agree	Disagree	Strongly disagree
	The advantages of sexual abstinence during the school year are…				
1	Being safe from STDs				
2	Having less risk of AIDS				
3	Being safe from unexpected pregnancy				
24	Satisfaction of not disappointing parents				
25	Maintaining parents' trust in you				

Instruction The following questions are related to obstacles or difficulties of sexual abstinence in school. Please feel free to answer all questions since there are no definite answers.

Please tick √ the statements that apply to your opinions.

Strongly agree refers to the statement that corresponds with your opinions or perspectives the most.

Agree refers to the statement that rather corresponds with your opinions or perspectives.

Disagree refers to the statement that does not correspond with your opinions or perspectives to a high degree.

Strongly disagree refers to the statement that does not correspond with your opinions or perspectives to the highest degree.

No.	Questions ***Personally, sexual abstinence during the school year is obstructed by…….***	Strongly agree	Agree	Disagree	Strongly disagree
1	Boyfriend's threat to break up with me unless having sex with him				
2	Desire to tighten our relationship				
3	Desire to keep my beloved one				
18	Coming from a broken family				
19	Living away from parents or guardians such as living in a dorm				

The following questions are to affirm your ability to act or make a decision.

Please tick √ the statements that apply to your opinions.

Very confident means that you are very confident of your ability to do what is specified in the statement.

Confident means that you are quite confident of your ability to do what is specified in the statement**.**

Not confident means that you are not confident of your ability to do what is specified in the statement.

Totally not confident means that you are totally not confident of your ability to do what is specified in the statement.

No.	Questions	Very confident	Confident	Not confident	Totally not confident
1	I can make an agreement with my boyfriend to express love with limitations; he is not allowed to touch my private organ (genitals).				
2	I can make an agreement with my boyfriend that we will not have sex until we finish school.				
3	I can talk to my boyfriend to defer sex until we finish school.				
11	I can tell my boyfriend to turn off a porn movie.				
12	Even though my beloved boyfriend asks and insists to have sex, I can reject him.				

The following questions are related to your opinions, thoughts, beliefs, and expectations of your parents or guardians such as grandparents regarding sexual abstinence during the school year.

Please tick √ the statements that apply to your opinions.

Totally true refers to the statement that is totally true based on your opinions or perspectives.

True refers to the statement that is true based on your opinions or perspectives.

Not true refers to the statement that is not true based on your opinions or perspectives.

Totally not true refers to the statement that is totally not true based on your opinions or perspectives.

No	Questions	Totally true	True	Not true	Totally not true
1	Parents expect me not to have sex during the school year.				
2	Parents believe that sexual abstinence during the school year will lead me to have a good couple in the future.				
3	Parents believe that a duty of good children is not to have sex during the school year.				
17	Parents often show me the news about social problems caused by sex during the school year such as abortion.				
18	Parents foster me to maintain virginity while I am in school.				

The following questions are related to your opinions, thoughts, beliefs and expectations of your friends in response to sexual abstinence during the school year.

Please tick √ the statements that apply to your opinions.

Totally true refers to the statement that is totally true based on your opinions or perspectives.

True refers to the statement that is true based on your opinions or perspectives.

Not true refers to the statement that is not true based on your opinions or perspectives.

Totally not true refers to the statement that is totally not true based on your opinions or perspectives.

No	Questions	Totally true	True	Not true	Totally not true
1	My friends believe that they will be successful in their lives if they don't have sex during the school year.				
2	My friends believe that they can finish their school if they don't have sex during the school year.				
3	My friends believe that a good child must not have sex during the school year.				
20	My friends told me that if they have a boyfriend, they will make an agreement with him that they will not have sex until they get married.				
21	My friends have some tips to avoid having sex.				

The following questions are related to your determination and strategies to avoid sex in school. Please be informed that the information in this survey will be held confidential.

Have you ever …? Please tick √ the statements that apply to your opinions.

No	Questions	Very often	Often	Occasionally	Never
1	I am determined not to have sex during the school year.				
2	I told my determination not to have sex to my friend.				
3	I join a campaign of sex abstinence during the school year.				
10	I promise to myself not to have sex during the school year.				
11	I try to acquire knowledge and measures to protect myself from sex during the school year.				

Personal Information

Please fill out the form and circle the answers that apply to you

1. You were born on (date/month/year)……/……/…….
2. You are studying in Mutthayomsuksa (M.)……
3. You have ……elder brother(s) ……younger brother(s)
   ……elder sister(s) ……younger sister(s)
4. You are …
   1. Buddhist 2. Christian 3. Muslim
   4. Others (Please specify).....
5. You are living with…
   1. alone 2. parents 3. a partner 4.friends (same sex)
   5. relatives (Please specify)..... 6. others (Please specify).....

The following questions are very important and closely related to your personal information. Please be informed that the information in this section will be held confidential.

No.	Your behaviors with your opposite-sex partner	Yes	No
14	You and your partner always hang out exclusively (just the two of you).		
15	You hold hands with your partner.		
16	You sit close to your partner.		
17	You hug your partner.		
18	You kiss your partner on the lips.		
19	You have oral sex with your partner.		
20	You have vaginal sex with your partner.		
21	You have anal sex with your partner.		

This is the end of the questionnaire.
Your information will be confidential.
Thank you for your cooperation.

ID…….

คณะพยาบาลศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย
การศึกษาปัจจัยที่มีผลต่อการละเว้นเพศสัมพันธ์
ของวัยรุ่นตอนกลางหญิงไทย

การไม่มีเพศสัมพันธ์ในวัยเรียน เป็นวิธีการที่ดีที่สุดในการป้องกันการติดต่อทางเพศสัมพันธ์ (เช่น โรคหนองใน โกโนเรีย) โรคเอดส์ และการตั้งครรภ์ไม่พึงประสงค์ ตลอดจนปัญหาต่างๆ ที่เกิดขึ้นในสังคมอันมีผลมาจากการมีเพศสัมพันธ์ในวัยอันไม่สมควร ข้อมูลที่ได้รับจากนักเรียน จะเป็นประโยชน์อย่างยิ่งในการจัดทำโปรแกรมการเรียนการสอนและการส่งเสริมการละเว้นการมีเพศสัมพันธ์สำหรับวัยรุ่นหญิงไทย

<u>กรุณาอย่าเขียนชื่อของนักเรียนลงในแบบสอบถาม</u> เลขรหัสบนมุมกระดาษเป็นรหัสส่วนตัวของนักเรียนฉะนั้น จะไม่มีใครทราบว่า แบบสอบถามและคำตอบนี้เป็นของใคร

การตอบแบบสอบถามครั้งนี้ ขึ้นอยู่กับความสมัครใจของนักเรียน การเข้าร่วมหรือไม่เข้าร่วมงานวิจัยจะไม่มีผลต่อคะแนนใดๆ ของผู้ตอบ คำตอบของนักเรียนจะถือเป็นความลับ จะไม่มีใครทราบว่านักเรียนตอบอย่างไร ฉะนั้น ผู้วิจัยขอความกรุณาให้ตอบตามความเป็นจริง ในแต่ละคำตอบไม่มีข้อไหนถูกและไม่มีข้อไหนผิด ผู้วิจัยสนใจเฉพาะความคิดและความรู้สึกของท่านเท่านั้น

ขอขอบคุณในความร่วมมือตอบแบบสอบถาม

<u>คำชี้แจง</u> คำถามต่อไปนี้ เป็นการถามเกี่ยวกับประโยชน์ของการไม่มีเพศสัมพันธ์ในวัยเรียน ขอให้ท่าน**ตอบตามความคิดเห็นของท่าน** ในแต่ละคำตอบไม่มีข้อไหนถูกและไม่มีข้อไหนผิด ฉะนั้นจึง**ไม่มีผลต่อคะแนนใด ๆ ของท่าน**

โปรดทำเครื่องหมาย √ ในช่องที่ตรงกับความคิดเห็นของท่าน การเลือกตอบถือเกณฑ์ ดังนี้

เห็นด้วยอย่างยิ่ง หมายถึง ข้อความในประโยคนั้นตรงกับความคิดเห็น หรือตรงกับการรับรู้ของท่านมากที่สุด

ค่อนข้างเห็นด้วย หมายถึง ข้อความในประโยคนั้นตรงกับความคิดเห็น หรือตรงกับการรับรู้ของท่านค่อนข้างมาก

ค่อนข้างไม่เห็นด้วย หมายถึง ข้อความในประโยคนั้นไม่ตรงกับความคิดเห็น หรือไม่ตรงกับการรับรู้ของท่านค่อนข้างมาก

ไม่เห็นด้วยอย่างยิ่ง หมายถึง ข้อความในประโยคนั้นไม่ตรงกับความคิดเห็น หรือไม่ตรงกับการรับรู้ของท่านเลย

ลำดับ	ข้อคำถาม ประโยชน์ของการไม่มีเพศสัมพันธ์ในวัยเรียนคือ.....	เห็นด้วยอย่างยิ่ง	ค่อนข้างเห็นด้วย	ค่อนข้างไม่เห็นด้วย	ไม่เห็นด้วยอย่างยิ่ง
1	ปลอดภัยจากโรคติดต่อทางเพศสัมพันธ์				
2	ลดความเสี่ยงในการติดเชื้อเอดส์ / เอชไอวี				
3	รอดพ้นจากการตั้งครรภ์โดยไม่ได้ตั้งใจ				
24	สบายใจที่ไม่ทำให้พ่อแม่ผิดหวัง				
25	พ่อแม่ยังคงเชื่อใจ				

<u>คำชี้แจง</u> คำถามต่อไปนี้ เป็นการถามเกี่ยวกับสิ่งที่มาขัดขวางหรือเป็นอุปสรรคต่อการที่จะไม่มีเพศสัมพันธ์ในวัยเรียน

ขอให้ท่าน**ตอบตามความคิดเห็นของท่าน** ในแต่ละคำตอบไม่มีข้อไหนถูกและไม่มีข้อไหนผิด ฉะนั้นจึง**ไม่มีผลต่อคะแนนใดๆ ของท่าน**

โปรดทำเครื่องหมาย √ ในช่องที่ตรงกับความคิดเห็นของท่าน การเลือกตอบถือเกณฑ์ ดังนี้

เห็นด้วยอย่างยิ่ง หมายถึง ข้อความในประโยคนั้นตรงกับความคิดเห็น หรือตรงกับการรับรู้ของท่านมากที่สุด

ค่อนข้างเห็นด้วย หมายถึง ข้อความในประโยคนั้นตรงกับความคิดเห็น หรือตรงกับการรับรู้ของท่านค่อนข้างมาก

ค่อนข้างไม่เห็นด้วย หมายถึง ข้อความในประโยคนั้นไม่ตรงกับความคิดเห็น หรือไม่ตรงกับการรับรู้ของท่านค่อนข้างมาก

ไม่เห็นด้วยอย่างยิ่ง หมายถึง ข้อความในประโยคนั้นไม่ตรงกับความคิดเห็น หรือไม่ตรงกับการรับรู้ของท่านเลย

ลำดับ	ข้อคำถาม ***สำหรับฉัน... สิ่งที่มาขัดขวางต่อการ "ไม่มีเพศสัมพันธ์ในวัยเรียน" คือ.....***	เห็นด้วยอย่างยิ่ง	ค่อนข้างเห็นด้วย	ค่อนข้างไม่เห็นด้วย	ไม่เห็นด้วยอย่างยิ่ง
1	คำขู่ของแฟนว่าจะเลิกถ้าไม่ยอมมีเพศสัมพันธ์				
2	ความต้องการผูกมัดซึ่งกันและกันระหว่างฉันกับแฟน				
3	ความต้องการรักษาคนรักเอาไว้				
18	การมีครอบครัวที่แตกแยก				
19	การไม่ได้อาศัยอยู่กับพ่อแม่หรือผู้ปกครอง เช่น อยู่หอพัก				

ต่อไปนี้ เป็นการถามให้ท่านตัดสินความสามารถของตนเองว่า มีความมั่นใจที่จะทำสิ่งต่อไปนี้ได้ดีเพียงไร

<u>คำชี้แจง</u> โปรดทำเครื่องหมาย √ ในช่องที่ตรงกับความเชื่อ/ความคิดของท่านมากที่สุด การเลือกตอบถือเกณฑ์ดังนี้

มั่นใจมาก หมายถึง ท่านมีความมั่นใจอย่างมาก ว่าจะสามารถทำได้
มั่นใจ หมายถึง ท่านมีความมั่นใจ ว่าจะสามารถทำได้
ไม่มั่นใจ หมายถึง ท่านไม่มีความมั่นใจ ว่าจะสามารถทำได้
ไม่มั่นใจมาก หมายถึง ท่านไม่มีความมั่นใจอย่างมาก ว่าจะสามารถทำได้

ลำดับ	ข้อคำถาม	มั่นใจมาก	มั่นใจ	ไม่มั่นใจ	ไม่มั่นใจมาก
1	ฉันสามารถตกลงกับแฟนถึงขอบเขตในการแสดงความรัก เช่น การไม่ยินยอมให้จับของสงวน (อวัยวะเพศ)				
2	ฉันสามารถตกลงกับแฟนได้ว่าจะไม่มีเพศสัมพันธ์จนกว่าจะเรียนจบ				
3	ฉันสามารถพูดคุยกับแฟนให้ชะลอการมีเพศสัมพันธ์ ไปจนกว่าจะเรียนจบ				
11	ฉันสามารถจะบอกแฟนให้ปิดหนังลามก เช่น หนังเรตเอ๊กซ์ เมื่อเขาเปิดให้ฉันดู				
12	แม้ว่าเพื่อนชายที่ฉันรักมาก รบเร้าขอมีเพศสัมพันธ์ ฉันก็สามารถปฏิเสธเขาได้				

คำถามต่อไปนี้ เป็นการถามเกี่ยวกับความคิดเห็นของนักเรียนเกี่ยวกับ ความคิด ความเชื่อ ความคาดหวัง หรือการกระทำของพ่อแม่ (หรือบุคคลในครอบครัวที่มีความสำคัญกับท่านในกรณีที่พ่อแม่ไม่ได้อยู่กับท่าน เช่น ปู่ ย่า ตา ยาย) ต่อการไม่มีเพศสัมพันธ์ในวัยเรียน

โปรดทำเครื่องหมาย √ ในช่องที่ตรงกับความเป็นจริงตามการรับรู้ของท่านมากที่สุด
การเลือกตอบถือเกณฑ์ ดังนี้

ตรงมากที่สุด หมายถึง ข้อความในประโยคนั้นตรงกับความรู้สึกหรือความเป็นจริงของท่านมากที่สุด

ค่อนข้างตรง หมายถึง ข้อความในประโยคนั้นตรงกับความรู้สึกหรือความเป็นจริงของท่านค่อนข้างมาก

ค่อนข้างไม่ตรง หมายถึง ข้อความในประโยคนั้นไม่ตรงกับความรู้สึกหรือความเป็นจริงของท่านค่อนข้างมาก

ไม่ตรงเลย หมายถึง ข้อความในประโยคนั้นไม่ตรงกับความรู้สึกหรือความเป็นจริงของท่านเลย

ลำดับ	ข้อคำถาม	ตรงมากที่สุด	ค่อนข้างตรง	ค่อนข้างไม่ตรง	ไม่ตรงเลย
1	พ่อแม่คาดหวังว่าฉันจะไม่มีเพศสัมพันธ์ในวัยเรียน				
2	พ่อแม่เชื่อว่าการไม่มีเพศสัมพันธ์ในวัยเรียนจะทำให้ฉันได้คู่ครองที่ดีในอนาคต				
3	พ่อแม่เชื่อว่าการไม่มีเพศสัมพันธ์ในวัยเรียน คือการทำหน้าที่ลูกที่ดี				
17	พ่อแม่มักเรียกให้ฉันดูข่าวปัญหาสังคมซึ่งรายงานเกี่ยวกับผลเสียจากการมีเพศสัมพันธ์ในวัยเรียน เช่น การทำแท้งของนักเรียน				
18	พ่อแม่ปลูกฝังฉันให้รักษาพรหมจรรย์ขณะยังอยู่ในวัยเรียน				

คำถามต่อไปนี้ เป็นการถามเกี่ยวกับความคิดเห็นของนักเรียนเกี่ยวกับ ความคิด ความเชื่อ ความคาดหวัง หรือการกระทำของเพื่อนในกลุ่มของท่าน ต่อการไม่มีเพศสัมพันธ์ในวัยเรียน

โปรดทำเครื่องหมาย √ ในช่องที่ตรงกับความเป็นจริงตามการรับรู้ของท่านมากที่สุด

การเลือกตอบถือเกณฑ์ ดังนี้

ตรงมากที่สุด หมายถึง ข้อความในประโยคนั้นตรงกับความรู้สึกหรือความเป็นจริงของท่านมากที่สุด

ค่อนข้างตรง หมายถึง ข้อความในประโยคนั้นตรงกับความรู้สึกหรือความเป็นจริงของท่านค่อนข้างมาก

ค่อนข้างไม่ตรง หมายถึง ข้อความในประโยคนั้นไม่ตรงกับความรู้สึกหรือความเป็นจริงของท่านค่อนข้างมาก

ไม่ตรงเลย หมายถึง ข้อความในประโยคนั้นไม่ตรงกับความรู้สึกหรือความเป็นจริงของท่านเลย

ลำดับ	ข้อคำถาม	ตรงมากที่สุด	ค่อนข้างตรง	ค่อนข้างไม่ตรง	ไม่ตรงเลย
1	เพื่อนในกลุ่มเชื่อว่าจะประสบผลสำเร็จในชีวิตหากไม่มี เพศสัมพันธ์ในวัยเรียน				
2	เพื่อนในกลุ่มเชื่อว่าจะสามารถเรียนหนังสือจนจบ หากไม่มี เพศสัมพันธ์ในวัยเรียน				
3	เพื่อนในกลุ่มเชื่อว่าการเป็นลูกที่ดี ต้องไม่มีเพศสัมพันธ์ในวัยเรียน				
20	เพื่อนในกลุ่มของฉันบอกฉันว่า ถ้าเขามีแฟนเขาจะตกลงกับแฟนว่าจะไม่มีเพศสัมพันธ์จนกว่าจะแต่งงาน				
21	เพื่อนในกลุ่มของฉันมีเทคนิคในการหลีกเลี่ยงการมีเพศสัมพันธ์				

คำถามต่อไปนี้เป็นคำถามเกี่ยวกับความตั้งใจและวิธีการของท่านในการไม่มีเพศสัมพันธ์ในวัยเรียน ขอให้ท่านนึกไว้ตลอดว่าข้อมูลในแบบสอบถามนี้จะถูกเก็บไว้เป็นความลับ ท่านเคยทำในสิ่งต่อไปนี้หรือไม่ โปรดทำเครื่องหมาย √ ในช่องที่ตรงกับความเป็นจริงของท่านมากที่สุด

ลำดับ	ข้อคำถาม	บ่อยมาก	บ่อย	นาน ๆ ครั้ง	ไม่เคยเลย
1	ฉันตั้งใจจะไม่มีเพศสัมพันธ์ ในขณะที่ฉันยังเป็นนักเรียน				
2	ฉันบอกให้เพื่อนรู้ถึงความตั้งใจของฉันที่จะไม่มีเพศสัมพันธ์				
3	ฉันร่วมรณรงค์การไม่มีเพศสัมพันธ์ในวัยเรียน				
10	ฉันให้สัญญากับตนเองว่าจะไม่มีเพศสัมพันธ์ในวัยเรียน				
11	ฉันพยายามหาความรู้ และวิธีการป้องกันตัวเองไม่ให้มีเพศสัมพันธ์ในวัยเรียน				

ข้อมูลส่วนบุคคล

โปรดเติมคำในช่องว่าง และ วงกลม คำตอบที่ตรงกับข้อมูลของท่าน

1. ท่านเกิดวันที่.....เดือน.....พ.ศ.....
2. ท่านกำลังศึกษาอยู่ระดับชั้นมัธยมศึกษาปีที่.....
3. ท่านมีพี่ชาย.....คน น้องชาย.....คน
   พี่สาว.....คน น้องสาว.....คน
4. คนท่านนับถือศาสนาใด
   1. พุทธ 2. คริสต์ 3. อิสลาม 4. อื่นๆ (โปรดระบุ).....
5. ท่านอาศัยอยู่กับใคร
   1. คนเดียว 2. พ่อ/ แม่ 3. แฟน 4. เพื่อน (เพศเดียวกัน)
   5. ญาติ (โปรดระบุ)..... 6. อื่นๆ (โปรดระบุ).....

คำถามต่อไปนี้มีความสำคัญต่อการศึกษาครั้งนี้มาก ผู้วิจัยใคร่ขออภัยหากมีคำถามที่เป็นเรื่องส่วนตัวของท่าน ขอความกรุณาโปรดตอบตรงตามความเป็นจริง <u>อย่างไรก็ตาม ข้อมูลส่วนนี้จะถูกเก็บเป็นความลับ</u> จะไม่มีผู้ใดรู้ว่าแบบสอบถามนี้เป็นของใคร ในการอภิปรายผลจะอยู่ในภาพรวม ไม่ชี้เฉพาะว่าเป็นบุคคลใด

ข้อที่	พฤติกรรมของท่านกับเพื่อนต่างเพศ	เคย	ไม่เคย
14	ไปไหนมาไหนสองต่อสอง		
15	เกาะกุมมือกัน		
20	มีเพศสัมพันธ์ทางช่องคลอด		
21	มีเพศสัมพันธ์ทางทวารหนัก		

เสร็จแล้วค่ะ กรุณาพับใส่ซองที่เตรียมไว้ให้ และปิดผนึกทันทีนะคะ
<u>ไม่ต้องให้ผู้ใดเห็นคำตอบของท่าน</u> ข้อมูลของท่านจะเป็นความลับค่ะ
ขอบคุณมากที่ให้ความร่วมมือในการตอบแบบสอบถาม

Results of the confirmatory factor analysis

In confirmatory factor analysis, validity is defined as "the extent to which a measure performs in accordance with theoretical expectations" (Carmines and Zeller, 1979: 27). The construct validity of the measurement model of the 6 scales of the sexual abstinence (BaSA, BeSA, SAS, PaIN, PeIN, and CSA) was also examined through confirmatory factor analysis (CFA). For meaningful results to be obtained in the CFA, correlation between indicators was assessed to investigate whether it has sufficient correlations to determine the appropriateness to perform factor analysis (Dixon, 2001; Hairet et al., 1998; Pett, Lackey, and Sullivan, 2003). In addition, the Bartlett test of sphericity, Measure of Sampling Adequacy (MSA), and Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO), all had to be examined in order to determine the appropriateness of the matrix correlation coefficients (Pett et al., 2003).

CFA was used to test the proposed measurement model of 6 scales. Due to the complexity of the facture structure of the 6 scales which were composed of subscales, the proposed model of the 6 scales had to test construct validity. The scales were tested on the measurement model of each subscale of the factors using second order factor analysis. Then, item parceling was employed to combine individual items under each subscale after the model of subscales was confirmed by the first order factor analysis.

(1) Perceived benefits of the sexual abstinence scale (BeSA)

The second draft scale was conceptualized as a multi- subscale. The measurement model of BeSA was identified as having 25 items with 7 subscales, as shown in Figure 2. For understanding well in all model and figures demonstrated in this study, symbols of all indicator names were presented as follows:

BENEFIT	= Perceived benefits of sexual abstinence	FAMILY	= The successful family
HEALTH	= The healthy	SOCIAL	= A sense of social acceptance
EDUCATION	= Learning achieved	SELF	= Positive feeling to herself
CAREER	= The successful career	ACCEPT	= The acceptance of others

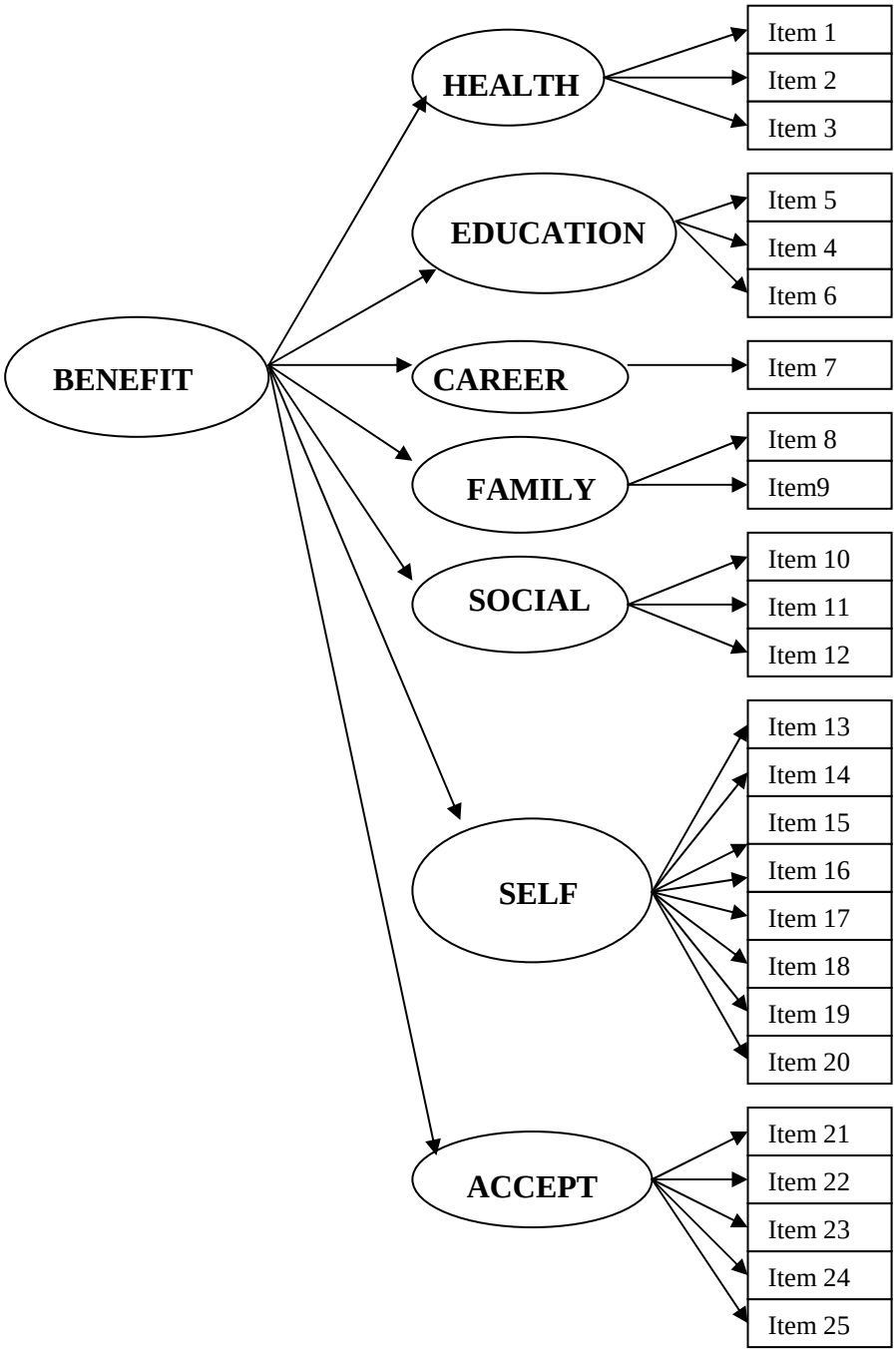

Figure 1: Measurement model of the Perceived benefits of sexual abstinence scale

There were 25 indicators and 7 subscales in the first level of CFA as shown in Figure 1. The results showed that the factor loading of all 25 indicators ranging from 0.53 to 0.90 were statistically significant (Table 1). For the second level of the CFA, The results showed that all regression weights between the seven subscales and the perceived benefits of sexual abstinence (BeSA) ranged from 0.51 to 0.84 were statistically significant at $p < .01$. It was indicated that perceived benefit about health and learning achieved, a successful career, family, sense of social acceptance, positive feelings towards herself, and the acceptance of others, could describe the BeSA. In the case of construct reliability of the seven subscales, it was found that their squared multiple correlations ranged from 0.26 to 0.73. There were five subscales; perceived benefit about health and learning achieved, a successful career, family, and positive feelings towards herself, which were in unsatisfied levels of construct reliability ($R^2 < 0.7$).

Table 1: Factor loadings and construct reliability of Perceived benefits of sexual abstinence scale (BeSA)

Item	Standardized factor loadings						
	HEALTH	EDUCATION	CARRIER	FAMILY	SOCIAL	SELF	ACCEPT
Item 1	0.72						
Item 2	0.69						
Item 3	0.68						
Item 4		0.69					
Item 5		0.90					
Item 6		0.78					
Item 7			1				
Item 8				0.77			
Item 9				0.79			
Item 10					0.73		
Item 11					0.79		
Item 12					0.82		
Item 13						0.66	
Item 14						0.53	
Item 15						0.72	
Item 16						0.61	
Item 17						0.63	
Item 18						0.62	
Item 19						0.61	
Item 20						0.63	
Item 21							0.57
Item 22							0.67
Item 23							0.61
Item 24							0.66
Item 25							0.74
Factor loading	0.56	0.69	0.51	0.75	0.85	0.79	0.84
t-value	7.41	9.83	9.28	10.39	11.75	10.32	9.46
Construct reliability (Squared Multiple Correlation) (R^2)	0.31	0.47	0.26	0.56	0.73	0.63	0.70

(2) Perceived barriers to sexual abstinence scale (BaSA)

The second draft scale was conceptualized as a multi-subscales. The measurement model of BaSA was identified as having 19 items with 4 subscales, as shown in Figure 2. For easy understanding in all models, and figures demonstrated in this study, symbols of all indicator names were presented as follows:

BARRIERS	= Perceived barriers to sexual abstinence	SITUATION	= Situation
BOYFRIEND	= Boy-friends pressure	FAMILY	= A family status
FRIEND	= Friends pressure		

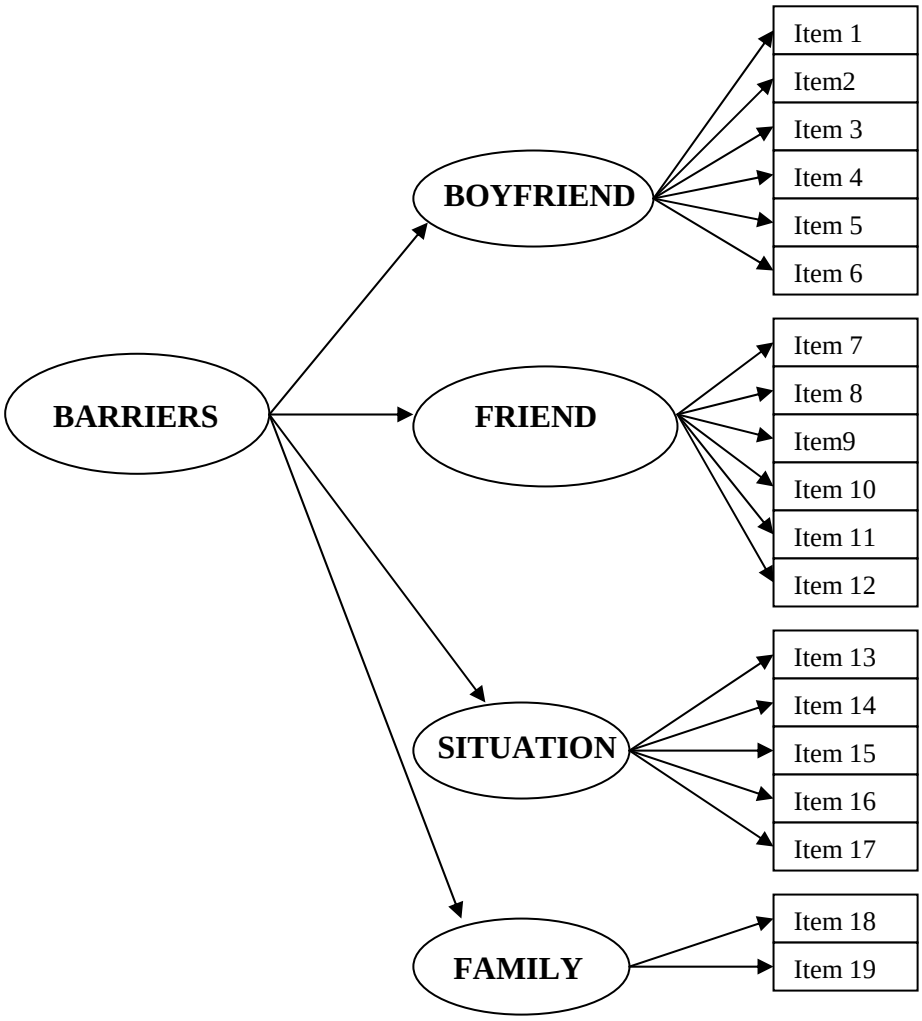

Figure 2 : Measurement model of Perceived barriers to sexual abstinence scale

There were 19 indicators and 4 subscales in the first level of CFA as shown in

Figure 4. The results showed that factor loading of all 19 indicators ranging from 0.83 to 0.96 were statistically significant (Table 2). For the second level of CFA, The results show that all regression weights between the four subscales and the perceived barriers to sexual abstinence scale (BaSA) ranged from 0.73 to 0.98 and were statistically significant at $p < .01$. It was indicated that boy-friends pressure, friends pressure, situation, and family status, could describe the BaSA. In the case of construct reliability of the four subscales, it was found that their squared multiple correlations ranged from 0.53 to 0.97. There were two subscales; boy-friends pressure and friends pressure, which were in unsatisfied level of construct reliability ($R^2 < 0.7$).

Table 2 Factor loadings and construct reliability of Perceived barriers to sexual abstinence scale (BaSA)

Item	Standardized factor loadings			
	BOYFRIEND	**FRIEND**	**SITUATION**	**FAMILY**
Item 1	0.88			
Item 2	0.84			
Item 3	0.85			
Item 4	0.91			
Item 5	0.91			
Item 6	0.90			
Item 7		0.89		
Item 8		0.88		
Item 9		0.83		
Item 10		0.91		
Item 11		0.86		
Item 12		0.89		
Item 13			0.96	
Item 14			0.95	
Item 15			0.93	
Item 16			0.95	
Item 17			0.96	
Item 18				0.93
Item 19				0.92
Factor loading	0.81	0.73	0.94	0.98
t-value	15.36	13.92	18.08	20.73
Construct reliability (Squared Multiple Correlation) (R^2)	0.66	0.53	0.89	0.97

(3) Perceived sexual abstinence self-efficacy scale (SASE)

The second draft scale was conceptualized as multi-subscales. The measurement model of SASE was identified as having 12 items with 4 subscales, as shown in Figure 3. For easy understanding in all models, and figures demonstrated in this study, symbols of all indicator names were presented as follows:

SELF-EFFICACY	= Perceived sexual abstinence self-efficacy		
NEGOTIATE	= The ability to negotiate	ASSURE	= The ability to assure
DENIAL	= The ability to deny	SITUATION	= The ability to circumstances.

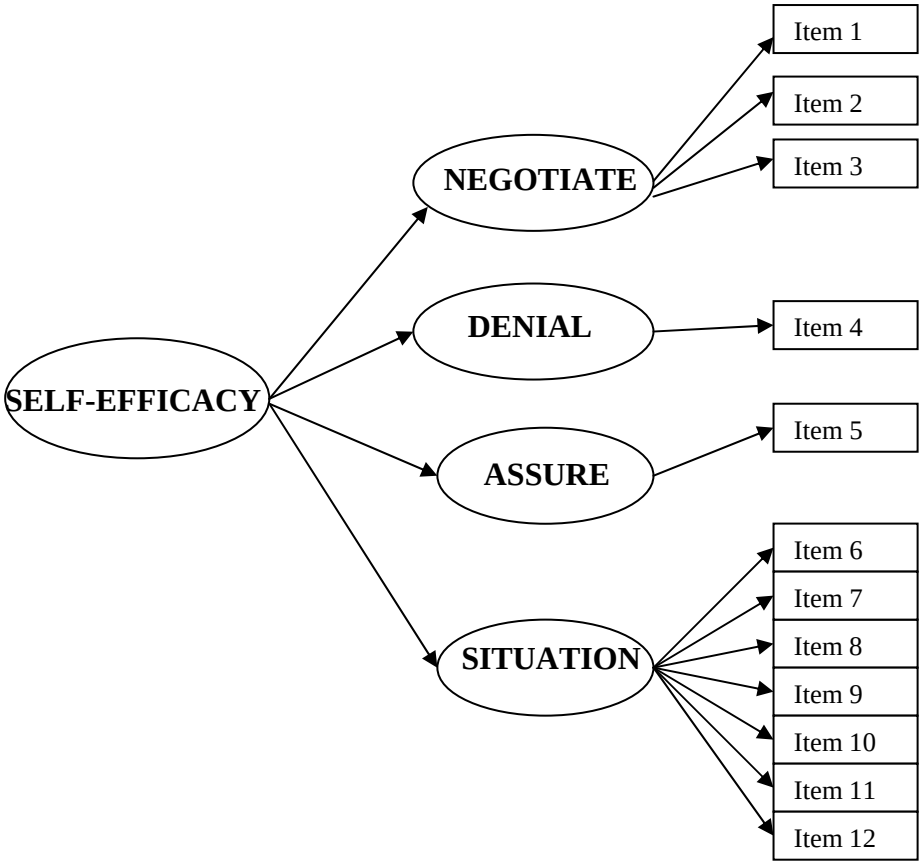

Figure 3: Measurement model of Perceived sexual abstinence self-efficacy scale

There were 12 indicators and 4 subscales in the first level of CFA as shown in Figure 3. The results showed that factor loading of all 12 indicators ranging from 0.73 to 1 were statistically significant (Table 3). For the second level of the CFA, the

results show that all regression weights between the four subscales and the Perceived sexual abstinence self-efficacy (SASE) ranged from 0.75 to 0.95 and were statistically significant at $p < .01$. It was indicated that the ability to negotiate, the ability to deny, the ability to assure, and the ability to adapt circumstances could describe the SASE. In the case of the construct reliability of the four subscales, it was found that their squared multiple correlations ranged from 0.57 to 0.89. There were two subscales; the ability to deny and the ability to assure, which were in unsatisfaction level of construct reliability ($R^2 < 0.7$).

Table 3: Factor loadings and construct reliability of perceived sexual abstinence self-efficacy scale (SASE)

Item	Standardized factor loadings			
	NEGOTIATION	DENIAL	ASSURE	SITUATION
Item 1	0.83			
Item 2	0.91			
Item 3	0.84			
Item 4		1		
Item 5			1	
Item 6				0.87
Item 7				0.82
Item 8				0.85
Item 9				0.86
Item 10				0.73
Item 11				0.80
Item 12				0.88
Factor loading	0.88	0.75	0.82	0.95
t-value	15.40	15.72	17.62	17.80
Construct reliability (Squared Multiple Correlation) (R^2)	0.77	0.57	0.67	0.89

(4) Parental influence scale (PaIN)

The measurement model of PaIN was identified as having 18 items with 3 subscales, as shown in Figure 6. For easy understanding in all models, and figures demonstrated in this study, symbols of all indicator names were presented as follows:

PARENT = Parental influence
EXPECTATION = Perceive about expectation of parent
CHILDREARING = Perceive about teaching and caring of parent
ENCOURAGEMENT = Perceive about encouragement of parent

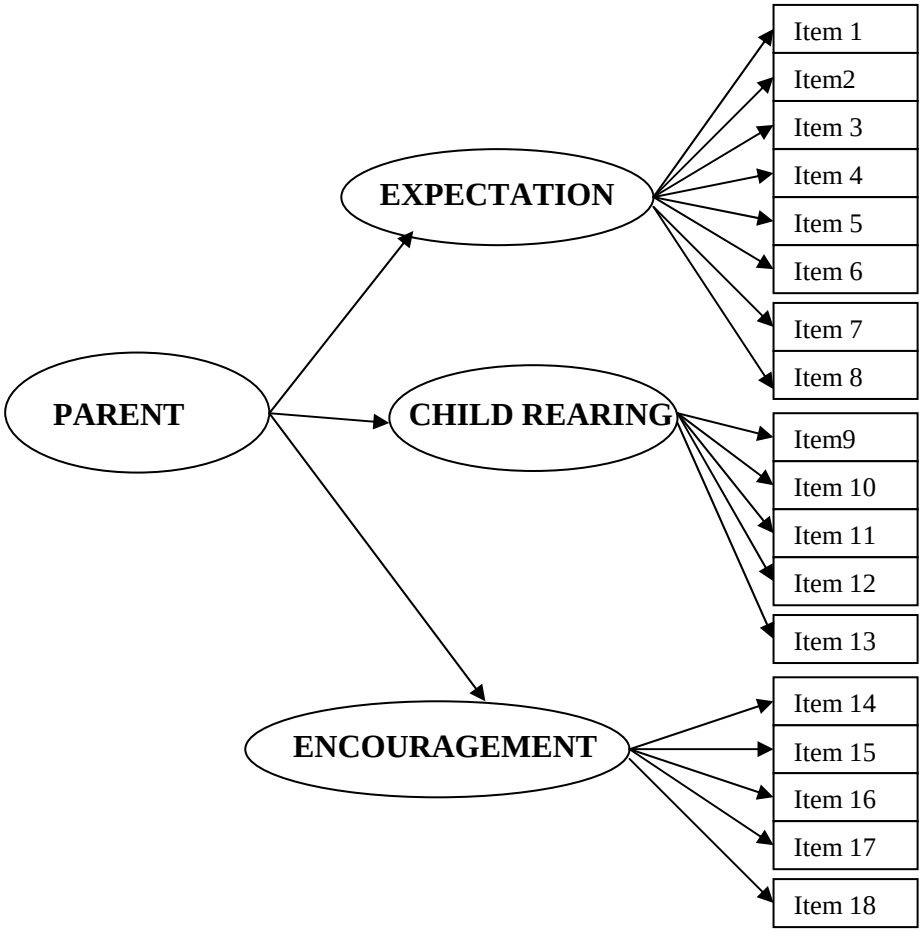

Figure 4: Measurement model of Parental influence scale

There were 18indicators and 3 subscales in the first level of CFA as shown in Figure 6. The results showed that factor loading of all 12 indicators ranging from 0.52 to 0.87 were statistically significant (Table 4). For the second level of CFA, The results show that all regression weights between the four subscales and the Parental influence (PaIN) ranged from 0.59 to 1and were statistically significant at $p < .01$. It was indicated that perceptions about the expectations of parents, perceptions about teaching and caring of parents, perceptions about the encouragement of parents could describe the PaIN. In the case of the construct reliability of the three subscales, it was found that their squared multiple correlations ranged from 0.35 to 1 There were two subscales; perceptions about the expectations of parent and perceive about

encouragement of parent, which were in unsatisfied level of construct reliability ($R^2 < 0.7$).

Table 4: Factor loadings and construct reliability of the Parental influence scale (PaIN)

Item	Standardized factor loadings		
	EXPECTATION	**CHILDREARING**	**ENCOURAGEMENT**
Item 1	0.62		
Item 2	0.62		
Item 3	0.57		
Item 4	0.62		
Item 5	0.65		
Item 6	0.62		
Item 7	0.67		
Item 8	0.61		
Item 9		0.70	
Item 10		0.74	
Item 11		0.77	
Item 12		0.72	
Item 13		0.60	
Item 14			0.87
Item 15			0.76
Item 16			0.52
Item 17			0.79
Item 18			0.82
Factor loading	0.76	1	0.59
t-value	9.09	13.74	10.10
Construct reliability (Squared Multiple Correlation) (R^2)	0.58	1	0.35

(5) Peer influence scale (PeIN).

The measurement model of PeIN was identified as having 21 items with 3 subscales, as shown in Figure 5. For ease of understanding in all models, and figures demonstrated in this study, the symbols of all indicator names were presented as follows:

PEER = Peer influence
NORM = Perceptions about norm of peer
SUPPORT = Perceptions about support of peer
MODELING = Peer modeling

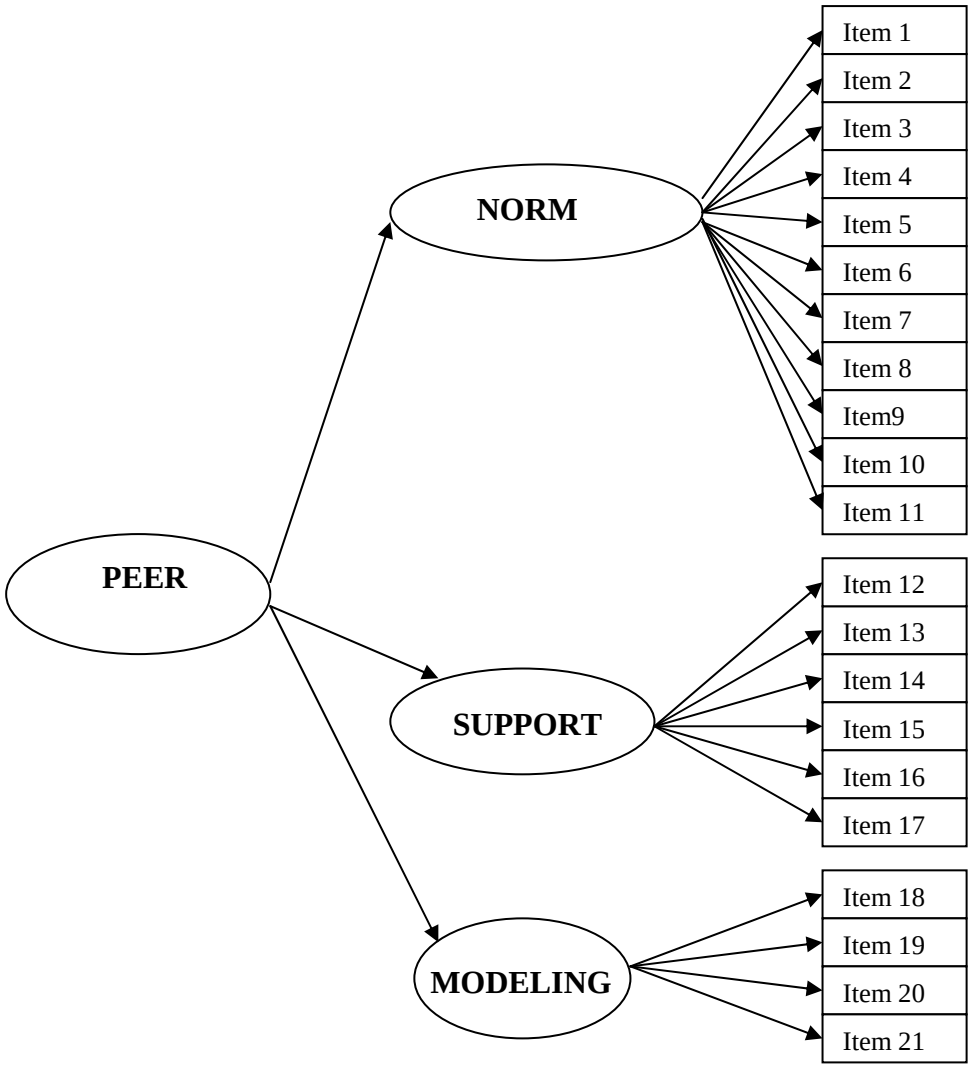

Figure 5: Measurement model of Peer influence scale

There were 21 indicators and 3 subscales in the first level of CFA as shown in Figure 5. The results showed that factor loading of all 21 indicators ranging from 0.56 to 0.92 were statistically significant (Table 5). For the second level of CFA, the results show that all regression weights between the three subscales and the Peer influence (PeIN) ranged from 0.74 to 1and were statistically significant at $p < .01$. It was indicated that peer norm, peer support, and modeling of peers could describe the PeIN. In the case of the construct reliability of the three subscales, it was found that their squared multiple correlations ranged from 0.55 to 1. There were two subscales; peer norm and modeling of peer, which were in unsatisfaction level of construct reliability ($R^2 < 0.7$).

Table 5: Factor loadings and construct reliability of Peer influence scale (PeIN)

Item	Standardized factor loadings		
	NORM	**SUPPORT**	**MODELING**
Item 1	0.64		
Item 2	0.63		
Item 3	0.72		
Item 4	0.63		
Item 5	0.72		
Item 6	0.74		
Item 7	0.78		
Item 8	0.80		
Item 9	0.77		
Item 10	0.68		
Item 11	0.56		
Item 12		0.73	
Item 13		0.92	
Item 14		0.64	
Item 15		0.71	
Item 16		0.60	
Item 17		0.64	
Item 18			0.73
Item 19			0.92
Item 20			0.69
Item 21			0.71
Factor loading	0.74	1	0.81
t-value	10.20	13.32	10.76
Construct reliability (Squared Multiple Correlation)(R^2)	0.55	1	0.66

(6) Commitment to a plan of sexually abstinent behavior scale (CSA).

The measurement model of CSA was identified as having 11 items with 2 subscales, as shown in Figure 8. For ease of understanding in all models, and figures demonstrated in this study, the symbols of all indicator names were presented as follows:

COMMITMENT = Commitment to a plan of sexually abstinent behavior
INTENTION = Intention to having sexual abstinence
STRATEGY = Strategies for eliciting, carrying out, and reinforcing sexually abstinent behavior

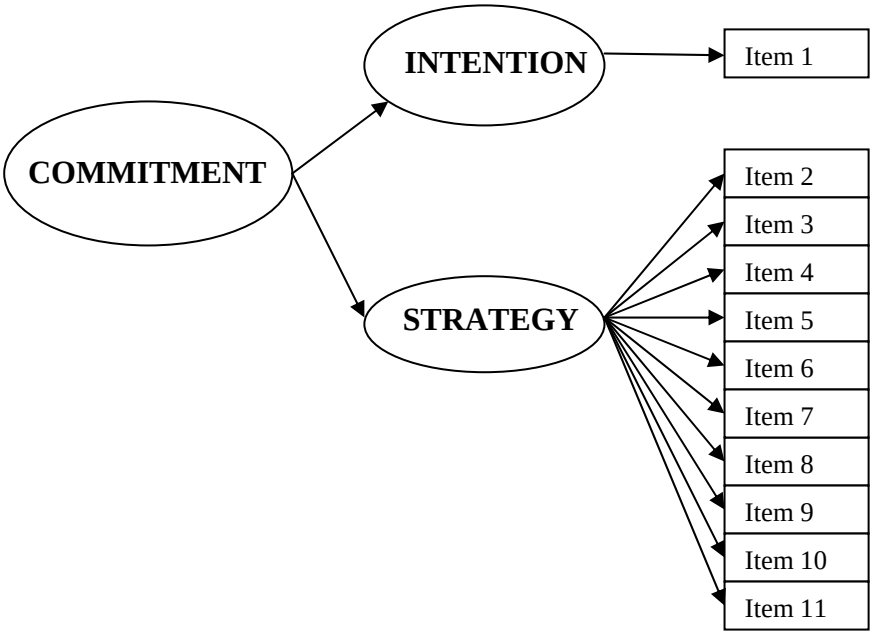

Figure 6: Measurement model of a Commitment to a plan of sexually abstinent behavior scale

There were 11 indicators and 2 subscales in the first level of CFA as shown in Figure 6. The results showed that the factor loading of all 11 indicators ranging from 0.58 to 1 were statistically significant (Table 6). For the second level of CFA, the results show that all regression weights between the two subscales and the Commitment to a plan of sexually abstinent behavior (CSA) ranged from 0.64 and 1 and were statistically significant at $p < .01$. It was indicated that intention and strategy could describe the CSA. In the case of the construct reliability of the two subscales, it was found that their squared multiple correlations ranged from 0.41 and 1. There was of unsatisfaction factor; intention which was in unsatisfied level of construct reliability ($R^2 < 0.7$).

Table 6: Factor loadings and construct reliability of Commitment to a plan of sexually abstinent behavior scale (CSA).

Item	Standardized factor loadings	
	INTENTION	**STRATEGY**
Item 1	1	
Item 2		0.64
Item 3		0.65
Item 4		0.81
Item 5		0.85
Item 6		0.58
Item 7		0.81
Item 8		0.77
Item 9		0.75
Item 10		0.77
Item 11		0.75
Factor loading	0.64	1
t-value	12.95	12.71
Construct reliability (Squared Multiple Correlation) (R^2)	0.41	1

APPENDIX F:

STATISTIC PRINTOUT

Logistic Regression

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	1360	100.0
	Missing Cases	0	.0
	Total	1360	100.0
Unselected Cases		0	.0
Total		1360	100.0

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
not having sexual abstinence	0
having sexual abstinence	1

Block 0: Beginning Block

Iteration History[a,b,c]

Iteration		-2 Log likelihood	Coefficients Constant
Step 0	1	1033.426	1.521
	2	997.931	1.925
	3	997.239	1.992
	4	997.239	1.994
	5	997.239	1.994

a. Constant is included in the model.

b. Initial -2 Log Likelihood: 997.239

c. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

Classification Table[a,b]

Observed			Predicted		
			sexual behavior		
			not having sexual abstinence	having sexual abstinence	Percentage Correct
Step 0	sexual behavior	not having sexual abstinence	0	163	.0
		having sexual abstinenc	0	1197	100.0
	Overall Percentage				88.0

a. Constant is included in the model.

b. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	1.994	.083	570.317	1	.000	7.344

Variables not in the Equation

			Score	df	Sig.
Step 0	Variables	t_benefit	4.414	1	.036
		t_barrier	14.465	1	.000
		t_parent	11.613	1	.001
		t_peer	97.926	1	.000
		t_efficacy	251.018	1	.000
		t_commit	74.887	1	.000
	Overall Statistics		281.875	6	.000

Block 1: Method = Forward Stepwise (Likelihood Ratio)

Iteration History[a,b,c,d]

Iteration		-2 Log likelihood	Coefficients			
			Constant	t_efficacy	t_peer	t_parent
Step 1	1	894.879	-2.126	.085		
	2	807.110	-3.660	.134		
	3	798.981	-4.376	.157		
	4	798.840	-4.491	.160		
	5	798.840	-4.493	.160		
	6	798.840	-4.493	.160		
Step 2	1	889.580	-2.574	.077	.011	
	2	797.143	-4.595	.119	.022	
	3	787.563	-5.637	.138	.028	
	4	787.353	-5.827	.142	.030	
	5	787.353	-5.832	.142	.030	
	6	787.353	-5.832	.142	.030	
Step 3	1	880.966	-1.526	.079	.020	-.027
	2	783.721	-2.623	.124	.037	-.049
	3	772.936	-3.148	.145	.046	-.061
	4	772.671	-3.247	.149	.048	-.063
	5	772.671	-3.250	.149	.048	-.064
	6	772.671	-3.250	.149	.048	-.064

a. Method: Forward Stepwise (Likelihood Ratio)

b. Constant is included in the model.

c. Initial -2 Log Likelihood: 997.239

d. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001.

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	198.399	1	.000
	Block	198.399	1	.000
	Model	198.399	1	.000
Step 2	Step	11.487	1	.001
	Block	209.886	2	.000
	Model	209.886	2	.000
Step 3	Step	14.682	1	.000
	Block	224.568	3	.000
	Model	224.568	3	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	798.840[a]	.136	.261
2	787.353[a]	.143	.275
3	772.671[a]	.152	.293

a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001.

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	10.419	6	.108
2	19.732	8	.011
3	27.837	8	.001

Contingency Table for Hosmer and Lemeshow Test

		sexual behavior = not having sexual abstinence		sexual behavior = having sexual abstinence		
		Observed	Expected	Observed	Expected	Total
Step 1	1	71	63.711	57	64.289	128
	2	30	28.733	94	95.267	124
	3	11	19.570	121	112.430	132
	4	17	12.220	112	116.780	129
	5	10	8.962	125	126.038	135
	6	2	4.299	79	76.701	81
	7	4	5.924	126	124.076	130
	8	18	19.581	483	481.419	501
Step 2	1	77	67.293	60	69.707	137
	2	25	30.827	111	105.173	136
	3	12	18.490	124	117.510	136
	4	20	12.120	115	122.880	135
	5	12	8.584	123	126.416	135
	6	4	6.882	132	129.118	136
	7	6	5.771	134	134.229	140
	8	1	4.285	120	116.715	121
	9	1	3.605	112	109.395	113
	10	5	5.142	166	165.858	171
Step 3	1	81	69.840	55	66.160	136
	2	23	31.090	113	104.910	136
	3	8	18.260	129	118.740	137
	4	21	11.600	115	124.400	136
	5	7	8.214	129	127.786	136
	6	4	6.396	133	130.604	137
	7	7	5.365	130	131.635	137
	8	0	3.171	92	88.829	92
	9	7	4.462	130	132.538	137
	10	5	4.602	171	171.398	176

Classification Table[a]

			Predicted		
			sexual behavior		
	Observed		not having sexual abstinence	having sexual abstinence	Percentage Correct
Step 1	sexual behavior	not having sexual abstinence	33	130	20.2
		having sexual abstinenc	23	1174	98.1
	Overall Percentage				88.8
Step 2	sexual behavior	not having sexual abstinence	33	130	20.2
		having sexual abstinenc	20	1177	98.3
	Overall Percentage				89.0
Step 3	sexual behavior	not having sexual abstinence	37	126	22.7
		having sexual abstinenc	25	1172	97.9
	Overall Percentage				88.9

a. The cut value is .500

Variables in the Equation

								95.0% C.I.for EXP(B	
		B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
Step 1[a]	t_efficac	.160	.013	160.258	1	.000	1.174	1.145	1.203
	Constan	-4.493	.497	81.658	1	.000	.011		
Step 2[b]	t_peer	.030	.009	12.208	1	.000	1.030	1.013	1.048
	t_efficac	.142	.013	111.015	1	.000	1.152	1.122	1.183
	Constan	-5.832	.646	81.553	1	.000	.003		
Step 3[c]	t_parent	-.064	.017	14.149	1	.000	.938	.908	.970
	t_peer	.048	.010	24.136	1	.000	1.049	1.029	1.070
	t_efficac	.149	.014	117.421	1	.000	1.161	1.130	1.193
	Constan	-3.250	.920	12.471	1	.000	.039		

a. Variable(s) entered on step 1: t_efficacy.

b. Variable(s) entered on step 2: t_peer.

c. Variable(s) entered on step 3: t_parent.

Correlation Matrix

		Constant	t_efficacy	t_peer	t_parent
Step 1	Constant	1.000	-.982		
	t_efficacy	-.982	1.000		
Step 2	Constant	1.000	-.507	-.636	
	t_peer	-.636	-.329	1.000	
	t_efficacy	-.507	1.000	-.329	
Step 3	Constant	1.000	-.164	-.045	-.720
	t_parent	-.720	-.226	-.478	1.000
	t_peer	-.045	-.190	1.000	-.478
	t_efficacy	-.164	1.000	-.190	-.226

Model if Term Removed

Variable		Model Log Likelihood	Change in -2 Log Likelihood	df	Sig. of the Change
Step 1	t_efficacy	-498.619	198.399	1	.000
Step 2	t_peer	-399.420	11.487	1	.001
	t_efficacy	-458.143	128.933	1	.000
Step 3	t_parent	-393.676	14.682	1	.000
	t_peer	-397.813	22.955	1	.000
	t_efficacy	-454.591	136.512	1	.000

Variables not in the Equation

			Score	df	Sig.
Step 1	Variables	t_benefit	.477	1	.490
		t_barrier	3.664	1	.056
		t_parent	3.142	1	.076
		t_peer	12.389	1	.000
		t_commit	1.049	1	.306
	Overall Statistics		32.986	5	.000
Step 2	Variables	t_benefit	4.706	1	.030
		t_barrier	3.588	1	.058
		t_parent	14.240	1	.000
		t_commit	.257	1	.612
	Overall Statistics		19.662	4	.001
Step 3	Variables	t_benefit	1.889	1	.169
		t_barrier	2.828	1	.093
		t_commit	.639	1	.424
	Overall Statistics		5.583	3	.134

APPENDIX G:

ADDITIONAL FINDING

Additional finding

In terms of sexual behavior, female students reported having experienced several different types of behavior with males. Participants reported involvement in going out on dates (51.3%), hand-holding (44.3%), sitting closely (66.1%), hugging (27.3%), kissing (18%). (Table 1).

Table 1 Type of sexual behavior experience with male (N= 1,360)

Type of sexual behavior experience with male	n	%
Going out on dates	697	51.3
Hand-holding	603	44.3
Sitting closely	899	66.1
Hugging	371	27.3
Kissing	245	18

Descriptive statistics for each of type of sexual behavior experience with male in table 2. Examination of the percentages reveals that, most female students who had kissing experience (93.87%) were sexually active girls. Whereas, most female students who had hugging experience (95.09%), kissing experience (92.64%) and all female students who had sitting closely experience (100%) were sexually abstinent girls.

Table 2 Type of sexual behavior experience with male of Sexually Abstinent and Sexually Active Girls

Sexual behavior	Sexually abstinent (n=1,197)		Sexually active (n=163)		Total (n=1,360)	
	Number	Percent	Number	Percent	Number	Percent
Going out on dates	544	45.45	153	93.87	697	51.25
Hand-holding	445	37.18	158	96.93	603	44.34
Sitting closely	736	61.49	163	100.00	899	66.10
Hugging	216	18.05	155	95.09	371	27.28
Kissing	94	7.85	151	92.64	245	18.01

Characteristics of independent variables

Perceived benefits of sexual abstinence (BeSA)

A perceived benefit of sexual abstinence was identified as having 25 items. The scale was measured with 4- point Likert scale. The mean total BeSA score of sexually abstinent girl was 93.31 with a range from 43 to 100 (SD= 7.76). Among the sexually active girl, mean was 92.09 with a higher range from 58 to 100 (SD= 8.86) (Table 3).

Perceived barriers to sexual abstinence (BaSA)

A perceived barrier to sexual abstinence was identified as having 19 items. The scale was measured with 4- point Likert scale. The mean total BaSA score of sexually active girl higher than sexually abstinent girl. The mean total BaSA score of sexually active girl was 44.33 with a range from 19 to 76 (SD= 15.13). Among the sexually abstinent girl, the mean was 39 with a range from 19 to 76 (SD= 16.91) (Table 3).

Perceived sexual abstinence self-efficacy (SASE)

A perceived sexual abstinence self-efficacy was identified as having 12 items. The scale was measured with 4- point Likert scale. The mean total SASE score of sexually abstinent girl was higher than sexually active girl. The mean score of sexually abstinent girl was 44.01 with a range from 12 to 48 (SD= 5.54). Whereas, 35.31 of the mean with a range 12 to 48 (SD=8.32) of sexually active girl (Table 3).

Parental influence (PaIN)

Parental influence was identified as having 18 items. The scale was measured with 4- point Likert scale. The mean total PaIN score of sexually abstinent girl was 66.50 with a range from 18 to 72 (SD= 6.30). Interesting, sexually active girl had minimum score more than sexually abstinent girl (range from 39 to 72). The, mean score was 64.70 (SD= 6.51) (Table 3).

Peer influence (PeIN)

Peer influence was identified as having 21 items. The scale was measured with 4- point Likert scale. The mean total PeIN score of sexually abstinent girl was higher than sexually active girl. The mean score of sexually abstinent was 74.20 with a range from 21 to 84 (SD= 9.94). Whereas, 65.41 of mean with a range 21 to 84 (SD=12.37) of sexually active girl (Table 3).

Commitment to a plan of sexual abstinence (CSA)

Commitment to a plan of sexual abstinence was identified as having 11 items. The scale was measured with 4 point scale. The mean total CSA score of sexually abstinent girl was higher than sexually active girl. The mean score of sexually abstinent girl was 37.90 with a range from 11 to 44 (SD= 7.34). Whereas, 32.40 of mean with a range 11 to 44 (SD=7.89) of sexually active girl (Table 3).

Table 3 Respondent's minimum scores, maximum scores, mean, and standard deviation of independent variables on sexually abstinent and sexually active girls

Variables	Sexually abstinent (n=1,197)				Sexually active (n=163)			
	Min.	**Max.**	**Mean**	**S.D.**	**Min.**	**Max.**	**Mean**	**S.D.**
Perceived benefits of sexual abstinence	43	100	93.48	7.76	58	100	92.09	8.86
Perceived barriers to sexual abstinence	19	76	39.00	16.91	19	76	44.33	15.13
Perceived sexual abstinence self-efficacy	12	48	44.01	5.54	12	48	35.31	8.32
Parental influence	18	72	66.50	6.30	39	72	64.70	6.51
Peer influence	21	84	74.20	9.94	21	84	65.41	12.37
Commitment to a plan of sexual abstinence	11	44	37.90	7.34	11	44	32.40	7.89

Sexually abstinent and sexually active girls

Independent samples t-test were performed comparing sexually abstinent and sexually active girls with independent variables (perceived benefits of sexual abstinence, perceived barriers to sexual abstinence, perceived sexual abstinence self-efficacy, parental influence, peer influence, and commitment to a plan of sexual abstinence) There were statistically significant differences for students who perceived barriers to sexual abstinence, perceived sexual abstinence self-efficacy, perceived parental influence, perceived peer influence, and perceived commitment on sexual abstinence between girls who reported abstinence or being sexually active. Whereas, perceived benefits of sexual abstinence was not statistically significant (table 4).

Table 4 Independent samples t-tests for sexually abstinent and sexually active girls

Independent Variables	t	df	p value	Mean Difference
Perceived benefits of sexual abstinence	1.902	197.327	.059	1.39
Perceived barriers to sexual abstinence	-4.156	220.867	.000	-5.33
Perceived sexual abstinence self-efficacy	12.960	182.075	.000	8.70
Parental influence	3.420	1358	.001	1.81
Peer influence	8.700	191.530	.000	8.80
Commitment to a plan of sexual abstinence	8.418	202.019	.000	5.50

BIOGRAPHY

Pol. Maj. Somsuk Panurat was born in 1973. She received a Bachelor of Nursing Science from Chulalongkorn University (Police Nursing College) in 1995. She got a Master of Science (Health Education), Kasetsat University in 2001. Somsuk had two years clinical experience in Gynecology Unit and 13 years of working as an instructor in the field of Community Health Nursing at Police Nursing College. She attend study Philosophy Program in Nursing Science, Faculty of Nursing, Chulalongkorn University since 2005-2009.