

**Consistent Condom Use Among Thai Young Adult Males:**

**An Application of Theory of Planned Behavior**

BY

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This dissertation is dedicated to my parents, Paiboon and Chamoy Janepanish;  
sister, Jeab; and nephew, Pumppump, for their support and encouragement.

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## **LIST OF ABBREVIATIONS**

<b>AIDS</b>	<b>Acquired Immune Deficiency Syndrome</b>
<b>CSWs</b>	<b>Commercial Sex Workers</b>
<b>HIV</b>	<b>Human Immunodeficiency Virus</b>
<b>MOPH</b>	<b>Ministry of Public Health</b>
<b>PBC</b>	<b>Perceived Behavioral Control</b>
<b>RTA</b>	<b>Royal Thai Army</b>
<b>STI</b>	<b>Sexually Transmitted Infection</b>
<b>SPSS</b>	<b>Statistical Package for Social Sciences</b>
<b>TPB</b>	<b>Theory of Planned Behavior</b>
<b>TRA</b>	<b>Theory of Reasoned Action</b>
<b>UNAIDS</b>	<b>The Joint United Nations Programme on HIV/AIDS</b>
<b>UNDP</b>	<b>United Nations Development Programme</b>
<b>USD</b>	<b>United States Dollar</b>

## SUMMARY

Consistent condom use among Thai young adult males has been low.

Understanding the determinants of consistent condom use among Thai young adult males is fundamental to developing effective HIV prevention programs to promote consistent condom use in Thailand. The purpose of this study was to explore determinants of consistent condom use among Thai young adult males who engage in heterosexual relationships, proposed by the Theory of Planned Behavior: attitude toward condom use, subjective norm about condom use, perceived behavioral control of condom use, and intention to use condom.

The research design used was an exploratory cross-sectional survey with a convenience sample of 400 males who self-identified as heterosexual Thai young adult males aged 20 to 39 years were recruited from four sites in Bangkok: a college, a factory, a bank, and a community. An anonymous, self-administered questionnaire was used in this study. The average age for the participants was 28.71 years ( $SD = 6.33$ ). Most of them were single (59.8%), attending college (44%), and had average monthly income of 12,706.75 baht (\$385 USD). The average age of sexual debut among the participants was 17.99 years. More than half of them (59.5%) did not use a condom during their sexual debut. The prevalence of condom use was 46.2%, with only 39.5% reporting consistent condom use. Most of the participants (56.8%) talked to friends about condoms.

Results from multiple regressions analysis indicated that marital status and income were significantly positively predictive of consistent condom use among Thai young adult males in this study, whereas age, education level, and occupation were not. Results also showed that subjective norm about condom use and perceived behavioral

### **SUMMARY (continued)**

control of condom were significant predictors of both intention to use condom and consistent condom use ( $p < 0.001$ ). However, attitude toward condom use was not a predictor of intention to use condom and consistent condom use. In addition, intention to use condom was significantly predictive of consistent condom use and was a significant mediator of consistent condom use ( $p < 0.001$ ). Intention to use condom mediated subjective norm about condom use and perceived behavioral control of condom use on consistent condom use among Thai young adult males.

The results showed that the Theory of Planned Behavior model can provide a framework for investigating consistent condom use for Thai young adult males.

Interventions should be designed to promote intention to consistently use condoms through enhancing subjective norm about condom use and perceived behavioral control of condom use.

## **I. INTRODUCTION**

### **A. Statement of Problem and Significance**

Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome (HIV/AIDS) is currently among the most serious public health problems in Thailand. From 1984, when the first case of AIDS in Thailand was reported, until December 2006, there have been 307,114 reported cases of AIDS and 85,459 reported deaths (Bureau of Epidemiology, 2006a). Over 80% of HIV transmission in Thailand is through heterosexual intercourse among individuals who were engaging in unprotected sex (Buckingham, Moraros, Bird, Meister, & Webb, 2005; Kawichai et al., 2004). HIV affects more men than women in Thailand; the male-female ratio is 7:5 (The Joint United Nations Programme on HIV/AIDS [UNAIDS], 2008).

Recent epidemiological statistics show that an estimated one million Thai men are infected with HIV/AIDS; approximately 75% of AIDS cases were in the age group 20-39 years old (Bureau of Epidemiology, 2006b; UNAIDS, 2006). The majority of new HIV infections (43%) occurred among the previously low-risk heterosexual population, whose incidence rate was 0.03%, including young adult males (Jenkins et al., 2002). The new wave of HIV epidemic in Thailand is paralleled by the evolution of economic expansion and the development of global information systems, resulting in changes in sexual behavior patterns among Thai young adult males. Currently, Thai males have their first sexual intercourse earlier than their counterparts did 35 years ago, declining from 21 years to 15 years (Ngamprapasom, 2001; Thato, Charron-Prochownik, Dorn, Albrecht, &

Stone, 2003; VanLandingham, Grandjean, Suprasert, & Sittitrai, 1997). Premarital and extramarital sexual relationships with multiple sex partners have become more common among Thai men (Knodel, VanLandingham, Saengtienchai, & Pramualratana, 1996; VanLandingham & Trujillo, 2002), and they do not consistently use condoms (Kuntolbutra et al., 1996; Lertpiriyasuwat, Plipat, & Jenkins, 2003; Sringeranyuang, Thaweesit, & Nakapiew, 2005).

Because HIV/AIDS is incurable and a vaccine is unavailable, prevention of HIV infection is crucial. Among those who are sexually active, consistent and correct condom use is the most effective strategy to prevent HIV/AIDS infection (Cates, 2001). Thailand provides a real-world example of condoms' effectiveness through the "100% Condom Program" in 1991, when HIV/AIDS prevalence was at its peak. This program mandated that brothel owners enforce commercial sex workers' (CSWs) use of condoms in every paid sex act (Ford & Koetsawang, 1999). CSWs are sex partners with whom males have sexual intercourse in return for money, generally in brothels, bars, massage parlors, and night clubs. The program also discouraged unsafe sex (sex without a condom) among Thai males with all type of sex partners. The 100% Condom Program was very successful, resulting in an increase from 25% to 94% in condom use among CSWs and their clients between 1989 and 1995 (Cates, 2001; Kuntolbutra et al., 1996; Lertpiriyasuwat et al., 2003; Sringeranyuang et al., 2005), reduced men's use of brothels, and also a dramatic reduction in the levels of HIV infection among CSWs. The program resulted in the decline of HIV prevalence rates for the general population from 10.5% at the peak in 1991 to 1.4% in 2005 (UNAIDS, 2006; United Nations Development Programme [UNDP], 2004).

The 100% Condom Program significantly contributed to the decline in HIV prevalence and increased condom use among CSWs and their clients, including Royal Thai Army (RTA) conscripts (Thai men aged 21 recruited annually by lottery to serve in the Thai military). This increase in condom use, however, has not been apparent throughout the general Thai population, especially among Thai young adult males, who are the majority of the country's HIV/AIDS cases (UNAIDS, 2006; UNDP, 2004). Many studies reported that consistent condom use among Thai young adult males was low (20%-60%) (Jenkins et al., 1999; Jenkins et al., 2002; Lertpiriyasuwat et al., 2003; Punpanich, Ungchusak, & Detels, 2004; Sringernyung et al., 2005; Thaoto et al., 2003).

Consistent condom use is reported to be low among Thai young adult males for several reasons. First, the most prevalent attitude among Thai males is that condoms interfere with sexual pleasure. They perceive condoms as limiting penile sensation and as introducing a break between foreplay and sexual intercourse. Second, they believe that condom use raises suspicion about the partner's fidelity, which generates mistrust in their relationships with their sex partners (Knodel & Pramualratana, 1996). The third reason is Thai males feel embarrassed and uncomfortable purchasing condoms, which are available at drug stores and convenience stores. The discomfort is due to Thai people's disapproval of public condom vendors, believing that easy access to condoms promotes sexual promiscuity. The fourth reason is Thai men lack sufficient information about condom use and lack the skills to use them (Prasertsawat & Koktatong, 2002). There is limited formal sex education in the Thai school curriculum (Gray & Punpuing, 1999). The last reason is because sex-related topics are sensitive issues that people cannot discuss openly in Thai society. Thai males feel embarrassed and uncomfortable talking about condom use with

their sex partners, relatives, or even health care providers (Jenkins et al., 2002; VanLandingham & Trujillo, 2002).

To design an effective intervention to increase levels of consistent condom use among Thai young adult males, it is necessary to understand the determinants of consistent condom use behavior for this population (Fisher & Fisher, 1992). The determinants of interest are derived from the theory of planned behavior (TPB) (Ajzen, 1985, 1988, 1991): attitude toward condom use, subjective norm about condom use, perceived behavioral control (PBC) of condom use, and intention of condom use. According to the TPB (Ajzen, 1985, 1988, 1991), attitude toward condom use and subjective norm about condom use exert their influence on condom use indirectly through their impact on intention to use a condom. Perceived behavioral control of condom use, on the other hand, impacts condom use directly as well as indirectly through intention to use condoms.

Little is known about determinants of consistent condom use among Thai young adult males. More information is needed about these determinants to develop an appropriate HIV prevention program to facilitate consistent condom use among this vulnerable population.

#### **B. Purpose of the Study**

The overall purpose of this research is to examine determinants proposed by the TPB on consistent condom use among Thai young adult males who engage in heterosexual relationships: that is, have sexual intercourse with females. The specific aims and hypotheses are listed below.

**Specific Aim 1:** To examine the effects of demographic variables (age, education level, marital status, occupation, and income) on consistent condom use among Thai young adult males.

Hypothesis 1: Age, education level, marital status, occupation, and income will explain consistent condom use among Thai young adult males.

**Specific Aim 2:** To determine the relationship among attitude toward condom use, subjective norms about condom use, and PBC of condom use on consistent condom use.

Hypothesis 2: While controlling for demographic variables, consistent condom use for Thai young adult males will be positively associated with attitude toward condom use, subjective norms about condom use, and PBC of condom use.

**Specific Aim 3:** To determine the effects of determinants (attitude toward condom use, subjective norm about condom use, and PBC of condom use) on intention to use condoms among Thai young adult males.

Hypothesis 3: Attitude toward condom use, subjective norms about condom use, and PBC of condom use will be positively associated with intention to use a condom among Thai young adult males.

**Specific Aim 4:** To determine if intention to use condoms mediates the effects of attitude toward condom use, subjective norm about condom use, and PBC of condom use on consistent condom use among Thai young adult males.

Hypothesis 4: Intention to use condoms will mediate the effects of attitude toward condom use, subjective norm about condom use, and PBC of condom use on consistent condom use among Thai young adult males.



### C. **Definitions of Terms**

The following definitions of terms will be used in this study.

Consistent condom use: Consistent condom use is Thai young adult males' self-reports of using condoms during heterosexual intercourse within the previous three months. In this study, condom use was presented as a ratio of the number of times that participants used condoms to the number of times that participants had sexual intercourse with sex partners in the previous three months. Percent of condom use was calculated as  $\text{number of times that participants used condoms} / \text{number of times that participants had sex} \times 100$ , and reported as continuous data from 0% to 100%. Consistent condom use means participants used condoms 100% of the time when they had sexual intercourse. Inconsistent condom use means participants used condoms less than 100% of the time they had sexual intercourse.

Intention to use condoms: Intention is the Thai young adult males' plans to use condoms.

Attitude toward condom use: Attitude is the Thai young adult males' positive or negative feelings or thoughts about condom use.

Subjective norm about condom use: Subjective norm is Thai young adult males' perception of important others' desire for them to use or not use a condom.

Perceived behavioral control of condom use: Perceived behavioral control is Thai young adult males' perception of the ease or difficulty of using condoms.

## **II. RELATED LITERATURE**

This chapter consists of two sections: the review of the literature and the conceptual framework. The literature review discusses the epidemiology of HIV/AIDS in Thailand, condom use for HIV/AIDS prevention in Thailand, and demographic determinants of consistent condom use among Thai adult males. The conceptual framework section provides a detailed discussion of the theory of planned behavior (TPB) (Ajzen, 1985, 1988, 1991).

### **A. Review of the Literature**

#### **1. The Epidemiology of HIV/AIDS in Thailand**

The HIV/AIDS epidemic in Thailand began relatively late in comparison with many countries in Africa, Europe, and North America (VanLandingham et al., 1997). The first reported case of AIDS in Thailand occurred in 1984 among gay men returning from abroad. Since then, Thailand has experienced several waves of the infection (Ainsworth, Beyrer, & Soucat, 2003). The first wave was evidenced by rapid increases in HIV prevalence among intravenous drug users (Weniger et al., 1991). The HIV prevalence among injection drug users rose dramatically from virtually 0% to 40% between 1988 and 1989 (Sweat et al., 1995). The second wave occurred among female CSWs (Punpanich et al., 2004; Weniger et al., 1991). By 1990, the HIV prevalence among female prostitutes in Northern Thailand was alarmingly high, especially among brothel-based prostitutes (Sweat et al., 1995). A study conducted in 1989 by researchers from the Ministry of Public Health stated that 44% of CSWs from seven brothels in Chiang Mai (a province located in the north of Thailand) were infected with HIV

(Weniger et al., 1991). The HIV infection among prostitutes in Chiang Mai was significantly associated with increased frequency of sexual intercourse, lower charges for sexual services, and lower rate of condom use by male clients (Siraprapasiri et al., 1991). The heterosexual transmission spread from CSWs to their clients, especially to the national military conscripts who resided in Northern Thailand. From 1991 to 1993, the HIV prevalence rate among military conscripts in the northern region ranged from 10.4% to 12.5% (Nelson et al., 1996). However, the national HIV prevalence among military conscripts was 4% in 1993 (Ainsworth et al., 2003). The increasing level of infection among Thai male clients of CSWs led to the subsequent wave that included these men's wives, partners, and children (Sweat et al., 1995; Weniger et al., 1991). Consequently, the HIV prevalence among women attending public antenatal clinics rose from 0.8% in 1991 to 2.3% in 1995 (Punpanich et al., 2004).

Due to the increase in HIV/AIDS among several risk groups in Thailand, semiannual routine serological surveillance for HIV was started in 1989. These risk groups included intravenous drug users, female CSWs, male sexually transmitted disease clinic patients, pregnant women attending antenatal clinics, military conscripts, and blood donors (Papadopoulos-Eleopoulos, Turner, John, & Papadimitriou, 1995). In 1991, AIDS prevention and control became a national priority. Four important strategies had a profound and lasting effect on the HIV/AIDS epidemiology in Thailand. The first strategy was the five-year AIDS control program that was established to mobilize communities to participate in prevention of HIV, to care for those who were at risk, and to reduce the stigma and discrimination facing those living with HIV/AIDS. The second strategy was a massive public information campaign on AIDS. Mandatory one-minute

AIDS education spots were aired every hour on the country's 488 radio stations and six television networks. Also, schools were required to teach AIDS education classes (Ainsworth et al., 2003). The third and most important strategy was the 100% Condom Program initiated nationwide to promote universal use of condoms in commercial sex establishments (Rojanapithayakorn & Hanenberg, 1996). Condoms were distributed free to brothels, CSWs, and their clients. Without this program, it was estimated that Thailand's national HIV prevalence would be ten times higher (Hanenberg, Rojanapithayakorn, Kunasol, & Sokal, 1994). The program was very successful and decreased the HIV prevalence rate dramatically. The fourth strategy was the rule to eliminate mandatory reporting of names and addresses of HIV/AIDS patients (Ainsworth et al., 2003).

As a result of the four national strategies, Thailand was one of the first countries to successfully reduce HIV prevalence by the mid-1990s. HIV prevalence among pregnant woman, after reaching a peak of 2.35% in 1995, had declined to 1.18% in 2003. Nationally, HIV prevalence among military conscripts decreased markedly from 4% in 1993 to 0.5% in 2003. Among CSWs, HIV prevalence peaked in the mid-1990s and has constantly declined since then. By the end of 2005, national HIV prevalence was 1.4%, down from 1.8% in 2003. However, approximately 1 in 50 of Thailand's 65 million adults is infected with HIV. Among Thai adults, AIDS is still the leading cause of death, and 80% of AIDS cases still occur in the 20-39 age group (UNAIDS, 2006).

Presently, Thailand has encountered a new wave of HIV transmission. In 2005, the majority of new infections (43%) occurred among the previously low-risk heterosexual population, such as young adult males and their sex partners. Men who have

sex with men also accounted for a large proportion of new infections (21%), while CSWs, their clients, and partners of clients accounted for a further 18% of new infections. Intravenous drug users and their partners accounted for 7% of new HIV cases (Gouws, White, Stover, & Brown, 2006). During the past two decades, most of the AIDS cases were found in Northern Thailand. However, in 2006, the central region, including Bangkok, witnessed the highest increase in HIV infection (Bureau of Epidemiology, 2006b). Although HIV/AIDS is still a serious health problem in Thailand, the level of funding for HIV prevention has been reduced by two-thirds. There have not been any mass public prevention campaigns in Thailand in over a decade, and the successful 100% Condom Program has been discontinued (UNAIDS, 2006). As a result, the HIV epidemic in Thailand has spread to Thai young adult males between 20 and 39 years of age who tend to use condoms inconsistently. It is imperative to continue strategic planning to reduce the prevalence of HIV infection in this population.

## **2. Condom Use for HIV/AIDS Prevention in Thailand, including the “100% Condom Program”**

Condom use is a critical element in a comprehensive, effective and sustainable approach to HIV prevention. Condoms work best when they are used consistently and correctly (Cates, 2001). A meta-analysis of the effectiveness of condoms in preventing HIV reported that condoms were 90% to 95% effective against the transmission of HIV when used correctly and consistently for penile-vaginal sex. Consistent condom users for each act of intercourse are about 10 to 20 times less likely to become infected with HIV than are inconsistent or non-condom users (Pinkerton & Abramson, 1997). Moreover, Celentano et al. (1998) reported that inconsistent condom

use remained a strong predictor of incidence of sexually transmitted infection (STI) among brothel visitors.

One of the most successful condom promotion campaigns is the 100% Condom Program that was launched in Thailand in 1989. The 100% Condom Program was developed to empower CSWs through collaborating with local authorities (health services, police, public security, local governor, and government office) and all sex entertainment establishments (owners, managers, and CSWs) (Rojanapithayakorn, 2006). The main purpose of the program was to mandate that all sex services require condom use under the rule of "no condom, no sex." The Ministry of Public Health (MOPH) and some related organizations had supplied condoms to users at no cost. There were two main suppliers of condoms in the country: the MOPH supplied free condoms and the private sector sold condoms to users through the market (Rojanapithayakorn, 2003). The project was started in Ratchaburi, a province in Central Thailand. The program was extremely successful, as measured by the STI prevalence rate among CSWs, which dropped remarkably in the province. After that, the program was gradually expanded to 13 provinces in mid-1991 and found to be as successful in these provinces. By the end of 1991, the program was implemented in all provinces of Thailand (Rojanapithayakorn, 2003). The 100% Condom Program resulted in the decline of STI prevalence among sex workers from 13.5%-30% to 0%-1% (Rojanapithayakorn, 2003). In 2000, UNAIDS concluded that overall the 100% Condom Program was effective in significantly increasing condom use in commercial sex establishments throughout the country (UNAIDS, 2000).

Although the success of the 100% Condom Program resulted in increasing condom use among CSWs and their clients (Celentano et al., 1998; Maticka-Tyndale et al., 1997; Morris, Pramualratana, Podhista, & Wawer, 1995; Rojanapithayakorn & Hanenberg, 1996), condom use declined after the 100% Condom Program was not followed as thoroughly as it once was. Buckingham et al. (2005) found that upon discontinuation of the program, the request to use condoms among brothel-based CSWs was 63% and the overall condom use was 51%. Condom use with native Thai male patrons was 27%, compared with 76% and 52% for westerners and foreign Asians, respectively. This result was consistent with the study of Jenkins et al. (2002) reported that condom use among CSWs was far below the established goals of the 100% Condom Program. It was also consistent with the previous studies that reported that consistent condom use in Thai young adult men aged 21-39 years was extremely low (20%-60%) (Jenkins et al., 1999; Jenkins et al., 2002; Kuntolbutra et al., 1996; Lertpiriyasuwat et al., 2003; Punpanich et al., 2004; Sringernyuang et al., 2005; Thato et al., 2003).

In conclusion, condom use is one of the most effective ways to prevent the spread of sexually transmitted diseases, including HIV/AIDS. Thailand's 100% Condom Program was effective among CSWs and their clients and has served as an exemplar to the solution of the world's HIV pandemic. After its discontinuation, condom use among Thai adult males is reported to be low. There is a need in Thailand to continue strong HIV/AIDS prevention and education efforts in order to encourage condom use among this population.

### 3. Demographic Determinants of Condom Use among Thai Adult Males

Demographic determinants are some of the fundamental determinants of consistent condom use among Thai young adult males aged 20-39 years. These demographic determinants are age, education level, marital status, geographic area, and income (Jenkins et al., 1999; Kitsiripornchai et al., 1998; Kuntolbutra et al., 1996; Morris et al., 1995). The studies exploring demographic determinants were cross-sectional surveys with sample sizes ranging from 1,405 to 5,474. Three of the studies were conducted with Royal Thai Army (RTA) conscripts (Jenkins et al., 1999; Kitsiripornchai et al., 1998; Kuntolbutra et al., 1996). In Thailand, conscription is by random lottery of 21-year-old males. Generally, a small number of men, primarily of middle and upper socioeconomic status, obtain educational deferments and other exemptions and are not included in the lottery (Sweat et al., 1995). The conscripts are typically representative of Thai lower socioeconomic status. Mean age at time of conscription is 21 years, and conscription is conducted annually in April, with induction taking place semiannually in May and November (Celentano et al., 2000). Another study (Morris et al., 1995) was conducted with the truck drivers and general men in three provinces (Udon-Thani, Saraburi, and Bangkok).

Jenkins et al. (1999) and Morris et al. (1995) studied the relationship between inconsistent condom use and age. Jenkins et al. (1999) reported that Thai males between 22 and 29 years of age were 18% more likely to inconsistently use condoms than Thai men 21 years of age. In the contrast, Morris et al. (1995) stated that consistent condom use declines with age. More educated men used condoms more frequently; reportedly, Thai men with primary school or less education were 36% (Jenkins et al., 1999), 40%



(Kitsiripornchai et al., 1998), and 64% (Kuntolbutra et al., 1996) more likely to inconsistently use condoms than were Thai men with higher education. Morris et al. (1995) also reported that Thai young men with higher education (8-12 years) were 76% more likely to consistently use condoms than Thai young men with lower education (1-4 years). Single Thai men were 12% (Jenkins et al., 1999), 28% (Kuntolbutra et al., 1996), and 29% (Kitsiripornchai et al., 1998) less likely to inconsistently use condom than were married Thai men. Morris et al. (1995) also reported that married Thai men were 31% less likely to consistently use condoms than were single Thai men. As for geographic area, Thai men living in Bangkok were 58% more likely to inconsistently use condom than Thai men living in the upper northern part of Thailand (Kitsiripornchai et al., 1998). Comparing urban and rural areas in the upper northern part of Thailand, Thai urban men were 17% less likely to inconsistently use condoms than were Thai rural men (Jenkins et al., 1999). Income had no effect on consistent condom use for Thai men (Morris et al., 1995).

In summary, being married, having lower education, and residing outside the northern part of Thailand were associated with inconsistent condom use. However, the association between age and consistent condom use among Thai young adult males was inconsistent. In addition, the association between income and consistent condom use was not significant.

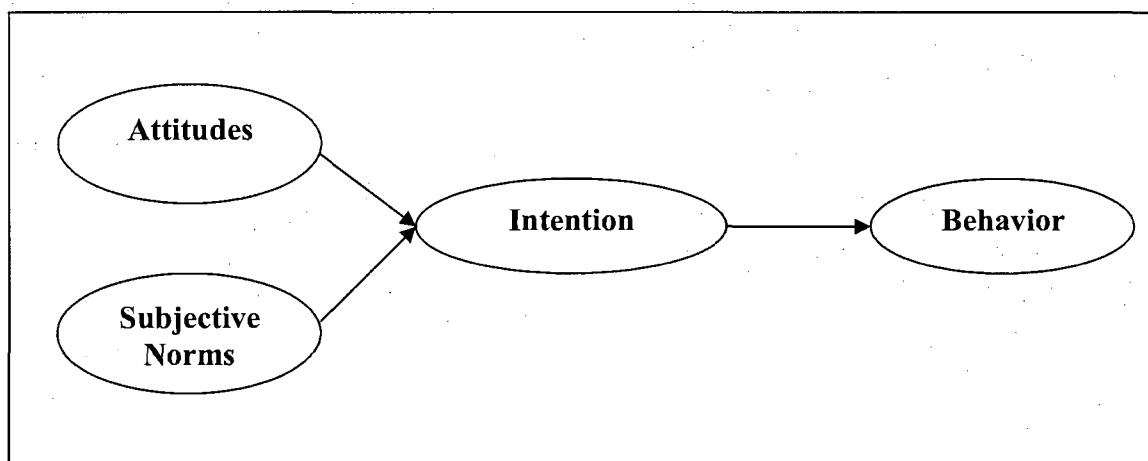
## **B. Conceptual Framework**

This study utilized the theory of planned behavior (TPB) (Ajzen, 1985, 1988, 1991) as a framework for understanding the relationships among attitude toward condom use, subjective norm about condom use, perceived behavioral control (PBC) of condom

use, intention to use condoms, and consistent condom use among Thai young adult males with their sex partners.

### 1. Theory of Planned Behavior (TPB)

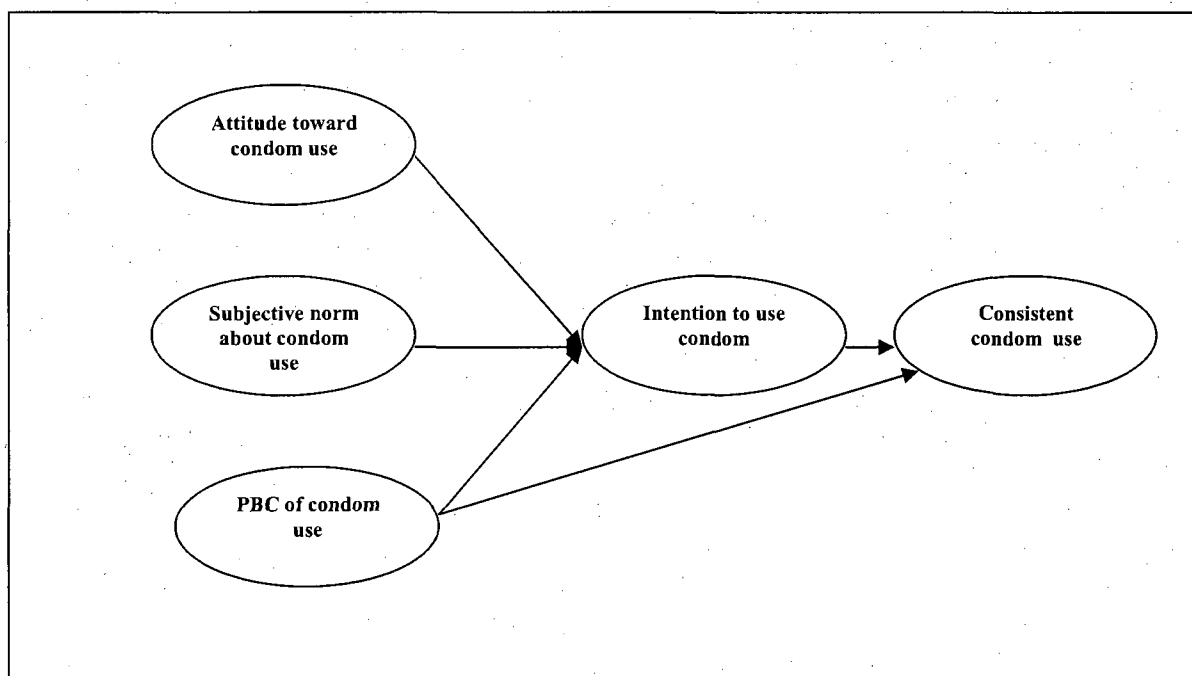
The theory of planned behavior is an extension of Ajzen and Fishbein's (1980) theory of reasoned action (TRA). The TRA identified the proximal determinant of behavior as the strength of an intention to engage in that behavior (Ajzen & Fishbein, 1980). Behavioral intentions are derived from two parallel cognitive processes. The first is an individual's own attitudes toward performing the behavior. The second is an individual's subjective norms about performing the behavior. In sum, the TRA identifies attitudes toward a behavior and subjective norms as influencing intention and subsequent behavior, as shown in Figure 1.



*Figure 1.* Theory of Reasoned Action

However, Ajzen and Fishbein (1980) suggested that intentions accurately predict behavior only when the behavior is under the individual's volitional control. Therefore,

control may vary according to circumstances, the individual's skills and their behavioral repertoire. To account for such factors, Ajzen (1985) incorporated a third variable called perceived behavioral control (PBC), and expanded the model to TPB. For example, intention to use condoms is dependent on the cooperation of other people, and on the possession of adequate resources or opportunities. Because of the involvement of these and other factors, condom use is not completely under an individual's volitional control (Ajzen, 1985; Ajzen & Madden, 1986). According to the TPB (Ajzen, 1985, 1988, 1991), attitudes and subjective norms exert their influence towards a specific behavior through their impact upon intentions, while PBC may influence both intentions to perform the behavior and the actual behavior (Ajzen & Madden, 1986), as shown in Figure 2.



*Figure 2. Theory of Planned Behavior and Consistent Condom Use*

Intentions are defined as the motivational factors that influence a behavior; they are indicators of how hard people are willing to try, how much effort they are planning to exert, in order to perform the behavior (Ajzen, 1991). In turn, intentions are influenced by three independent determinants: attitudes, subjective norm, and perceived behavioral control (PBC). "Attitudes" refers to the degree to which the person has a favorable or unfavorable evaluation of the behavior (Ajzen, 1991). "Subjective norm" refers to the perception that important others (e.g., parents, friends) think that one should or should not perform the behavior (Ajzen, 1991). "PBC" refers to the individual's perceived ease or difficulty in performing the behavior (Ajzen, 1991). PBC is an effort to predict intentions and behaviors that are not completely under volitional control. It is assumed that PBC is influenced by one's past experience, environmental factors, as well as having the necessary personal resources (Ajzen, 1985). PBC is closely related to perceived "self-efficacy" (Abraham, Sheeran, & Orbell, 1998; Sheeran & Orbell, 1998). According to the TPB model, PBC directly influences both intentions and the actual behavior (Ajzen, 1991). People may have equally strong intentions to engage in a behavior, but the person who has a great deal of confidence in his ability to do so may be more likely to persevere and succeed.

According to TPB, intention to use a condom directly influences condom use. In turn, intention to use a condom is predicted by attitudes toward condom use, subjective norms about condom use, and PBC of condom use. PBC of condom use has a direct and indirect effect on condom use. Ajzen and Madden (1986) found that PBC is an important predictor of behavioral intentions, above and beyond the prediction provided by attitudes and subjective norms. In a review of 16 studies, Ajzen (1991) revealed that attitudes

toward the behavior, subjective norms, and PBC consistently predicted intentions to engage in a wide variety of activities, including voting behavior, disease prevention behavior, birth control behavior, and consumption.

## 2. **The Theory of Planned Behavior and Condom Use**

The TPB constructs (attitude toward condom use, subjective norm about condom use, PBC of condom use, and intention to use condoms) have been measured in numerous studies on HIV protection behavior, including condom use. Unfortunately, these constructs have not been measured with an Asian population, including Thailand (Albarracin, Johnson, Fishbein, & Muellerleile, 2001; Bennett & Bozionelos, 2000; Sheeran & Taylor, 1999).

### a. **Predicting intentions: attitudes, subjective norms, and perceived behavioral control**

The TPB postulates three conceptually independent determinants of intention. The first is the attitude toward condom use, defined as the degree to which a person has a favorable or unfavorable evaluation or appraisal of condom use. The second is a social factor termed "subjective norms" that refers to the perceived social pressure to perform or not to perform the behavior. The third antecedent of intention is the degree of perceived behavioral control (PBC), which refers to the perceived ease or difficulty of performance (in our case, consistent condom use). As a general rule, the more favorable the attitude, subjective norm with respect to condom use, and PBC, the stronger should be an individual's intention to use a condom (Ajzen, 1991).

A number of investigators have studied the predictor determinants of intention to use condoms based on TPB. Reinecke, Schmidt, and Ajzen (1996) reported that attitudes,

subjective norms, and PBC accounted for 30%-59.4% of the variance in intention to use condoms with new sexual partners. A meta-analysis based on 56 studies conducted between 1990 and 1998 yielded 67 independent samples. These studies were conducted on 23 psychological predictors of intentions to use a condom and aimed to identify which variables best predict intention to use a condom (Sheeran & Taylor, 1999). Five studies included samples of gay men, while the remainder involved exclusively or predominantly heterosexual samples and mainly undergraduate college students ( $k = 31$ ). Most studies were conducted in the United States ( $k = 30$ ), with 25% involving Western European samples. The meta-analysis revealed that attitudes toward condom use, subjective norms about condom use, and PBC of condom use were positively significantly correlated with intention to use condoms (Sheeran & Taylor, 1999).

The results were similar to the meta-analysis of Albarracin et al. (2001), where intention to use condoms was positively significantly related to attitudes toward condom use, subjective norms about condom use, and PBC of condom use. Attitudes toward condom use, subjective norms about condom use, and PBC of condom use were also predictive of intention to use condoms. In addition, 15 of 18 studies in the narrative review of Bennett and Bozionelos (2000) revealed a positive significant independent contribution of attitudes toward condom use to intentions to use condoms. The relationship between subjective norms about condom use and intentions to use condoms was positive and significant in all studies but six. Those studies showed that PBC of condom use had no effects on intentions to use condoms. Nevertheless, Wilson, Zenda, McMaster, and Lavelle (1992) found PBC to be a positive prediction of intentions only among males.

Furthermore, recent studies reported significant positive correlations between attitudes toward condom use and intention to use condoms (Boer & Mashamba, 2007; Gredig, Nideroest, & Parpan-Blaser, 2006; Heeren Jemmott, Mandeya, & Tyler, 2007; Molla, Astrom, & Brehane, 2007; Ozakinci & Weinman, 2005), and between subjective norms about condom use and intention to use condoms (Boer & Mashamba, 2007; Heeren et al., 2007; Molla et al., 2007). Lastly, a significant positive correlation existed between PBC of condom use and intention to use a condom (Gredig et al., 2006; Heeren et al., 2007; Molla et al., 2007; Ozakinici & Weinman, 2005).

**b. Predicting condom use: intentions and perceived behavioral control**

A meta-analysis to evaluate the success of TRA and TPB as predictors of condom use was done by Albarracin et al. (2001), who reviewed 96 studies involving more than 20,000 participants. The sample populations were relatively young and examined females and males in roughly equal proportions. Intention was related more strongly than PBC to condom use. Overall condom use was predicted by intention. In contrast, the path coefficient from PBC of condom use to actual condom use was not significant (Albarracin et al., 2001).

The narrative review of 18 studies of 7,379 participants from 1991 to 1999 examined intentions to use condoms and actual condom use (Bennett & Bozionelos, 2000). Most were heterosexual ( $n = 7,100$ ), and more than 4,000 were students. Condom use was measured from four weeks to three months after intentions to use condoms had been measured. The narrative review revealed that the correlation between intention to use condoms and actual condom use was significant and positive. Among these 18

studies, only three studies reported significant positive relationships between PBC of condom use and self-reported condom use.

Recent research on TPB and condom use (Boer & Mashamba, 2007; Gredig et al., 2006; Heeren et al., 2007; Molla et al., 2007; Ozakinci & Weinman, 2005) revealed a positive significant correlation between intentions and condom use. However, two studies reported no relationship between PBC of condom use and condom use (Molla et al., 2007; Ozakinci & Weinman, 2005). In sum, the empirical studies indicated that intention to use a condom was a highly successful predictor of condom use, whereas an inconsistent relationships existed between PBC and condom use.

Although no study in Thailand has completely utilized TPB with condom use among Thai young adult males, some studies have reported on the relationship between some of the TPB constructs and condom use. For example, VanLandingham, Suprasert, Grandjean, and Sittitrai (1995) reported that condom use among northern Thai males positively and significantly correlated with peer norms. The result was consistent with the study of Jenkins et al. (2002), where condom use was studied among vocational school students. The study reported that peer norms were highly related to intention to use condoms. Knodel and Pramualratana (1996) conducted a qualitative study to explore condom use within marriages among urban and provincial Thai men and women. They revealed that the major obstacle to increased use of condoms was the dislike of condom use among Thai men, who perceived condom use as useless and as interfering with their sexual pleasure with reduction in sexual sensitivity.

In summary, intention to use condom is a strong predictor of condom use. Results from the studies reviewed provided empirical support for the theory of planned behavior



across a range of contexts, populations, and time frames. Most of the studies indicated that attitude toward condom use, subjective norms about condom use, and PBC of condom use were significantly positively correlated and also were significant predictors of intention to use condom.

### **III. METHODOLOGY**

The overall aim of this study is to examine the determinants proposed by the TPB theory on consistent condom use among Thai young adult males who engage in heterosexual relationships. The specific aims are to examine the effects of demographic variables (age, education level, marital status, occupation, and income) on consistent condom use for Thai young adult males, to determine the effects of determinants (attitude toward condom use, subjective norms about condom use, and PBC of condom use) on intention to use condoms as well as on consistent condom use among Thai young adult males, and to determine if intention to use condoms mediates the effects of attitudes toward condom use, subjective norm about condom use, and PBC of condom use on consistent condom use among Thai young adult males. This chapter describes the methodological component of the study, including research design, sample and setting, power analysis, research instruments, data collection procedure, data analysis, and ethical issues.

#### **A. Research Design**

An exploratory, cross-sectional, descriptive, non-experimental design was used in this study to identify determinants of consistent condom use proposed by the TPB theory among Thai young adult male residents of Bangkok who engage in heterosexual intercourse. This study is guided by the theory of planned behavior (TPB) (Ajzen, 1985, 1988, 1991) and used self-administered questionnaire for data collection.

## **B. Sample and Setting**

The sample consisted of Thai young adult males from various sites in Bangkok: a college, a factory, a bank, and a community. The reason for selecting various sites in Bangkok was to secure a heterogeneous population of Thai young adult males. A convenience sample of 400 Thai young adult males who met the selection criteria constituted the sample size: self-reported being heterosexual, between 20 and 39 years of age, and currently living in Bangkok. Thai young adult males were selected because the national statistics and empirical studies revealed that this population had the highest prevalence of HIV/AIDS in Thailand and had a high rate of inconsistent condom use (Bureau of Epidemiology, 2006a; Jenkins et al., 1999; Jenkins et al., 2002; Lertpiriyasuwat et al., 2003; Punpanich et al., 2004; Sringernyuang et al., 2005; Thato et al., 2003).

Bangkok is the capital city of Thailand and is located in the central region, as shown in Figures 4 and 5. It is also the cultural, educational, political and economic center. Bangkok, the only major metropolis in Thailand, has a huge population crammed together in a highly dense geographic area of 1,568.737 km<sup>2</sup> and had a recorded population of about 6 million in 2005. However, the actual population is thought to be much higher. The major ethnic group is Thai, with the immigrants being mainly Chinese. Many inhabitants move to Bangkok from the countryside seeking jobs or higher education, which has resulted in housing shortages, increasing rates of crime and sex trade, and the spread of sexual transmission illness, including HIV/AIDS. In 2006, the Thailand Minister of Public Health reported that AIDS cases in Bangkok had increased and reported a rate of 23.28 per 100,000 population (Bureau of Epidemiology, 2006a).

# THAILAND

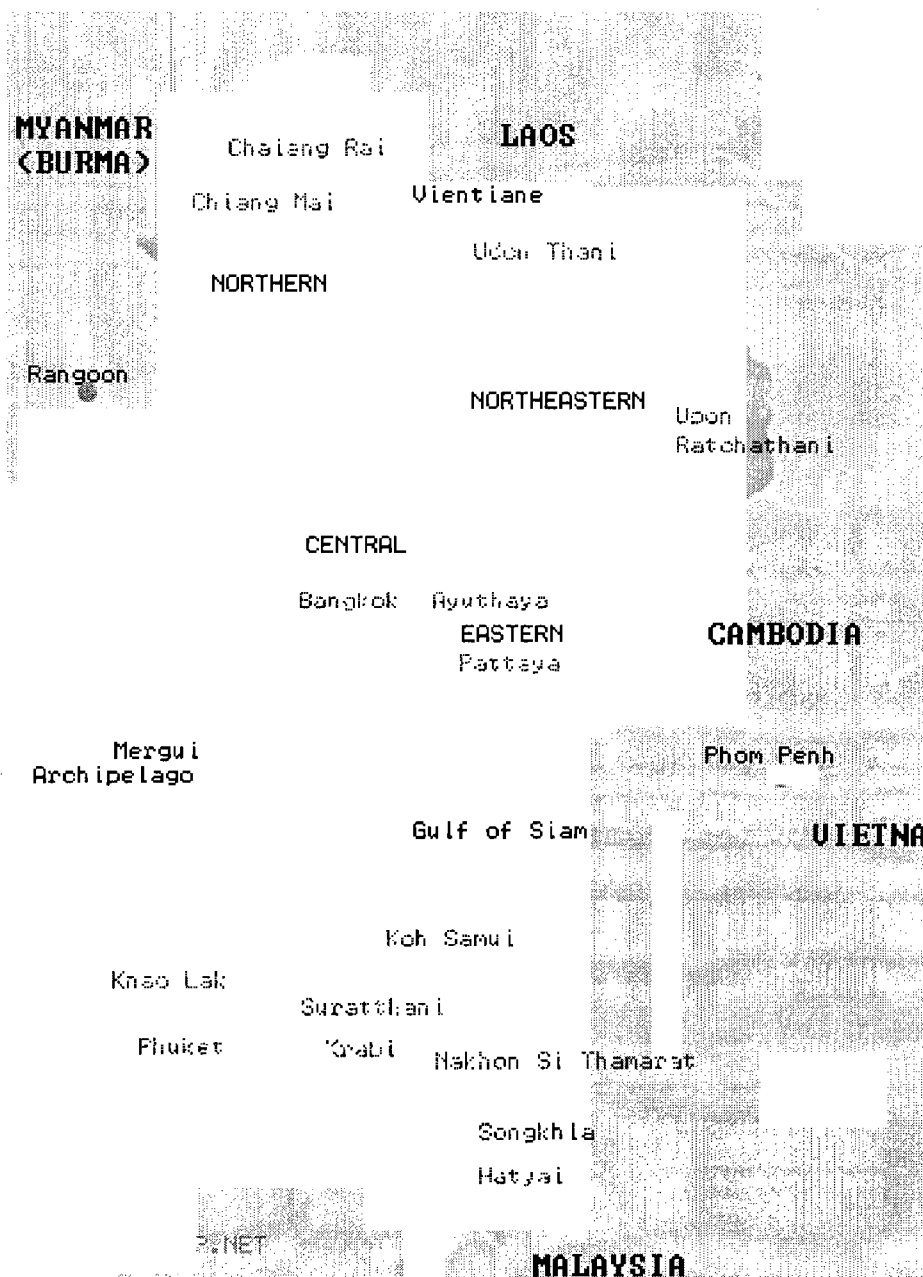


Figure 3. Map of Thailand

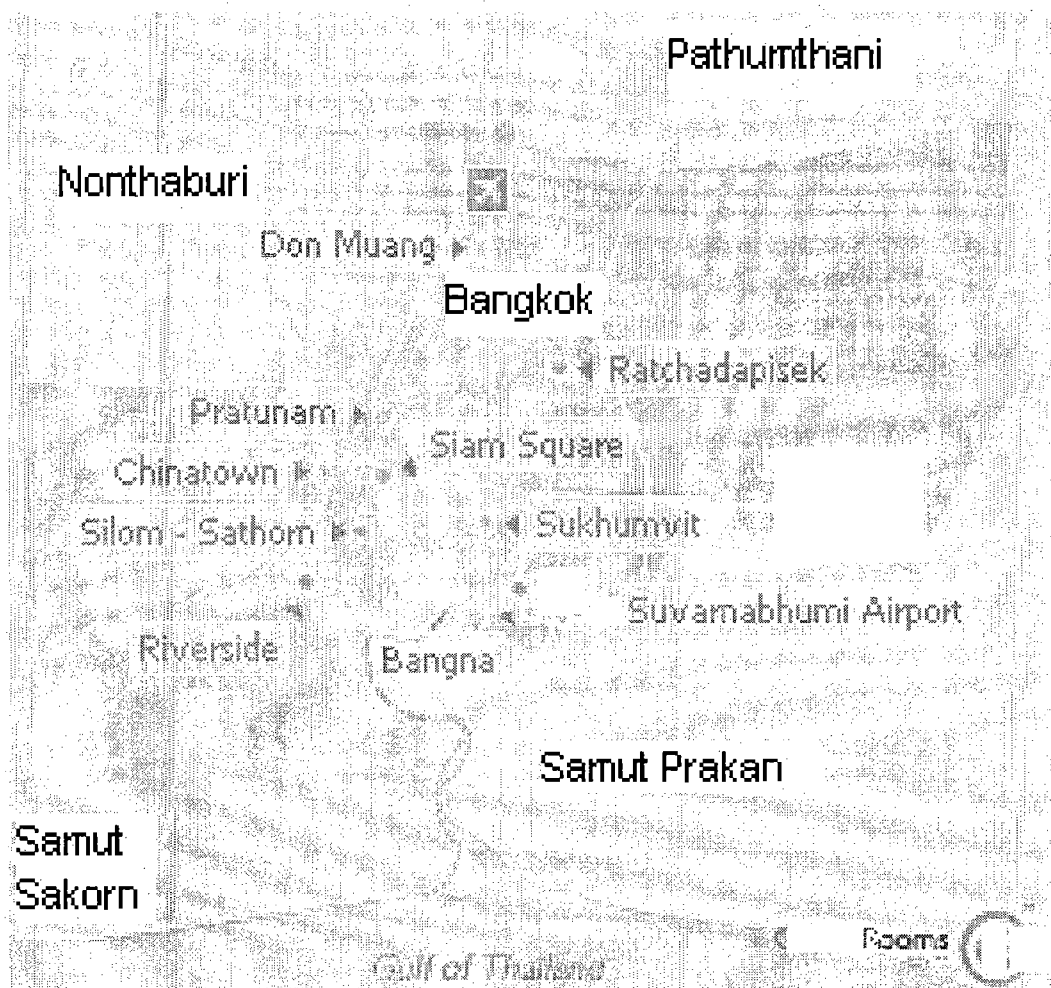


Figure 4. Map of Bangkok

### **C. Power Analysis**

The desired sample size can be determined by level of significance, level of power, and effect size (Cohen, 1988; Murphy & Myors, 2004). The parameters used for power analysis in this study were the level of significance ( $\alpha$ ) of 0.05, the effect size of 0.15-0.30 (defined as a medium effect size), and the power of 0.95. The sample size of Pearson's correlation coefficients is 262 subjects. Using standard multiple linear regression analysis, based on these data with four predictors, the total sample size suggested by using the power analysis software program (G\* power 3.0.4) is 129 subjects. This study also used logistic regression to predict consistent condom use. Hosmer and Lemeshow (2000) recommended that larger sample sizes are required for logistic regression to provide sufficient numbers in both categories of the response variables. Based on the different sample sizes for analysis, a sample size of 400 would be sufficient for this study.

### **D. Instrumentation**

The instrument of the study consisted of several scales. The researcher developed some scales, and other scales were modified from existing instruments. All scales were designed for fourth-grade reading level. In this section, the following topics are discussed: the translation process of measures, variables and measurements, and validity and reliability.

#### **1. The Translation Process of Measures**

The translation/back-translation process involves four steps (Behling & Law, 2000, p. 23). The researcher constructed the questionnaire in English, and then a bilingual native Thai faculty from the College of Nursing, University of Illinois at

Chicago, translated the measures into Thai. Once the first step of the translation was completed, another bilingual Thai faculty translated the measures back into English. The researcher and a qualified American then evaluated the translated the English version of the measurement to reconcile it with the original English version. The last step is if there are major differences between two source language versions, modifications will be made until it yields only minor discrepancies. No major differences occurred; no modifications were required in this study. The goal of the reconciliation is to maintain functionally equivalent versions of the instrument in both English and Thai.

## **2. Variables and Measurements**

The following section describes the operationalization of the study variables. Variables measured are demographic variables, sexual relationships history, intention to use condoms, attitudes toward condom use, subjective norms about condom use, and PBC of condom use.

### **a. Demographic variables**

Background information was collected to describe the characteristics of participants. The variables include age, birthplace, marital status, level of education, occupation, and income. The researcher developed the demographic variables questionnaire. All of the demographic variables were measured using nominal scales, except age and income, which were measured in interval scales.

### **b. Sexual relationships history**

Sexual experiences were asked about, to examine Thai young adult males' sex relationships history. There are nine items about previous and current sexual behaviors, including age at first sexual intercourse, sexual intercourse in the previous

three months, condom use experiences, and numbers of sexual partners. The researcher developed these items based on an extensive review of the literature on sexual behavior. For condom use, the questionnaire asked the participants to answer two questions: (1) how many times the participants had sexual intercourse in the previous three months and (2) how many times they used condom in the previous three months. Condom use was calculated as number of times that participants used condoms / number of times that participants had sex x 100, and reported as continuous data from 0% to 100%. Consistent condom use means participants used condoms 100% of the time when they had sexual intercourse. Inconsistent condom use means participants used condoms less than 100% of the time they had sexual intercourse.

**c. Theory of Planned Behavior (TPB) measures**

Attitude toward condom use, subjective norm about condom use, PBC of condom use, and intention to use condoms are assessed on seven-point Likert-type response scales, and are based on previously used measures (Becker, Morrison, Carter, & Verdon, 1996; Bosompra, 2001; Gredig et al., 2006; Heeren et al., 2007; Jemmott, III, Jemmott, & Hacker, 1992; Lugoe & Rise, 1999; Morrison, Gillmore, & Baker, 1995; Rannie & Craig, 1997; Sutton, McVey, & Glanz, 1999; VanLandingham et al., 1995).

Attitude toward condom use is a nine-item semantic differential scale based on measures from many studies (Ajzen & Driver, 1991; Becker et al., 1996; Boer & Mashamba, 2007; Bosompra, 2001; Heeren et al., 2007; Morrison et al., 1995).

Participants were asked to rate their feelings about condom use on these bipolar adjectives: bad/good, harmful/safety, foolish/wise, unpleasant/pleasant, useless/useful,



undesirable/desirable, boring/interesting, unattractive/attractive, and unnatural/natural.

Each of the nine items is scored on a seven-point Likert scale, with one representing the negative end and seven representing the positive end. Scores are summed, with a high score representing positive attitude toward condom use.

Subjective norms were developed from the relevant literature (Ajzen & Driver, 1991; Bosompra, 2001; Fisher, Fisher, Bryan, & Misovich, 2002; Heeren et al., 2007; Morrison et al., 1995). This three-item scale indicated the pressure to engage in condom use from the participants' significant others. Participants were asked to identify their level of agreement with each item on a seven-point Likert scale, with one indicating "not true" or "definitely not use condom" and seven indicating "very true" or "definitely use condom." Scores are summed, with high scores representing positive subjective norm about condom use.

Perceived behavioral control (PBC) was modified from the relevant literature (Ajzen & Driver, 1991; Armitage & Conner, 2001; Boer & Mashamba, 2007; Bosompra, 2001; Francis et al., 2004; Heeren et al., 2007; Sutton et al., 1999). The five-item scale measured the perception of the ease or difficulty of using condoms. Participants were asked to rate their level of agreement on each item on a seven-point Likert scale, with one indicating "very uncertain" or "strongly disagree" and seven indicating "very certain" or "strongly agree." Scores are summed, with high scores representing positive PBC of condom use.

Intention to use condoms was modified from the relevant literature (Ajzen, 1991; Heeren et al., 2007; Morrison et al., 1995; Sheeran & Orbell, 1998). The three-item scale measured the plan to use condoms. Participants were asked to rate their level of

agreement on each item on a seven-point Likert scale, with one indicating “very unlikely” and seven indicating “very likely.” Scores are summed, with high scores representing positive intention to use condoms. Variables, instruments, and relevant literature for theory of planned behavior measures were shown in Table 1.

**TABLE 1**  
**VARIABLES, INSTRUMENTS, AND RELEVANT LITERATURE**

Component Variables	Operational Definition	Items	Sources	Instruments
Demographic variables	General socioeconomic background	<ul style="list-style-type: none"> <li>• Age (interval)</li> <li>• Birthplace (nominal)</li> <li>• Level of education (nominal)</li> <li>• Marital status (nominal)</li> <li>• Occupation (nominal)</li> <li>• Income (interval)</li> </ul>	Developed by the researcher	Seven questions on the demographic information (questions 1-7)
Sexual relationships history	Sexual experience in the past three months and life time.	<ul style="list-style-type: none"> <li>• The number of sexual partners (interval)</li> <li>• Age at first sex (interval)</li> <li>• Condom use experience (nominal)</li> <li>• How many times did you have sex with your sex partners in the previous 3 months</li> </ul>	Developed by the researcher	Nine questions on sexual relationships history (questions 8-12, 14-16)
Condom use	Thai males' self-reported use of condoms during heterosexual intercourse with their sex partners within the previous three months	<ul style="list-style-type: none"> <li>• How many time that you used condom in the previous 3 months</li> </ul>	Developed by the researcher	One question on condom use (questions 13)

TABLE 1 (continued)

Component Variables	Operational Definition	Items	Sources	Instruments
Intention	Thai males' plan to use condoms that is measured with a seven-point Likert scale from very unlikely to very likely. (interval)	<ul style="list-style-type: none"> <li>You plan to use a condom every time you have sex with your sex partners</li> <li>You want to use a condom every time you have sex with your sex partners</li> <li>You would refuse to have sex with your sex partners without a condom.</li> </ul>	<p>Morrison et al. (1995) (<math>\alpha = 0.90</math>)</p> <p>Sheeran and Orbell (1998) (<math>\alpha = 0.71</math>)</p> <p>Heeren et al. (2007) (<math>\alpha = 0.92</math>)</p>	Three questions on planning about condom use (questions 17-19)
Attitudes	Positive or negative feelings or thoughts of Thai males about condom use, which are measured with nine seven-point semantic items. (interval)	<p>Using condoms with your sex partners would be....</p> <ul style="list-style-type: none"> <li>bad/good</li> <li>harmful/beneficial</li> <li>foolish/wise</li> <li>unpleasant/pleasant</li> <li>worthless/useful</li> <li>undesirable/desirable</li> <li>boring/interesting</li> <li>unattractive/attractive</li> <li>unnatural/natural.</li> </ul>	<p>Ajzen and Driver (1991); Becker et al. (1996); Boer and Mashamba, (2007) (<math>\alpha = 0.89</math>); Bosompra (2001); Heeren et al. (2007) (<math>\alpha = 0.80</math>); Morrison et al. (1995)</p>	Nine questions on beliefs about condom use (questions 28-36).

TABLE 1 (continued)

Component Variables	Operational Definition	Items	Sources	Instruments
Subjective norms	Thai males' perceptions of social pressure to use or not use condoms, which are measured with a seven-point Likert scale, and the specific referents subjects think about whether they should or should not use a condom. (interval)	<ul style="list-style-type: none"> <li>Who do you talk to about using a condom when you have sex with your sex partners? Parents, friends, sexual partners, health care professionals, boss or co-workers, brothers/sisters/cousins, and teachers.</li> </ul>	Ajzen and Driver (1991); Bosomptra, (2001); Heeren et al. (2007); Morrison et al. (1995)	Four questions on referents about condom use (questions 16, 25-27).
		<ul style="list-style-type: none"> <li>Most people who are important to you think that every time you have sex with your sex partners, you should definitely not use a condom/definitely use a condom.</li> </ul>	Fisher et al. (2002)	
		<ul style="list-style-type: none"> <li>People who are important to you approve of your using a condom with your sex partners. It is not true/very true.</li> <li>It is expected from people who are important to you that you will use condom every time you have sex with your partners.</li> </ul>	Heeren et al. (2007)( $\alpha=0.86$ ) Francis et al. (2004)	

TABLE 1 (continued)

Component Variables	Operational Definition	Items	Sources	Instruments
Perceived behavioral control	Thai males' perceptions of ease or difficulty of using condoms, which is measured with a seven-point Likert scale from very uncertain to very certain. (interval)	<ul style="list-style-type: none"> <li>• It would be easy for you to use a condom every time you have sex with your sex partners. (very uncertain/very certain)</li> <li>• If you want to, you could use a condom every time you have sex with your sex partners. (very uncertain/very certain)</li> <li>• Using condom every time you have sex with your partners is beyond your control. (strongly disagree/strongly agree)</li> <li>• It is mostly up to you to use a condom every time you have sex with your sex partners.</li> <li>• You are confident that you could use condom every time you have sex with your partners</li> </ul>	<p>Heeren et al. (2007) (<math>\alpha = 0.87</math>); Sutton et al. (1999); Ajzen and Driver (1991); Bosompra (2001)</p> <p>Armitage and Conner (2001); Ajzen and Driver (1991); Boer and Mashamba (2007); Heeren et al. (2007) (<math>\alpha=0.86</math>); Francis et al., 2004</p>	Five questions on control about condom use (questions 20-24).

### **3. Validity and reliability**

To determine content validity, the TPB measurement in this study was evaluated by three experts who have worked with TPB in relation to condom use. The instrument was revised according to the comments of the experts. The questionnaire was translated into Thai, back-translated into English, and then pilot tested for face validity and reliability. To determine the face validity, all translated questionnaires were evaluated by five Thai young adult males. They were asked to read the questionnaires and make comments on any questions that they did not clearly understand. For reliability testing, Cronbach's alpha coefficient was calculated with a sample of 20 Thai young adult males. The pilot yielded a reliability coefficient of 0.84.

#### **E. Data Collection and Procedure**

First, the Office of Human Subjects Protection of the University of Illinois at Chicago approved the proposal, and letters of support were obtained from Rajamangala University of Technology Krunthep, Bank of Ayudhya, and Thai Soojung Glass Co., Ltd. The subjects were recruited from various groups of Thai young adult males in Bangkok, including college students, skilled workers who work in a factory, administrative and management workers who work in a bank, and unskilled manual laborers who work for an hourly wage in a community. One week before the data collection started, fliers and announcements about the study were posted informing potential participants about the research. Before the questionnaires were administered to the participants, the researcher informed potential participants about the purpose and objectives of the study. The researcher explained that the data to be collected would be confidential, anonymous, and self-administered and that the results would be reported at the group level and not at the

individual level. A cover letter explained the purpose of the study and informed consent instructions. When the subjects agreed to participate, they signed the consent document and then completed the questionnaire in a private room. After the subjects finished their questionnaire, they dropped the questionnaire in a box located inside the room. The researcher was available to give additional guidance or to clarify questions. The questionnaire took about 15-30 minutes to complete. Respondents received 100 baht (approximately \$3 USD) as an incentive. Data were collected from December 2007 to March 2008. Everyone who signed the informed consent document completed the questionnaire.

#### **F. Data Analysis**

The data were analyzed using the statistical package for social sciences programs (SPSS) version 16.0 for Windows (SPSS Incorporated, Chicago, IL, 2003). Univariate descriptive statistics, including mean and standard deviation, were used to describe the demographic characteristics, sexual relationships history, attitudes toward condom use, subjective norms about condom use, PBC of condom use, and intention to use condoms. Data analyses method for each hypothesis are described below. All statistics tests were based on two-tailed distribution with alpha at 0.05.

##### **1. Hypothesis 1: Age, education level, marital status, occupation, and income will explain consistent condom use among Thai young adult males.**

Since the outcome of condom use is binary (consistent condom use, inconsistent condom use), to examine the effects of demographic variables on consistent condom use among Thai young adult males, a binary logistic regression was used (see



Table 2). The estimated coefficient (B), standard errors associated with the coefficients (SE), odds ratio (OR), Wald chi-square values, *p* values, and confidence interval (CI) were reported. The Omnibus Test with chi-square value was employed for confirming the significance of the model. If the *p* value for the overall model-fit is less than 0.05, then there is evidence that at least one of the independent variables entered in the model contributes to the better prediction of outcome than without predictors. The Nagelkerke  $R^2$  gives a proportion of explained variation of dependent variables.

TABLE 2

## THE VARIABLES CODING

Variable	Variable coding	
	0	1
Consistent condom use	Inconsistent condom use	Consistent condom use
Age	20-29 years	30-39 years
Education level	Primary school and secondary school	Diploma and university
Marital status	Single, divorced, separated, and widowed	Married
Occupation	Unskilled and skilled workers	Administrative/management workers and undergraduate students
Income	10,000 baht/month or less	More than 10,000 baht/month

2. **Hypothesis 2: While controlling for demographic variables, consistent condom use for Thai young adult males will be positively associated with attitude toward condom use, subjective norms about condom use, and PBC of condom use.**

To determine the relationship among attitude toward condom use, subjective norms about condom use, and PBC of condom use on consistent condom use while controlling for demographic variables, a binary logistic regression was used. Binary logistic regression was chosen since the outcome of condom use is binary (consistent condom use and inconsistent condom use). All variables were entered simultaneously into the model and tested for significance. The estimated coefficient (B), standard errors associated with the coefficients (SE), odds ratio (OR), Wald chi-square values,  $p$  values, and confidence interval (CI) were reported. The Omnibus Test with chi-square value was employed for confirming the model significance. If the  $p$  value for the overall model-fit is less than 0.05, then there is evidence that at least one of the independent variables entered in the model contributes to the better prediction of outcome than alternative model without predictors. The Nagelkerke  $R^2$  gives an approximation measure to model fitness.

3. **Hypothesis 3: Attitude toward condom use, subjective norm about condom use, and PBC of condom use will explain intention to use condoms among Thai young adult males.**

A standard multiple linear regression analysis was used to determine the significant influence of attitude towards condom use, subjective norms about condom use, and PBC of condom use on intention to use condoms. Intention to use condoms,

attitude toward condom use, subjective norm about condom use, and PBC of condom use are continuous variables. Statistical assumptions for the linear regression model were assessed, including normality, homoscedasticity, and multicollinearity. The estimated coefficient (B), standard errors associated with the coefficients (SE), beta ( $\beta$ ),  $t$  values, and  $p$  values were reported. ANOVA with F-test confirmed the statistical significance of the model. If the  $p$  value for the overall model-fit analysis is less than 0.05, then there is evidence that at least one of the independent variables entered in the model contributes to the prediction of outcome with statistical significance. The  $R^2$  is an indicator of how well the model fits the data

4. **Hypothesis 4: Intention to use condoms will mediate the effects of attitude toward condom use, subjective norm about condom use, and PBC of condom use on consistent condom use among Thai young adult males.**

Three regression equations were used to determine if intention to use condoms mediates the effects of attitude toward condom use, subjective norm, and PBC of condom use on consistent condom use while controlling demographic variables (Baron & Kenny, 1986). The first equation tests if the independent variables (attitude toward condom use, subjective norm about condom use, and PBC of condom use) significantly predict the mediator (intention to use condoms) (Hypothesis 3). The second equation tests if the independent variables (attitude toward condom use, subjective norm about condom use, and PBC of condom use) significantly predict the outcome variable (consistent condom use) (Hypothesis 2). In the third equation, both the independent variables and the mediator were entered simultaneously to predict the outcome variable. To determine

intention to use condoms as the mediator, attitude toward condom use, subjective norm about condom use, and PBC of condom use must be shown as predictors of intention to use condoms and consistent condom use. In addition, these two conditions must be met: intention to use condoms significantly predicts consistent condom use, and the direct relationship between the attitude toward condom use, subjective norm about condom use, and PBC of condom use and consistent condom use must be less than it was in the second equation in order to show partial mediation. If attitude toward condom use, subjective norm about condom use, and PBC of condom use have no effect on consistent condom use when intention to use condoms is controlled, full mediation can then be concluded. Coefficient (B), standard errors associated with the coefficients (SE), odds ratio (OR), Wald chi-square values,  $p$  values, and confidence interval (CI) were estimated. The Omnibus Test with chi-square assessed how significantly the model performed. If the  $p$  value for the overall model-fit analysis is less than 0.05, then at least one of the independent variables entered in the model contributes to the prediction of outcome with statistical significance. The Nagelkerke  $R^2$  gives an approximation measure explained variance.

#### **G. Ethical Considerations and Human Subjects**

The Institutional Review Board of the University of Illinois at Chicago approved the protection of subjects and procedures for data collection. The researcher contacted a college, a factory, a bank office, and a community to ask for permissions to recruit and access a private room for completion of the questionnaires. Before the questionnaires were administered to the participants, the researcher informed the participants about the purpose and objectives of the study. The researcher also informed the participants that the

data would be collected using a confidential, anonymous self-administered questionnaire, and that the results would be reported at a group level and not at an individual level.

When the subjects agreed to participate, they signed the written informed consent before participating in the study. They completed the questionnaire in a private room to promote confidentiality. After the participants finished their questionnaire, they dropped the questionnaire in a box located inside the private area. There was no direct cost involved for the participants in this study, and participation was strictly voluntary. The participants were informed that they were free to withdraw from study at anytime without repercussions. All responses are kept at the researcher's office.

## IV. RESULTS

This study aims to examine the determinants proposed by the theory of planned behavior (TPB) on consistent condom use among Thai young adult males. The specific purposes of the study were to: (1) examine the effects of demographic variables on condom use for Thai young adult males; (2) determine the effects of attitude toward condom use, subjective norm about condom use and PBC of condom use on consistent condom use among Thai young adult males; (3) determine the effects of attitude toward condom use, subjective norm about condom use, and PBC of condom use on intention to use condoms among Thai young adult males; and (4) determine if intention to use condoms mediates the effects of attitude toward condom use, subjective norm about condom use, and PBC of condom use on consistent condom use among Thai young adult males. This chapter presents the psychometric properties of the instruments, the descriptive statistics of all variables, and the statistical analyses results for the four hypotheses.

### A. Psychometric Properties of the Instrument

Test of the internal consistency reliability of the theory of planned behavior (TPB) questionnaires was conducted using Cronbach's alpha. The internal consistency reliability coefficient alpha of each subscale (attitude toward condom use, subjective norm about condom use, PBC of condom use, and intention to use condoms) ranged from 0.73 to 0.87 (see Table 3). The Cronbach's alpha reliability coefficient for the entire instrument was 0.88. It was concluded that the instrument had acceptable levels of reliability.

**TABLE 3****INTERNAL CONSISTENCY RELIABILITY OF THE INSTRUMENT\***

Variables	Number of items	Internal consistency reliability – coefficient alpha
Attitudes toward condom use	9	0.87
Subjective norms about condom use	4	0.78
Perceived behavioral control of condom use	5	0.73
Intention to use condoms	3	0.76

\*n = 400

**B. Demographic Characteristics and Sexual Relationships History of the Sample**

A convenience sample of 400 Thai males participated in this study. All were Thai young adult males who reported being heterosexual, being between 20 and 39 years old, and currently living in Bangkok. Of the total participants, 65 were college students, 141 were skilled workers who were working in a glassware factory, 143 were administrative and management workers at a bank in Bangkok, and 51 participants were unskilled manual laborers who worked for an hourly wage in a community.

The average age for the participants was 28.71 years, ranging from 20 years to 39 years (SD = 6.33). One-third of the participants were born in Bangkok (32.3%), and the others were from Central and Northeast Thailand (27.5% and 27%, respectively). Almost half of the participants had either completed or were studying in the college/university (44.8%), while the rest had completed secondary school, primary school, and vocational school (31.8%, 16.5%, and 7%, respectively). The majority of the participants were

single (59.8%), while one-third were married (37%). Occupation included students (16.3%), skilled workers (35.3%), administrative and management workers (35.8%), and unskilled workers (12.6%). The distribution of participants' income ranged from 2,000 to 50,000 baht (approximately \$61-\$1,515 USD). The average income was 12,706.75 baht (SD = 11,459.55). In US dollars, the average income was approximately \$385 USD (SD = \$327 USD). Table 4 presents the demographic characteristics of the participants.

The average age at the first sexual intercourse with a female was 17.93 years, ranging from 11 years to 32 years (SD = 3.26). The majority of the participants (59.5%) did not use condoms at the first sexual experience, and more than half of the participants (53.8%) did not use condom at the last time they had sexual intercourse. The prevalence of condom use among Thai young adult males was 46.2%, with 39.5% reporting using condom consistency, 23% using condom inconsistency, and 37.5% reporting never using condom during the previous 3 months. The number of female sex partners in their life time ranged from 1 to 80, with a mode of 1 (15.5%), and 77% of the participants had fewer than 10 sex partners. The number of female sex partners within the previous three months ranged from 1 to 12, with a mode of 1 (77.3%). Friends and sex partners were the persons whom the participants talked to or consulted about condom use (56.8% and 48.1%, respectively) (see Table 5).



TABLE 4

## DEMOGRAPHIC CHARACTERISTICS OF THAI YOUNG ADULT MALES

Characteristics	N (Total = 400)	%	Mean (SD)	Range
Age			28.71 (6.33)	20-39
Birthplace				
North	28	7.0		
Central	108	27.0		
Northeast	110	27.5		
East	8	2.0		
South	13	3.3		
West	4	1.0		
Bangkok	129	32.3		
Educational level				
Primary school	66	16.5		
Secondary school	127	31.8		
Vocational	28	7.0		
College/university	179	44.8		
Marital status				
Married	148	37.0		
Single	239	59.8		
Separated	7	1.8		
Divorced	5	1.3		
Widowed	1	.3		
Occupation				
Unskilled workers	51	12.6		
Skilled workers	141	35.3		
Administrative and management workers	143	35.8		
Students	65	16.3		
Income (1 USD = 33 baht)			12,706.75(11,459.55) (\$ 385.00 USD)	2,000- 50,000

TABLE 5

## SEXUAL RELATIONSHIPS HISTORY

Sexual Behaviors	N (Total = 400)	%	Mean (SD)	Range
Age at the first sexual intercourse with female	400		17.93 (3.26)	11-32
Condom use at the first sexual intercourse				
Use condom	162	40.5		
Non use condom	238	59.5		
Number of sex partners in the life time	400		9.89 (13.56) mode = 1 (15.5%)	1-80
Number of sex partners in the past 3 months.	400		1.53 (1.35) mode = 1 (77.3%)	1-12
How many times having sexual intercourse with any women in the past 3 months	400			1-90
How many times using condom when having sexual intercourse with women in the past 3 months	400		12.42 (16.39)	0-90
Condom use at the last sexual intercourse			5.05 (9.85)	
Use condom	185	46.3		
Non use condom	215	53.8		
Person whom participants talk to about condom use				
Parents	35	8.8		
Friends	227	56.8		
Sexual partners	167	48.1		
Health care professional	73	18.3		
Boss or coworker	38	9.5		
Cousins/sibling	29	7.3		
Teachers	43	10.8		

### C. Predictors of Consistent Condom Use

Table 6 shows the mean and standard deviation for each variable. A matrix of the Pearson's correlations is presented in Table 7. Pearson's correlation showed significant relationships among demographic variables (age, education level, marital status, occupation, and income), TPB variables (attitude toward condom use, subjective norm about condom use, PBC of condom use, and intention to use condoms) and consistent condom use. Age and marital status had a significant negative relationship with consistent condom use, whereas education level, occupation, and income had a significant positive relationship with consistent condom use. In addition, there were significant positive relationships among attitude toward condom use, subjective norm about condom use, PBC of condom use, and intention to use condoms with consistent condom use.

**TABLE 6**

**DESCRIPTIVE STATISTICS OF TPB VARIABLES**

Variables*	Mean	Standard Deviation	N
Consistent Condom Use	49.48	45.46	400
Attitude	4.35	1.84	400
Subjective Norm	5.02	1.72	400
Perceived Behavioral Control	5.26	1.79	400
Intention	4.96	1.26	400

\*All variables ranged from 1-7

TABLE 7

## PEARSON'S CORRELATION COEFFICIENTS AMONG VARIABLES

Variables	1	2	3	4	5	6	7	8	9	10
1. Condom use	1	-.14**	.23**	-.36**	.29**	.10*	.50**	.25**	.29**	.30**
2. Age		1	-.14**	.51**	-.05	.40**	-.09	-.04	-.03	-.05
3. Education level			1	-.30**	.82**	.47**	.39**	.16**	.23**	.28**
4. Marital status				1	-.22**	.18**	-.20**	-.15**	-.07	-.10
5. Occupation					1	.49**	.38**	.14**	.24**	.28**
6. Income						1	.23**	.06	.20**	.19**
7. Intention							1	.33**	.50**	.58**
8. Attitude								1	.40**	.39**
9. Subjective norm									1	.54**
10. PBC										1

\* $p < 0.05$ , \*\* $p < 0.01$

**D. Hypothesis 1: Age, Education Level, Marital Status, Occupation, and Income will Explain Consistent Condom Use**

The estimated results from the logistic regression indicated that the model was statistically significant ( $\chi^2_{(5)} = 55.57, p < 0.001$ ). According to Nagelkerke  $R^2$ , the model explained 18% of the total variance in consistent condom use. Marital status and income were significant predictors of consistent condom use. Thai young adult married males were 4.5 times less likely to consistently use condoms than Thai young adult single males. Furthermore, compared to lower-income participants, Thai young adult males with higher income were almost two times more likely to use condom consistently (see Table 8). Hypothesis 1 was partially supported with these estimated results.

**TABLE 8**

**PREDICTING CONSISTENT CONDOM USE WITH DEMOGRAPHIC VARIABLES**

Variable	B	S.E.	Wald	p- value	Odds ratio	95% CI	
						Lower	Upper
Age	-.06	.27	.05	.831	.94	.559	1.597
Education Level	-.39	.39	1.00	.316	.68	.317	1.451
Marital status	-1.46	.28	27.11	.001	.23	.134	.402
Occupation	.66	.40	2.77	.096	1.93	.89	4.203
Income	.69	.30	5.14	.023	1.98	1.098	3.587

$\chi^2_{(5)} = 55.57, \text{Nagelkerke } R^2 = 0.18, p < 0.001$

**E. Hypothesis 2: While Controlling for Demographic Variables, Attitude toward Condom Use, Subjective Norm about Condom use, and PBC of Condom Use will Explain Consistent Condom Use among Thai Young Adult Males.**

The logistic regression model was statistically significant ( $\chi^2_{(8)} = 90.02, p < 0.001$ ). While controlling for demographic variables, the model explained 28% of the total variance in consistent condom use. Subjective norm about condom use and PBC of condom use were significant predictors of consistent condom use (see Table 9). For every one unit increase in subjective norm about condom use, the odds of consistent condom use increased by a factor of 1.18, while for every unit increase in PBC of condom use, odds increased by a factor of 1.29. Hypothesis 2 was partially supported.

**TABLE 9**

**PREDICTING CONSISTENT CONDOM USE WITH  
ATTITUDE, SUBJECTIVE NORM, AND PBC**

Variable	B	S.E.	Wald	p- value	Odds ratio	95% CI	
						Lower	Upper
Attitude	.15	.11	1.95	.163	1.16	.940	1.439
Subjective norm	.17	.09	3.74	.050	1.18	.998	1.404
PBC	.25	.09	8.74	.003	1.29	1.089	1.525
<u>Control Variables</u>							
Age	-.01	.28	.01	.963	.99	.571	1.705
Education Level	-.54	.42	1.67	.197	.58	.258	1.321
Marital status	-1.51	.29	26.80	.001	.22	.125	.391
Occupation	.51	.42	1.47	.226	1.67	.729	3.818
Income	.53	.32	2.79	.095	1.7	.912	3.169.

$\chi^2_{(8)} = 90.02$ , Nagelkerke  $R^2 = 0.28, p < 0.001$

**F. Hypothesis 3: Attitude toward Condom Use, Subjective Norms about Condom Use, and PBC of Condom Use will Explain Intention to Use Condoms among Thai Young Adult Males.**

The multiple linear regression analysis of intention to use condoms showed that the model with attitude toward condom use, subjective norm about condom use, and PBC of condom use was statistically significant ( $F_{8, 389} = 36.71, p < 0.001$ ) (see Table 10). Subjective norm about condom use and PBC of condom use explained 43.5% of the total variance in intention to use condoms. However, attitude toward condom use was not a significant predictor of intention to use condoms. Therefore, Hypothesis 3 was partially supported.

**TABLE 10**

**PREDICTING INTENTION TO USE CONDOMS WITH  
ATTITUDE, SUBJECTIVE NORM, AND PBC**

Independent Variables	Coefficients (B)	SE	$\beta$	<i>t</i>	<i>p</i> value
Constant	.99	.55		1.81	.070
Attitude	.08	.06	.06	1.3	.161
Subjective Norm Perceived	.23	.05	.21	4.5	.001
Behavioral Control	.39	.50	.37	7.77	.001

$$R^2 = 0.435, F_{8, 389} = 36.71, p < 0.001$$

The multiple linear regression result was tested for violation of statistical assumptions used for multiple regression techniques. The diagnostic test results showed no violation of statistical assumptions of normality and homoscedasticity, as well as the absence of multicollinearity in the model.

**G. Hypothesis 4: To Determine if Intention to Use Condoms Mediated the Effects of Attitude toward Condom Use, Subjective Norm about Condom Use, and PBC of Condom Use on Consistent Condom Use among Thai Young Adult Males.**

The mediation model was applied using three regression equations as described by Baron and Kenny (1986). In the first equation, intention to use condoms was regressed on attitude toward condom use, subjective norm about condom use, and PBC of condom use, as shown in Table 10; in the second equation, consistent condom use was regressed on attitude toward condom use, subjective norm about condom use, and PBC of condom use, as shown in Table 9; and in the third equation, consistent condom use was regressed on attitude toward condom use, subjective norm about condom use, PBC of condom use, and intention to use condoms. According to Baron and Kenny (1986), the following conditions must be met for mediation. The independent variables must affect the mediator in the predicted direction in the first equation, the independent variable must affect the dependent variable in the predicted direction in the second equation, and the mediator must affect the dependent variable in the predicted direction in the third. Perfect mediation would hold if the independent variables had no effect on the dependent variable in the third equation.

In the first equation, subjective norm about condom use and PBC of condom use positively influenced intention to use condoms (see Table 10). In the second equation, subjective norm about condom use and PBC of condom use positively influenced consistent condom use (see Table 9). In the third equation (see Table 11), subjective norm about condom use and PBC of condom use were not significant predictors of



consistent condom use, whereas intention to use condoms was a significant predictor. The model was statistically significant and explained 37% of the total variance in consistent condom use. Hypothesis 4 was supported. Intention to use condoms mediates the effects of subjective norm about condom use and PBC of condom use on consistent condom use.

**TABLE 11**

**PREDICTING CONSISTENT CONDOM USE WITH  
INTENTION, ATTITUDE, SUBJECTIVE NORMS, AND PBC**

Variable	B	S.E.	Wald	p- value	Odds ratio	95% CI	
						Lower	Upper
Subjective norm	.05	.10	.28	.596	1.05	.862	1.260
PBC	.04	.10	.18	.672	1.04	.894	1.405
Intention	.53	.10	30.90	.001	1.70	1.411	2.055
<u>Control Variables</u>							
Age	.04	.29	.02	.904	1.04	.582	1.844
Education Level	-.45	.43	1.10	.294	.64	.273	1.484
Marital status	-1.44	.31	21.89	.001	.24	.131	.434
Occupation	.21	.44	.23	.632	1.24	.520	2.934
Income	.38	.33	1.30	.254	1.46	.760	2.818

$$\chi^2 (9) = 125.75, \text{ Nagelkerke } R^2 = 0.37, p < 0.001$$

## V. DISCUSSION

The overall purpose of this study was to examine the determinants of consistent condom use among Thai young adult males who engaged in heterosexual intercourse. The determinants of interest were derived from the theory of planned behavior (Ajzen, 1985, 1988, 1991): attitude toward condom use, subjective norm about condom use, perceived behavioral control (PBC) of condom use, and intention to use condom. An exploratory, cross-sectional, descriptive design was employed, and data were collected from a convenience sample of 400 Thai young adult males aged 20 to 39 years old from Bangkok, who self-identified as heterosexual. An anonymous, self-administered questionnaire was used in this study.

This section provides a summarized description of demographic information, the sexual experiences of participants, and the statistical analysis of results of the four hypotheses. This section also addresses limitations, implications, and conclusions drawn.

### A. **Demographic Characteristics and Sexual Relationship History of the Sample**

The study expanded the science related to consistent condom use for Thai males by focusing on a different sample of Thai males. Most of the previous condom use research among Thai males studied specific groups, including army RTA conscripts, truck drivers, students, and men from low socioeconomic status residing in rural areas. The sample for this study included urban men, with 44.8% attending college and with an average monthly income of 12,556.75 baht (approximately \$380 USD), which is higher than the annual national per capita income (\$3,737 USD in 2007) (Bureau of East Asian and Pacific Affairs, 2008).

Consistent with previous studies (Jenkins et al., 1999; Jenkins et al., 2002; Khan, Priyakamon, & Khan, 2002; Kitsiripornchai, 1998; Ngamprapasom, 2001; Thato et al., 2003; VanLandingham et al., 1997) that reported the average age of sexual debut as 16 to 18 years, the average age at sexual debut among the Thai young adult males in this study was 17.99 years. Less than half of this sample of Thai young adult males (40.5%) used a condom during their sexual debut, lower than previous studies that reported rates of 62%-76% (Jenkins et al., 2002; Khan et al., 2002; Liu et al., 2006). Condom use during sexual debut was limited among Thai males because condoms were associated with their perceptions that their peers do not use condoms and their lack of confidence in their abilities to use condoms (Jenkins et al., 2002; Liu et al., 2006). Condom use was also associated with the lack of knowledge and skill about condom use, primarily because there is limited formal sex education or condom use instruction in Thai schools (Gray & Punpuing, 1999; Jenkins et al., 2002). In addition, currently Thai men have their sexual debut with young women who are not CSWs and lack condom use experience. The use of CSWs, who are well-trained in condom use, has declined (Jenkins et al., 1999; Kitsiripornchai et al., 1998).

The prevalence of condom use among Thai young adult males in this study was 46.2%, with only 39.5% reporting consistent condom use, consistent with the studies of Jenkins et al. (1999, 2000), Kuntolbutra et al. (1996), Lertpiriyasuwat et al. (2003), Punpanich et al. (2004), Sringernyuang et al. (2005) and Thato et al. (2003). The results of this study indicate that Thai young adult males are still at high risk for HIV infection due to no or inconsistent condom use. The barriers to consistent condom use among Thai young adult males include viewing condoms as reducing sexual pleasure, as an indicator

of partner's infidelity (Knodel & Pramualratana, 1996), and as unobtainable (Jenkins et al., 2002; VanLandingham & Trujillo, 2002). Other barriers included insufficient knowledge and skill about condom use.

Subjective norms were influential in that more than half of the participants in this study (56.8%) talked to friends about condoms. Jenkins et al. (2002) also revealed that peer norms influenced condom use and were highly related to intention to use condoms among vocational school students. In contrast, an earlier study by Abraham, Sheeran, Spears, and Abrams (1992) found that condom use was a private behavior, not discussed with significant others.

In sum, Thai young adult males in this study experience a high risk for HIV/AIDS infection. They have their sexual debut at an early age, and most do not consistently use condoms. Emphasis on condom use needs to be placed on promoting Thai young adult males' skill and knowledge related to consistent condom use. Formal and systematic sex education is therefore necessary in the Thai school system.

**B. Hypothesis 1: Age, Education Level, Marital Status, Occupation, and Income will Explain Consistent Condom Use**

In this study, marital status was a strong predictor of consistent condom use among Thai young adult males. This result is consistent with previous studies, which reported that compared to married men, single Thai men were 88% (Jenkins et al., 1999), 72% (Kuntolbutra et al., 1996), and 71% (Kitsiripornchai et al., 1998) more likely to consistently use condoms. Similarly, a study by Morris et al. (1995) reported that married Thai men were 31% less likely to consistently use condoms than were single Thai men. In addition, the result was also consistent with the meta-analysis by Sheeran et al. (1999)

that studied condom use in the western population and reported that being married was associated with less condom use. One possible reason why Thai married males use condoms inconsistently is that condom use with steady sex partners, including wives or girlfriends, is highly unusual among Thai men (Jenkins et al., 1999; Lertpiriyasuwat et al., 2003). Despite the high prevalence of contraceptive use among Thai couples, condoms are seldom the method of choice (less than 2%) (Knodel & Pramualratana, 1996). Condom use during marital sex is likely to raise the suspicion that something is wrong (e.g., the suspicion of extramarital sexual activity by a husband/wife, the suspicion of being HIV-positive) (Knodel & Pramualratana, 1996). In addition, Michinobu (2003), who studied condom use among Thai young male factory workers in northern Thailand, reported that condom use was perceived as unnecessary if mutually exclusive relations with steady sex partners were maintained.

Higher income was also a significant predictor of consistent condom use among Thai young adult males, consistent with findings from Borgdoff et al. (1994), who studied male urban factory workers in Tanzania. However, Morris et al. (1995), who studied the relational determinants of condom use with CSWs in Thailand, found that income had no effect on consistent condom use.

Age, education level, and occupation were not significant predictors of consistent condom use among Thai young adult males. These results were consistent with some western studies (Sheeran et al., 1999), but were inconsistent with findings from Jenkins et al. (1999), Morris et al. (1995), and Thato et al. (2003), in which Thai males were studied. These studies focused on prevalence of condom use, not consistent condom use.

In sum, marital status and income were significant predictors of consistent condom use. These findings may be helpful in identifying those groups that should be targeted by HIV/AIDS intervention/education programs.

**C. Hypothesis 2: While Controlling for Demographic Variables, Attitude toward Condom Use, Subjective Norm about Condom Use, and PBC of Condom Use will Explain Consistent Condom Use among Thai Young Adult Males.**

Subjective norm about condom use and PBC of condom use were significantly predictive of consistent condom use among Thai young adult males. For every one unit increase in subjective norm about condom use, the odds of consistent condom use increased by 1.18, while for every unit increase in PBC of condom use, the odds of consistent condom use increased by 1.29. However, positive attitudes toward condom use were not significantly predictive of consistent condom use among Thai young adult males in this study.

The associations among subjective norm about condom use and PBC of condom use and consistent condom use among Thai young adult males in this study were significant and consistent with previous studies. Sheeran et al.'s meta-analysis (1999) indicated that greater perceived subjective norm about condom use was moderately associated with condom use. Although no study in Thailand has thoroughly studied subjective norm about condom use and consistent condom use, VanLandingham et al. (1995) reported that condom use among northern Thai males was significantly positively correlated with peer norms.

PBC of condom use was also significantly correlated with and predictive of consistent condom use among Thai young adult males. The result is consistent with a study by Thato et al. (2003) that reported that condom self-efficacy of adolescent Thai vocational students was significantly correlated with condom use. The result is also consistent with a meta-analysis by Sheeran et al. (1999) that reported that confidence in one's ability to use a condom during sex had a medium correlation with condom use; the result also was consistent with a meta-analysis conducted by Albarracin et al. (2001) that reported that condom use was predicted by PBC. However, Bennett and Bozionelos (2000) reported that among 20 studies, only three studies reported a significant relationship between PBC of condom use and condom use.

Attitude toward condom use did not predict consistent condom use among Thai young adult males in this study. Attitude toward condom use may not predict consistent condom use because any changes in attitude toward condom use among Thai males have not led to a significant change in condom use (Baker, Rumakorn, Sartsar, Guest, & Rewthong, 2002).

In sum, subjective norm about condom use and PBC of condom use were significantly predictive of consistent condom use among Thai young adult males, whereas attitude toward condom use was not. Therefore, interventions promoting consistent condom use among Thai young adult males should emphasize PBC of condom use and subjective norm-based (e.g., peer-based) interventions.

**D. Hypothesis 3: Attitude toward Condom Use, Subjective Norm about Condom Use, and PBC of Condom Use will Explain Intention to Use Condom among Thai Young Adult Males**

Subjective norm about condom use and PBC of condom use were significantly predictive of consistent condom use. Subjective norm about condom use and PBC of condom use explained 43.5% of the total variance in intention to use condom, which is consistent with a meta-analysis conducted by Armitage and Conner (2001).

**1. Attitude toward condom use**

Attitude toward condom use was not a significant predictor of intention to use a condom in this study. Although this finding is not consistent with the theory of planned behavior and with the meta-analysis by Albarracin et al. (2001) and Bennett and Bozionelos (2000), it is consistent with findings from Ross and McLaws (1992) that indicated that attitudes toward condoms were poor predictors of intention to use condoms. Unfortunately, there is no prior empirical study in Thailand that focused on the association between attitude toward condom use and intention to use condom. As such, this is the first study to explore the relationship between attitude toward condom use and intention to use condom in Thailand.

**2. Subjective norm about condom use**

Subjective norm about condom use is a significant predictor of intention to use condoms among Thai young adult males. Although no study in Thailand has thoroughly studied the association between subjective norm and intention to use condom among Thai males, these results are consistent with previous western studies (Albarracin et al., 2001; Bennett & Bozionelos, 2000; Boer & Mashamba, 2007; Heeren et al., 2007;



Molla et al., 2007; Sheeran et al., 1999). Subjective norm about condom use among Thai young adult males affected intention to use condom at almost the same level as it did in the western population.

### 3. Perceived Behavioral Control of Condom Use

PBC was a significant predictor of intention to use condom. The result is consistent with studies in western countries that reported that PBC of condom use was positively significantly associated with intention to use condoms (Albarracin et al., 2000; Gredig et al., 2006; Heeren et al., 2007; Molla et al., 2007; Ozakinici & Weinman, 2005; Sheeran & Taylor, 1999). However, the results are not consistent with Bennett and Bozionelos (2000), whose study showed that PBC of condom use had no effects on intention to use condom. Moreover, Wilson et al. (1992) indicated that PBC of condom use was predictive of intentions to use condoms only among males. However, Nucifora et al. (1993), Rannile and Craig (1997), and Godin et al. (1996) reported that PBC of condom use predicted intention to use condom, over and above attitudes toward condom use and subjective norm about condom use.

In sum, the results of this study partially confirm the applicability of the TPB for Thai young adult males. Subjective norm about condom use and PBC of condom use were significantly predictive of intention to use condom among Thai young adult males.

**E. Hypothesis 4: To Determine if Intention to Use Condom Mediated the Effects of Attitude toward Condom Use, Subjective Norm about Condom Use, and PBC of Condom Use on Consistent Condom Use among Thai Young Adult Males**

The significant interaction between intention to use condom and consistent condom use among Thai young adult males in this study revealed that greater intention to use condoms is needed for consistent condom use. Intention to use condoms was significantly predictive of consistent condom use. The result is consistent with the meta-analysis of Albarracin et al. (2000) that reviewed 96 studies involving more than 20,000 participants, and reported that condom use was predicted by intention. Moreover, the recent studies indicated that intention to use condom was a highly successful predictor of condom use (Boer & Mashamba, 2007; Gredig et al., 2006; Heeren et al., 2007; Molla et al., 2007; Ozakinci & Weinman, 2005). Intention to use condoms also was a significant mediator of consistent condom use; it mediated the effects of subjective norm about condom use and PBC of condom use on consistent condom use. Reinecke et al. (1996) also reported intention to use condom as a mediator.

**F. Limitations**

Using a convenience sample limits the generalizability of this study to Thai young adult males in Thailand. More participants from a broader range of age and socioeconomic status are needed to represent the Thai young adult male population. Additionally, we conducted a cross-sectional design with self-reported data. Cross-sectional design cannot confer causality. The validity of self-reported data has been questioned, especially when seeking sensitive information (Agnew & Loving, 1998;

Sheeran et al., 1999). However, sexual behaviors cannot be directly observable; thus, self-report may be an appropriate method for collecting sexual behavior data. Moreover, the results from a meta-analysis by Albarracin et al. (2001) revealed that self-reported data are accurate reflections of persons' sex behaviors.

#### **G. Implications of the Study**

Based on the results, community-level and individual-level intervention programs should be designed to promote the consistent use of condoms among Thai young adult males. The focus of these programs should be on increasing intention to use condoms, through promoting positive subjective norm about condom use and PBC of condom use. Nurses should be educated about the importance of consistent condom use and the determinants of consistent condom use. Nurses should be able to demonstrate how to use condoms and also help patients to create plans to consistently use condoms.

Further research should explore the development, implementation, and evaluation of gender and culturally relevant interventions to encourage intention to use condoms consistently. In addition, future research needs to explore other determinants of consistent condom, including types of sex partners, knowledge and skill related to condom use, past sex behaviors, substance use, etc.

#### **H. Conclusion**

The incidence and prevalence of HIV/AIDS continue to increase among heterosexual Thai young adult males, and most of them still do not use condoms consistently. Only 35.9% of all participants in this study used condoms consistently. Therefore, Thai young adult males and their sex partners are at risk for becoming infected with HIV/AIDS. The theory of planned behavior provided the framework for

investigating consistent condom use. Intention to use condoms mediated the effects of subjective norm about condoms and PBC of condom use on consistent condom use. More research is needed to explore how to promote intention to consistently use condoms through enhancing subjective norm about condom use and PBC of condom use for this target population. This information can provide the foundation for culturally relevant HIV risk reduction that focuses on consistent condom use.

## APPENDICES

## Appendix A

### UNIVERSITY OF ILLINOIS AT CHICAGO

Office for the Protection of Research Subjects (OPRS)  
Office of the Vice Chancellor for Research (MC 672)  
203 Administrative Office Building  
1737 West Polk Street  
Chicago, Illinois 60612-7227

#### Request for Modifications and Information Expedited Review Initial Review

November 8, 2007



20070828-37124-1

Poolsuk Janepanish, BS  
Public Health, Mental Health and Administration  
845 S. Damen  
9th Floor, M/C 802  
Phone: (312) 996-2010 / Fax: (312) 996-8945

RE: **Research Protocol # 2007-0828**  
**"Condom Use Among Thai Young Adult Males: An Application of Theory of Planned Behavior"**

Dear Ms. Janepanish:

Your Initial Review application, received on October 29, 2007, was reviewed by members of the Institutional Review Board (IRB) # 2 under expedited review procedures [45 CFR 46.110(b)(2)] on November 5, 2007. It was determined that modifications and additional information regarding the research are required. The IRB requests the following:

1. Issues regarding the informed consent process and/or document:

1.1 *Flyer (English and Thai):*

- 1.1.1 If personal home or cell phone numbers are being used for contacting the investigator, please consider using an alternate number (such as an office number) that will help protect the safety of the investigator.
- 1.1.2 Please consider the following suggested wording changes:
  - In place of "for the study of condom use," the IRB suggest saying "to complete a questionnaire on condom use"
  - In place of "The purpose of this study is to examine the factors related to condom use among Thai young adult males," the IRB suggest saying "The purpose of this study is to examine, with questionnaires, the factors related to condom use among Thai young adult males."

Phone: 312-996-1711

<http://www.uic.edu/depts/ovcr/oprs/>

Fax: 312-413-2929

## Appendix A (continued)

- 1.2 *Recruitment Script (English and Thai)*: Please consider the following suggested wording change: In place of "I am studying condom use among Thai young adult males," the IRB suggest saying "I am using a questionnaire to study condom use among Thai young adult males."
- 1.3 *Consent Form (English and Thai)*:
  - 1.3.1 First page, 1st paragraph: Please add 2-3 brief sentences describing the research.
  - 1.3.2 First page, 1st paragraph: Please include the anticipated number of participants.
  - 1.3.3 First page, 1st paragraph: Please add the name of the faculty sponsor at UIC.
  - 1.3.4 First page, 1st paragraph: Please include a statement indicating that the subject has been asked to participate because they answered the eligibility questions for the research appropriately. Also, indicate to subjects that they should read the form and ask any questions before agreeing to participate in the research.
  - 1.3.5 First page, 3rd paragraph: Please revise the second sentence to clearly indicate that subjects will be asked the listed questions in a questionnaire and not an interview.
  - 1.3.6 First page, last paragraph (top of second page): Please clearly indicate to subjects that 100Baht is not a stipend but compensation in appreciation for their time.
  - 1.3.7 Second page, 1st paragraph: Please state that the completed questionnaires will be placed in a box in the room and not handed directly back to the researcher.
  - 1.3.8 Second page, 2nd paragraph: Please include the name and contact information for the faculty sponsor.
  - 1.3.9 Second page, 3rd paragraph: Please delete the local and toll-free numbers for the UIC IRB as they do not work outside of the U.S.

When submitting your response provide **1 original and 2 collated copies** (3 total) of the following:

1. A cover letter that references this letter (date) and that responds to each specific item by listing the IRB's requirements from that letter. Use the same numbering system as in the IRB's letter and list your responses after each item.
2. A copy of this letter so that the bar code on the letter can be scanned.
3. For issues that involve the informed consent document(s) and/or consent process:
  - a. Provide **one original and two (2) copies** of each revised informed consent document.
  - b. On **two (2) copies**, please **highlight** or shade the additions and **strike-through** the deletions.
  - c. Leave the **original unmarked** so that it can be date-stamped and returned to you.
  - d. Leave sufficient blank space for the IRB approval stamp (2-1/2 inches wide by 1-1/2 inches high) in the upper right corner of the first page.
  - e. Include a **short descriptor** (to describe each document and differentiate among various documents in the same research protocol) in the footer of each page.
  - f. Include the next sequential **version number and date** in the footer of each page.
  - g. Be sure the pages are numbered: Page 1 of #, Page 2 of #.

## Appendix A (continued)

The IRB has determined that your response to these required modifications may be reviewed under expedited review procedures without being scheduled for review at a convened IRB meeting. Based on your response, the IRB has the right to ask further questions, seek additional information, require further modifications, or refer your response to the convened IRB.

Please note that you *may not* initiate the research, including the recruitment of subjects, until you receive a *written notice of IRB approval* that will include the date-stamped informed consent documents to use when seeking consent from subjects.

If you do not respond to the IRB's requests within 90 days of this letter, your research protocol submission may be automatically withdrawn from the review process without the IRB taking any further action.

If you have any questions or need further help, please contact the OPRS office at (312) 996-1711 or me at (312) 996-2014. Please send any correspondence about this protocol to OPRS at 203 AOB, M/C 672.

Sincerely,

*Sandra K Costello*

Sandra Costello  
IRB Coordinator, IRB #2  
Office for the Protection of Research Subjects

cc: Arlene Miller, PhD, RN, Public Health, Mental Health and Administration  
Barbara L. Dancy, Nursing, M/C 802



**Appendix A (continued)****Enclosures:**

- 1. UIC Investigator Responsibilities, Protection of Human Research Subjects**
- 2. Informed Consent Documents:**
  - a) Consent Form (English), Condom use among Thai young adult males; Version 2; 11/09/2007
  - b) Consent Form (Thai), Condom use among Thai young adult males; Version 2; 11/09/2007
- 3. Recruiting Materials:**
  - a) Recruitment Script (English), Condom use among Thai young adult males; Version 2; 11/09/2007
  - b) Recruitment Script (Thai), Condom use among Thai young adult males; Version 2; 11/09/2007
  - c) Flyer (English), Condom use among Thai young adult males; Version 2; 11/09/2007
  - d) Flyer (Thai), Condom use among Thai young adult males; Version 2; 11/09/2007

cc: Arlene Miller, PhD, RN, Public Health, Mental Health and Administration  
Barbara L. Dancy, Nursing, M/C 802

## Appendix A (continued)

### UNIVERSITY OF ILLINOIS AT CHICAGO

Office for the Protection of Research Subjects (OPRS)  
Office of the Vice Chancellor for Research (MC 672)  
203 Administrative Office Building  
1737 West Polk Street  
Chicago, Illinois 60612-7227

#### Approval Notice Initial Review (Response To Modifications)

November 12, 2007

Poolsuk Janepanish, BS  
Public Health, Mental Health and Administration  
845 S. Damen  
9th Floor, M/C 802  
Phone: (312) 996-2010 / Fax: (312) 996-8945

RE: **Protocol # 2007-0828**  
**"Condom Use Among Thai Young Adult Males: An Application of Theory of Planned Behavior"**

Dear Ms. Janepanish:

Your Initial Review application (Response To Modifications) was reviewed and approved by the Expedited review process on November 12, 2007. You may now begin your research.

Please note the following information about your approved research protocol:

<b><u>Protocol Approval Period:</u></b>	November 12, 2007 - November 10, 2008
<b><u>Approved Subject Enrollment #:</u></b>	150
<b><u>Additional Determinations for Research Involving Minors:</u></b>	These determinations have not been made for this study since it has not been approved for enrollment of minors.
<b><u>Performance Sites:</u></b>	UIC, Rajamangala University of Technology – Bangkok, Thailand
<b><u>Sponsor:</u></b>	None
<b><u>Research Protocol:</u></b>	

- a) Condom Use among Thai Young Adult Males: An Application of Theory of Planned Behavior

**Recruitment Materials:**

- a) Recruitment Script (English), Condom use among Thai young adult males; Version 2; 11/09/2007
- b) Recruitment Script (Thai), Condom use among Thai young adult males; Version 2; 11/09/2007
- c) Flyer (English), Condom use among Thai young adult males; Version 2; 11/09/2007
- d) Flyer (Thai), Condom use among Thai young adult males; Version 2; 11/09/2007

Phone: 312-996-1711

<http://www.uic.edu/depts/ovcr/oprs/>

FAX: 312-413-2929

## Appendix A (continued)

### Informed Consents:

- a) Consent Form (English), Condom use among Thai young adult males; Version 2; 11/09/2007
- b) Consent Form (Thai), Condom use among Thai young adult males; Version 2; 11/09/2007

Your research meets the criteria for expedited review as defined in 45 CFR 46.110(b)(1) under the following specific category:

(7) Research on individual or group characteristics or behavior (including but not limited to research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

### Please note the Review History of this submission:

Receipt Date	Submission Type	Review Process	Review Date	Review Action
10/29/2007	Initial Review	Expedited	11/05/2007	Modifications Required
11/12/2007	Response To Modifications	Expedited	11/12/2007	Approved

Please remember to:

→ Use your **research protocol number** (2007-0828) on any documents or correspondence with the IRB concerning your research protocol.

→ Review and comply with all requirements on the enclosure,  
**"UIC Investigator Responsibilities, Protection of Human Research Subjects"**

**Please note that the UIC IRB has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process.**

**Please be aware that if the scope of work in the grant/project changes, the protocol must be amended and approved by the UIC IRB before the initiation of the change.**

We wish you the best as you conduct your research. If you have any questions or need further help, please contact OPRS at (312) 996-1711 or me at (312) 996-2014. Please send any correspondence about this protocol to OPRS at 203 AOB, M/C 672.

Sincerely,

*Sandra K Costello*

Sandra Costello  
 IRB Coordinator, IRB # 2  
 Office for the Protection of Research Subjects

## Appendix A (continued)

### UNIVERSITY OF ILLINOIS AT CHICAGO

Office for the Protection of Research Subjects (OPRS)  
Office of the Vice Chancellor for Research (MC 672)  
203 Administrative Office Building  
1737 West Polk Street  
Chicago, Illinois 60612-7227

#### Approval Notice Amendment to Research Protocol and/or Consent Document – Expedited Review UIC Amendment # 1

April 9, 2008

Poolsuk Janepanish, BS  
Public Health, Mental Health and Administration  
845 S. Damen  
9th Floor, M/C 802  
Phone: (312) 996-2010 / Fax: (312) 996-8945

**RE: Protocol # 2007-0828**  
**“Condom Use Among Thai Young Adult Males: An Application of Theory of Planned Behavior”**

Dear Ms. Janepanish:

Members of Institutional Review Board (IRB) #2 have reviewed this amendment to your research under expedited procedures for minor changes to previously approved research allowed by Federal regulations [45 CFR 46.110(b)(2)]. The amendment to your research was determined to be acceptable and may now be implemented.

Please note the following information about your approved amendment:

**Amendment Approval Date:** March 31, 2008

**Amendment:**  
Summary: UIC Amendment #1, signed by Faculty Sponsor, March 24, 2008 (submitted March 26, 2008), is an investigator-initiated amendment increasing the sample size from 150 to 400 subjects.

**Approved Subject Enrollment #:** 400  
**Performance Sites:** UIC, Rajamangala University of Technology -  
Bangkok, Thailand  
**Sponsor:** None

**Research Protocol:**  
a) Condom Use among Thai Young Adult Males: An Application of Theory of Planned Behavior Version AMENDMENT 1; 03/26/2008

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FAX: 312-413-2929

## Appendix A (continued)

**Please note the Review History of this submission:**

Receipt Date	Submission Type	Review Process	Review Date	Review Action
03/26/2008	Amendment	Expedited	03/31/2008	Approved

Please be sure to:

→ Use your research protocol number (2007-0828) on any documents or correspondence with the IRB concerning your research protocol.

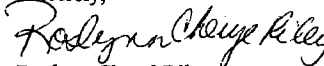
→ Review and comply with all requirements on the enclosure, "UIC Investigator Responsibilities, Protection of Human Research Subjects"

Please note that the UIC IRB #2 has the right to ask further questions, seek additional information, or monitor the conduct of your research and the consent process.

Please be aware that if the scope of work in the grant/project changes, the protocol must be amended and approved by the UIC IRB before the initiation of the change.

We wish you the best as you conduct your research. If you have any questions or need further help, please contact the OPRS at (312) 996-1711 or me at (312) 413-1835. Please send any correspondence about this protocol to OPRS at 203 AOB, M/C 672.

Sincerely,



Roslynn Cheryl Riley

IRB Coordinator, IRB # 2

Office for the Protection of Research Subjects

Enclosure: UIC Investigator Responsibilities, Protection of Human Research Subjects

cc: Barbara L. Dancy, Public Health, Mental Health and Administration, M/C 802  
Arlene Miller, PhD, RN, Public Health, Mental Health and Administration, M/C 802

## Appendix A (continued)

### UNIVERSITY OF ILLINOIS AT CHICAGO

Office for the Protection of Research Subjects (OPRS)  
Office of the Vice Chancellor for Research (MC 672)  
203 Administrative Office Building  
1737 West Polk Street  
Chicago, Illinois 60612-7227

#### Approval Notice Continuing Review

September 22, 2008

Poolsuk Janepanish, BS  
Public Health, Mental Health and Administration  
845 S. Damen  
9th Floor, M/C 802  
Phone: (312) 996-2010 / Fax: (312) 996-8945

**RE: Protocol # 2007-0828**  
**"Condom Use among Thai Young Adult Males: An Application of Theory of Planned Behavior"**

Dear Ms. Janepanish:

Your Continuing Review was reviewed and approved by the Expedited review process on September 11, 2008. You may now continue your research.

Please note the following information about your approved research protocol:

**Protocol Approval Period:** September 11, 2008 - September 10, 2009  
**Approved Subject Enrollment #:** Limited to analysis of data from 400 subjects  
**Additional Determinations for Research Involving Minors:** These determinations have not been made for this study since it has not been approved for enrollment of minors.  
**Performance Sites:** UIC, Rajamangala University of Technology – Bangkok, Thailand  
**Sponsor:** None  
**Research Protocol(s):**  
a) Condom Use among Thai Young Adult Males: An Application of Theory of Planned Behavior Version AMENDMENT 1; 03/26/2008  
b) Condom Use among Thai Young Adult Males: An Application of Theory of Planned Behavior  
**Recruitment Material(s):**  
a) Not Applicable – Data Analysis Only  
**Informed Consent(s):**  
a) Not Applicable – Data Analysis Only

Your research meets the criteria for expedited review as defined in 45 CFR 46.110(b)(1) under the following specific category:

Phone: 312-996-1711

<http://www.uic.edu/depts/ovcr/oprs/>

FAX: 312-413-2929

## Appendix A (continued)

Page 2 of 2

(7) Research on individual or group characteristics or behavior (including but not limited to research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

**Please note the Review History of this submission:**

Receipt Date	Submission Type	Review Process	Review Date	Review Action
09/04/2008	Continuing Review	Expedited	09/11/2008	Approved

Please remember to:

→ Use your **research protocol number** (2007-0828) on any documents or correspondence with the IRB concerning your research protocol.

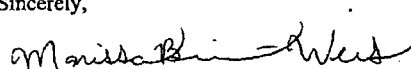
→ Review and comply with all requirements on the enclosure,  
"UIC Investigator Responsibilities, Protection of Human Research Subjects"

**Please note that the UIC IRB has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process.**

**Please be aware that if the scope of work in the grant/project changes, the protocol must be amended and approved by the UIC IRB before the initiation of the change.**

We wish you the best as you conduct your research. If you have any questions or need further help, please contact OPRS at (312) 996-1711 or me at (312) 996-9299. Please send any correspondence about this protocol to OPRS at 203 AOB, M/C 672.

Sincerely,



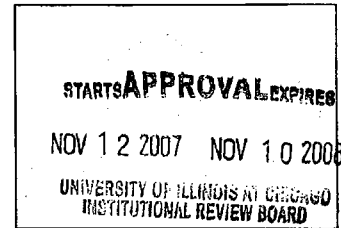
Marissa Benni-Weis, M.S.  
IRB Coordinator, IRB # 2  
Office for the Protection of Research Subjects

Enclosure(s):

**1. UIC Investigator Responsibilities, Protection of Human Research Subjects**

cc: Arlene Miller, PhD, RN, Public Health, Mental Health and Administration, M/C 802  
Barbara L. Dancy, Public Health, Mental Health and Administration, M/C 802

## Appendix A (continued)



University of Illinois at Chicago

### Consent for Participation in Survey Research

### Condom Use among Thai Young Adult Males

Principle Investigator: Poolsuk Janepanish

Faculty Advisor: Dr. Barbara Dancy

You are being asked to be a participant in a research study that is conducted by Miss Poolsuk Janepanish, a doctoral candidate of the University of Illinois at Chicago, College of Nursing. The research is studying about condom use among Thai young adult males who report having sex with women, report being between 20-39 years old, and currently living in Bangkok. The research uses a questionnaire that asks Thai young adult males about their opinions and behaviors related to condom use. You have been asked to participate because you are eligible according to your answers on the eligibility questions. Approximately 150 subjects may be involved in this research. You should read the form and ask any questions before agreeing to participate in the research.

Your participation in this research is voluntary. Your decision whether or not to participate will not affect your current or future relations with the University of Illinois at Chicago or your school or workplace. If you decide to participate, you are free to withdraw from the study at any time without any adverse consequences.

Page 1 of 3

Condom use among Thai young adult males - Consent form (English) -IRB suggestion 1  
Version 2, November 9, 2007

Page 1 of 3



## Appendix A (continued)

The purpose of this research is to identify reasons of condom use among Thai males who have sex with women. If you agree to be in this research, you will be given a questionnaire that asks you about your age, place of birth, highest grade completed school, marital status, the type of work you do, and how much money you make each month. In addition, other questions on the questionnaire ask about your sexual behavior and condom use as well as your thoughts about condom use. The questionnaire will take you about 15-20 minutes to complete.

Answering the questions about condom use may make you feel uncomfortable. To minimize any discomfort, the researcher will provide a privacy room for you to complete the questionnaire. There is no direct benefit for your participation in this study. However, you will receive 100 Baht upon return of the questionnaire for your time.

You will not be required to place your name on the questionnaire. You do not have to answer any questions you do not wish to answer. Your name will not be on the questionnaire. The completed questionnaires will be placed in a box in the room and not handed directly back to the researcher. When the results of the research are published or discussed in conferences, no information will be included that would reveal your identity.

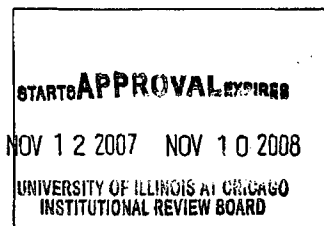
If you have additional questions about the study, you can contact Miss Poolsuk Janepanish, the principal investigator, at 02-883-8040 or email: [poolsuk@yahoo.com](mailto:poolsuk@yahoo.com), or Barbara L. Dancy, my faculty advisor at [bdancy@uic.edu](mailto:bdancy@uic.edu).

Page 2 of 3

Condom use among Thai young adult males - Consent form (English) –IRB suggestion 1  
Version 2, November 9, 2007

Page 2 of 3

## Appendix A (continued)



มหาวิทยาลัยอิลลินอยส์ เมืองชิคาโก ประเทศสหรัฐอเมริกา

ใบยินยอมเข้าร่วมการวิจัยโดยการตอบแบบสอบถาม

การใช้ถุงยางอนามัยในผู้ชายไทยวัยหนุ่ม

ผู้รับผิดชอบโครงการ นางสาว พูลสุข เจนพานิชย์

อาจารย์ที่ปรึกษาโครงการวิจัย ศาสตราจารย์ ดร. บาร์บารา แคนซี

ท่านถูกทาบทามให้เข้าร่วมโครงการศึกษาวิจัยโดย นางสาว พูลสุข เจนพานิชย์ นักศึกษาปริญญาเอก คณะพยาบาลศาสตร์ มหาวิทยาลัยอิลลินอยส์ เมืองชิคาโก ประเทศสหรัฐอเมริกา การวิจัยนี้ เป็นการศึกษาเกี่ยวกับ การใช้ถุงยางอนามัยในผู้ชายไทยวัยหนุ่ม ที่มีอายุ ระหว่าง ๒๐ ถึง ๓๔ ปี และ ปัจจุบันอาศัยในกรุงเทพมหานคร การวิจัยนี้ใช้ แบบสอบถามเพื่อ สอบถามผู้ชายไทยวัยหนุ่มเกี่ยวกับ ความคิดเห็น และ พฤติกรรมเกี่ยวกับ การใช้ถุงยางอนามัย ท่านถูกทาบทามให้เข้าร่วมโครงการศึกษาวิจัย เนื่องจากท่านมีคุณสมบัติเหมาะสมที่จะตอบคำถามเหล่านี้ จำนวน ผู้ที่คาดว่าจะเข้าร่วมในการวิจัยครั้งนี้ ทั้งสิ้น ๑๕๐ คน ท่านควรจะอ่านข้อความในแบบฟอร์ม และ ปรึกษากับผู้เกี่ยวข้องก่อนที่ท่านจะตัดสินใจเข้าร่วมโครงการวิจัย

การเข้าร่วมในการวิจัยครั้งนี้ เป็นโดยความสมัครใจของข้าพเจ้า การตัดสินใจเข้าร่วมหรือไม่เข้าร่วมในการวิจัยของท่าน ไม่มีผลต่อความสัมพันธ์กับมหาวิทยาลัย อิลลินอยส์ เมืองชิคาโก ประเทศสหรัฐอเมริกาและสถานที่ทำงานของท่าน ทั้ง ในปัจจุบันและอนาคต ท่านมีสิทธิ์ปฏิเสธการเข้าร่วมหรือถอนตัวได้ตลอดเวลาโดยไม่มีเงื่อนไข หรือผลกระทบใดๆ

วัตถุประสงค์ของการศึกษาค้นคว้าครั้งนี้ เพื่อศึกษาและจำแนกปัจจัยในการใช้ถุงยางอนามัยในผู้ชายไทยวัยหนุ่มที่มีเพศสัมพันธ์กับผู้หญิง ถ้าท่านตกลงเข้าร่วมในการวิจัยในครั้งนี้ ท่านจะได้รับแบบสอบถามซึ่งจะถามท่าน เกี่ยวกับ อายุ ภูมิฐานะที่เกิด การศึกษา ขั้นสูงสุด สถานภาพสมรส ชนิดของอาชีพ รายได้ประจำเดือน นอกจากนี้ จะมีคำถามอื่นๆ ในแบบสอบถามถามท่านเกี่ยวกับ พฤติกรรม และความคิดเห็น เกี่ยวกับการใช้ถุงยางอนามัย แบบสอบถามจะใช้เวลาประมาณ ๑๕-๒๐ นาที ในการตอบคำถามทั้งหมด

หน้า ๑/๒

## Appendix A (continued)

การตอบคำถามในแบบสอบถามนี้ อาจทำให้ท่านรู้สึกไม่สบายใจ ดังนั้นเพื่อเป็นการลดความรู้สึกดังกล่าว ผู้วิจัยได้จัดห้องที่เป็นส่วนตัวเพื่อตอบแบบสอบถามของท่าน ท่านจะไม่มีส่วนได้เสียใดๆ จากการเข้าร่วมในวิจัยครั้งนี้ อย่าไรก็ตาม ท่านจะได้รับเงินจำนวน ๑๐๐ บาท เป็นค่าเสียเวลาในการตอบแบบสอบถาม

ท่านจะไม่ต้องลงชื่อในแบบสอบถาม และสามารถที่จะปฏิเสธในการตอบคำถามใดๆ ก็ได้ แบบสอบถามที่ท่านตอบโดยสมบูรณ์แล้ว จะถูกใส่ในกล่องซึ่งวางอยู่ในห้องที่ท่านตอบแบบสอบถามโดยไม่ต้องยื่นให้ผู้วิจัยโดยตรง การเข้าร่วมในการวิจัยครั้งนี้ของท่านเป็นเรื่องส่วนบุคคล และเป็นความลับ ชื่อและข้อมูลส่วนบุคคลของท่านจะไม่เปิดเผยในที่สาธารณะ และจะไม่สัมพันธ์กับคำตอบใดๆทั้งสิ้นของท่านในแบบสอบถาม

ถ้าท่านมีคำถามเกี่ยวกับการวิจัยครั้งนี้ ข้าพเจ้าสามารถติดต่อ นางสาว พูลสุข เจนพานิชย์ ผู้รับผิดชอบโครงการ ได้ที่ เบอร์โทรศัพท์ ๐๒-๔๔๓๔๐๔๐ หรือที่ email: [poolasuk@yahoo.com](mailto:poolasuk@yahoo.com) ติดต่อสอบถาม อาจารย์ที่ปรึกษาโครงการวิจัย ศาสตราจารย์ ดร. บาร์บารา แคนซี ได้ที่ email: [bdancy@uic.edu](mailto:bdancy@uic.edu).

ถ้าท่านมีคำถามเกี่ยวกับสิทธิ์ของท่านเกี่ยวกับการเป็นผู้ร่วมวิจัย ข้าพเจ้าสามารถติดต่อสอบถาม Office for the Protection of Research Subjects (OPRS) โดย e-mail: [uicirb@uic.edu](mailto:uicirb@uic.edu).

ข้าพเจ้าได้อ่านเนื้อความทั้งหมดข้างต้นและมีโอกาสซักถามข้อสงสัยเกี่ยวกับการทำวิจัยครั้งนี้

ข้าพเจ้าได้ให้การยินยอมเข้าร่วมโครงการวิจัยโดยความสมัครใจ ข้าพเจ้าได้รับสำเนาใบยินยอมเป็นที่เรียบร้อยแล้ว

ชื่อผู้เข้าร่วมวิจัย.....วันที่.....  
 ลายเซ็น.....  
 ลายเซ็นผู้รับผิดชอบการวิจัย.....วันที่.....

## Appendix A (continued)

### THAI YOUNG ADULT MALES RESEARCH

#### Recruitment Script

**Hello.** My name is Poolsuk Janepanish and I am a PhD student at the College of Nursing at the University of Illinois at Chicago, USA. I have asked..... (Name of the president of the university, the president of the bank, and the manager of the factory) for permission to speak with you regarding a survey that I am conducting as part of my doctoral dissertation.

I am using a questionnaire to study condom use among Thai young adult males.

Your participation is completely voluntary. Your decision whether or not to participate will not affect your current or future relations with your university/ workplace.

I am looking for Thai males who are:

- Age between 20-39 years old
- Have ever had sexual intercourse with women
- Reside in Bangkok

Your participation is the completion of a questionnaire that asks about your sexual behavior and your condom use. You will not be required to place your name on the questionnaire. When the results of the research are published or discussed in conferences, no information will be included that would reveal your identity.

The questionnaire will take approximately 15-20 minutes to complete. There is a private room for you to complete the questionnaire. You will receive 100 Baht for your participation.

If you are interested in participating please contact me at the room ..... I will provide you with a survey questionnaire.

Thank you

STARTS **APPROVAL** EXPIRES

Condom use among Thai young adult males – Recruitment script (English) – IRB suggestion 1

Version 2, November 9, 2007

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UNIVERSITY OF ILLINOIS AT CHICAGO  
INSTITUTIONAL REVIEW BOARD

## Appendix A (continued)

### โครงการวิจัยสำหรับชายไทยวัยหนุ่ม

#### ใบประกาศเพื่อสรรหาผู้เข้าร่วมวิจัย

สวัสดิ์ คัดิน นางสาว พูลสุข เจนพานิชย์ นักศึกษาปริญญาเอก คณะพยาบาลศาสตร์มหาวิทยาลัยอิลลินอยส์ เมืองชิคาโก ประเทศสหรัฐอเมริกา

คัดิน ได้ติดต่อ..... (ชื่อของ อธิการบดีมหาวิทยาลัย ประธากรรมการบริหารนาคู และผู้จัดการโรงงาน) เพื่อขออนุญาต พูดคุยกับท่านเกี่ยวกับ การสำรวจที่ คัดินกำลังดำเนินการอยู่ ซึ่งการสำรวจนี้ เป็นส่วนหนึ่งของวิทยานิพนธ์ปริญญาเอก ของคัดิน  
คัดินกำลังใช้แบบสอบถาม เพื่อศึกษาการใช้ถุงยางอนามัยในผู้ชายไทยวัยหนุ่ม.

การเข้าร่วมในการวิจัยครั้งนี้ เป็นโดยความสมัครใจของท่าน การตัดสินใจเข้าร่วมหรือไม่เข้าร่วมในการวิจัยของท่าน ไม่มีผลต่อความสัมพันธ์กับมหาวิทยาลัย/สถานที่ทำงานของท่าน ทั้ง ในปัจจุบันและอนาคต

#### คัดินต้องการ อาสาสมัครชายไทยวัยหนุ่ม ที่ :

- มีอายุระหว่าง 20-39 ปี
- เคยมีเพศสัมพันธ์กับผู้หญิง
- ทำนักรอาศัยอยู่ในกรุงเทพ

การเข้าร่วมในการวิจัยของท่าน คือการตอบแบบสอบถามเกี่ยวกับ พฤติกรรมทางเพศ และ พฤติกรรมการใช้ถุงยางอนามัย ของท่าน ท่านจะไม่ต้องลงชื่อในแบบสอบถาม เมื่อผลวิจัยถูกตีพิมพ์ หรืออภิปรายในการประชุมต่างๆ จะไม่มีข้อมูลใดๆ สัมพันธ์กับชื่อและข้อมูลส่วนบุคคลของท่าน

แบบสอบถามจะใช้เวลาประมาณ ๑๕-๒๐ นาที ในการตอบคำถามทั้งหมด จะมีห้องที่เป็นส่วนตัวสำหรับท่านเพื่อตอบแบบสอบถาม ท่านจะได้รับของที่ระลึกมูลค่า ๑๐๐ บาท เป็นค่าเสียเวลาในการตอบแบบสอบถาม

ถ้าท่านสนใจที่จะเข้าร่วมในการวิจัย โปรดติดต่อคัดินได้ที่ห้อง.....เพื่อรับแบบสอบถาม ซึ่งคัดินจะจัดเตรียมไว้ให้ท่าน

ขอขอบคุณ

STARTS APPROVAL EXPIRES

Condom use among Thai young adult males – Recruitment scripts (Thai) – IRB suggestion1

Version 2, November 9, 2007

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UNIVERSITY OF ILLINOIS AT CHICAGO  
INSTITUTIONAL REVIEW BOARD

## Appendix A (continued)

<b>NEEDED</b>  <b>THAI YOUNG ADULT MALES RESEARCH VOLUNTEERS</b>  <b>TO</b> <b>COMPLETE A QUESTIONNAIRE ON CONDOM USE</b>  Conducted by  MISS POOLSUK JANEPANISH PhD candidate from University of Illinois at Chicago, USA Phone (02) 201-1395 or (02) 201-1305  Email: <a href="mailto:poolsuk@yahoo.com">poolsuk@yahoo.com</a>  The purpose of this study is to examine, with questionnaires, the factors related to condom use among Thai young adult males.  <b>NEED volunteers who are:</b> <ul style="list-style-type: none"> <li>• Ages between 20-39</li> <li>• Have ever had sexual intercourse with woman</li> <li>• Reside in Bangkok</li> </ul> A person who is willing to be a volunteer, please contact me to make appointment or come to see me on ....( Month).....(Day).....(Year) at the room .....  Eligible Participants will be compensated for their time							
Poolsuk Janepanish	Poolsuk Janepanish	Poolsuk Janepanish	Poolsuk Janepanish	Poolsuk Janepanish	Poolsuk Janepanish	Poolsuk Janepanish	Poolsuk Janepanish
02-2011395 or 02-2011305	02-2011395 or 02-2011305	02-2011395 or 02-2011305	02-2011395 or 02-2011305	02-2011395 or 02-2011305	02-2011395 or 02-2011305	02-2011395 or 02-2011305	02-2011395 or 02-2011305

Condom use among Thai young adult males – Flier (English) – IRB suggestion 1  
Version 2, November 9, 2007.

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**STARTS APPROVAL EXPIRES**

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UNIVERSITY OF ILLINOIS AT CHICAGO  
INSTITUTIONAL REVIEW BOARD

## Appendix A (continued)

**ต้องการ**

อาสาสมัครชายไทยวัยหนุ่มสำหรับโครงการวิจัย  
เพื่อตอบแบบสอบถามเรื่องการใช้ถุงยางอนามัย  
ดำเนินการวิจัยโดย  
นางสาวพูลสุข เจนพานิชย์  
นักศึกษาระดับปริญญาเอกจากมหาวิทยาลัยอินเดียนที่เมืองชิคาโกประเทศสหรัฐอเมริกา  
ติดต่อได้ที่ (02) 201-1395 หรือ (02) 201-1305  
**Email: poolsuk@yahoo.com**

วัตถุประสงค์ของการศึกษาค้นคว้าครั้งนี้ เพื่อจำแนก (จากแบบสอบถาม) ปัจจัยที่มีผลต่อการใช้ถุงยางอนามัย  
ในผู้ชายวัยหนุ่ม

**ต้องการ อาสาสมัครที่มีคุณสมบัติ :**

- มีอายุระหว่าง 20-39 ปี
- เคยมีเพศสัมพันธ์กับผู้หญิง
- ทำนกอาศัยอยู่ในกรุงเทพ

ผู้ที่สมัครใจเข้าร่วมการวิจัย สามารถติดต่อ นางสาว พูลสุข เจนพานิชย์ เพื่อนัดเวลาในการตอบ  
แบบสอบถามหรือมาพบข้าพเจ้าได้ ใน วันที่..... ที่ห้อง.....

ผู้ที่สมัครใจเข้าร่วมการวิจัยจะได้รับค่าตอบแทนตามสมควร

ติดต่อ นางสาวพูลสุข เจนพานิชย์	ติดต่อ นางสาวพูลสุข เจนพานิชย์	ติดต่อ นางสาวพูลสุข เจนพานิชย์	ติดต่อ นางสาวพูลสุข เจนพานิชย์	ติดต่อ นางสาวพูลสุข เจนพานิชย์	ติดต่อ นางสาวพูลสุข เจนพานิชย์	ติดต่อ นางสาวพูลสุข เจนพานิชย์	ติดต่อ นางสาวพูลสุข เจนพานิชย์
02-2011395 02-2011305	02-2011395 02-2011305	02-2011395 02-2011305	02-2011395 02-2011305	02-2011395 02-2011305	02-2011395 02-2011305	02-2011395 02-2011305	02-2011395 02-2011305

STARTS **APPROVAL** EXPIRES

## Appendix A (continued)

Ref:0579.01/6154



Rajamangala University  
of Technology Krungthep  
2 Nanglinchee Sathorn Bangkok 10120

1 November 2007

Chair person of Institution Review Board Committee

University of Illinois at Chicago

Chicago, IL.

USA

To Chairperson of the IRB committee

After reviewing the proposal study "Condom use among Thai young adult males : An application of theory of planned behavior", the study is designed appropriately. The participants in the study are volunteers. Anonymous questionnaire answer sheets assure that individual subject cannot be identified and that the information will be kept confidential. I understand that participation in the study is optimal and participants can stop answering the questions at anytime if they feel uncomfortable.

I, as a president of RMUTK, give Ms. Poosuk Janapanish permission to collect her data in my setting.

Yours sincerely,

Asst. Prof. Ounchai Limtrakool

Vice President of Academic Affairs

Acting President



**Appendix A (continued)**

Thai Soojung Glass Co., Ltd.  
98 Moo 8 Petokasem Road,  
Omaya, Sampran, Nakhonpathom  
73160 Thailand

October 18, 2007


Chair person of Institution Review Board Committee  
University of Illinois at Chicago  
Chicago, IL  
USA

To Chairperson of the IRB committee:

After reviewing the proposal study "Condom use among Thai young adult males: An application of theory of planned behavior", the study is designed appropriately. The participants in the study are volunteers. Anonymous questionnaire answer sheets assure that individual subject cannot be identified and that the information will be kept confidential. I understand that participation in the study is optimal and participants can stop answering the questions at anytime if they feel uncomfortable.

I, as a factory manager, give Ms. Poolsuk Janepanish permission to collect her data in my setting.

Sincerely,



Therasak Tippamongkol  
Factory Manager  
Thai Soojung Glass Co., Ltd.

## Appendix A (continued)



ธนาคารอยุธยา  
BANK OF AYUDHYA

1. The subject of the research is  
the use of mobile phone in  
the workplace. The research  
will be conducted in a  
controlled environment.  
2. The research will be conducted  
in a controlled environment.  
3. The research will be conducted  
in a controlled environment.

October 24, 2007  
Chair person of Institution Review Board Committee  
University of Illinois at Chicago  
Chicago, IL  
USA

To Chairperson of the IRB committee:

After reviewing the proposed study "Condom use among Thai young adult males: An application of theory of planned behavior", the study is designed appropriately. The participants in the study are volunteers. Anonymous questionnaire answer sheets assure that individual subject cannot be identified and that the information will be kept confidential. I understand that participation in the study is optional and participants can stop answering the questions at anytime if they feel uncomfortable.

I, as a head of human resource of Bank of Ayudhya Public Company Limited, give Mr. Poolsak Jangpanith permission to collect her data in my setting.

Sincerely,

(Mr. Sourin Srithongdee)  
(Head of Human Resource)

## Appendix A (continued)

### UNIVERSITY OF ILLINOIS AT CHICAGO

Global Health Leadership Office (MC 802)  
College of Nursing  
845 South Damen Avenue  
Chicago, Illinois 60612-7350



World Health Organization  
Collaborating Centre for  
International Nursing Development  
in Primary Health Care

October 24, 2007  
Chair person of Institution Review Board Committee  
University of Illinois at Chicago  
Chicago, IL.  
USA

To Chairperson of the IRB committee:

I am a faculty member at the University of Illinois at Chicago, College of Nursing. I am a native speaker of Thai and a fluent English speaker.

I have thoroughly examined enclosed research documents of Miss Poolsuk Janepanish in both Thai and English versions for her research entitled "Condom use among Thai young adult males: An application of theory of planned behavior".

I would like to verify the translations of documents from English to Thai adequately convey the sense of the original, and are culturally sensitive to Thai young adult males.

The documents as follow:

- a. Survey questionnaires
- b. Recruitment flyers
- c. Face-to-face recruitment scripts
- d. Subject consent forms

If you have any questions, please feel free to contact me at my office number: (312) 996-7948, home number: (847) 677-8960, or E-mail: [wacharee@uic.edu](mailto:wacharee@uic.edu)

Sincerely,

*Wacharee Jamjun*

Wacharee Jamjun, RN, MS  
Clinical Instructor  
College of Nursing (M/C 802)  
University of Illinois at Chicago  
845 S. Damen Ave, Chicago, IL. 60612

**UIC**

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## Appendix A (continued)

**WASHINGTON  
UNIVERSITY  
SCHOOL OF  
MEDICINE**  
AT WASHINGTON UNIVERSITY MEDICAL CENTER

DEPARTMENT OF  
INTERNAL MEDICINE

October 24, 2007  
Chair person of Institution Review Board Committee  
University of Illinois at Chicago  
Chicago, IL.  
USA

To Chairperson of the IRB committee:


I am an Assistant Professor of Internal Medicine, Hematology, and Oncology at Washington University School of Medicine in St. Louis. I am a native speaker of Thai and a fluent English speaker.

I have thoroughly examined the enclosed research questionnaire of Miss Poolsuk Janepanish in both Thai and English versions for her research entitled "Condom use among Thai young adult males: An application of theory of planned behavior".

I would like to verify the translations of the questionnaire from English to Thai adequately convey the sense of the original, and are culturally sensitive to Thai young adult males.

If you have any questions, please feel free to contact me at 314-289-6308 or vorachart.auethavekiat@va.gov

Sincerely,



Vorachart Auethavekiat, MD

WASHINGTON UNIVERSITY MEDICAL SERVICE (111JC)  
DEPARTMENT OF VETERANS AFFAIRS MEDICAL CENTER  
915 NORTH GRAND BOULEVARD  
ST. LOUIS, MISSOURI 63106-1621  
(314) 289-6308 Fax: (314) 289-7107

**Appendix B**

Number.....

Date.....

Research site.....

**SURVEY QUESTIONNAIRE****Condom Use among Thai Males**

I would appreciate your responses to the questions. There is no right or wrong answers. Please tell me what you really think.

**SECTION 1**

---

These questions ask for information about you.

1. How old are you? \_\_\_\_\_ years old
2. What is your birthday? \_\_\_\_\_(date)\_\_\_\_\_(month)\_\_\_\_\_(year)
3. Where were you born? \_\_\_\_\_
4. What is the highest grade you have completed? ( circle only one)
  - a. primary school
  - b. secondary school
  - c. vocational
  - d. college/ university
5. What is your marital status? ( circle only one)
  - a. married
  - b. single (never married)
  - c. separated
  - d. divorced
  - e. widowed

### Appendix B (continued)

6. What kind of work do you do? \_\_\_\_\_
7. How much money do you earn each month? \_\_\_\_\_ baht/month

### SECTION 2

---

The next set of questions ask about your sexual experience

8. How old were you when you had your first sexual intercourse with a female?  
\_\_\_\_\_ years old.
9. Did you use condom when you had your first sexual intercourse with a female?  
(circle only one)
- a. Yes
  - b. No
10. How many women have you had sex with in your life time?  
\_\_\_\_\_
11. How many women have you had sex with in the past 3 months?  
\_\_\_\_\_
12. How many times have you had sex with any women in the past 3 months?  
\_\_\_\_\_ times
13. How many times did you use condoms when you had sex with any women in the past 3 months ?  
\_\_\_\_\_ times
14. When was the last time you had sexual intercourse with a woman?  
\_\_\_\_\_ months ago, or  
\_\_\_\_\_ weeks ago, or  
\_\_\_\_\_ days ago

### Appendix B (continued)

15. Did you use condoms the last time you had sexual intercourse with a woman?

(circle only one)

- a. Yes
- b. No

16. Who did you talk to about using condom when you had sex?

(Circle all that apply)

- a. Parents
- b. Friends
- c. Sexual partners
- d. Health care professionals
- e. Boss or co-workers
- f. Brothers/sisters/ cousins
- g. Teachers

### SECTION 3

These questions ask about condom use. Please circle one number that is TRUE for you.

17. You plan to use a condom every time you have sex.

*Very unlikely .....1 ...2 ...3... 4... 5.....6.....7.... very likely*

18. You want to use a condom every time you have sex.

*Very unlikely .....1 ...2 ...3... 4... 5.....6.....7.... very likely*

19. You would refuse to have intercourse without using a condom.

*Very unlikely .....1 ...2 ...3... 4... 5.....6.....7.... very likely*

20. It would be easy for you to use a condom every time you have sex.

*Very uncertain.....1.....2.....3.....4.....5.....6.....7 very certain*

### Appendix B (continued)

21. If you want to, you could use a condom every time you have sex.  
*Very uncertain .....1.....2.....3.....4.....5.....6.....7 very certain*
22. Using condom every time you have sex is beyond your control  
*Strongly disagree.....1.....2.....3.....4.....5.....6.....7 strongly agree*
23. It is mostly up to you to use a condom every time you have sex.  
*Very uncertain .....1.....2.....3.....4.....5.....6.....7 very certain*
24. You are confident that you could use condom every time you have sex .  
*Very uncertain .....1.....2.....3.....4.....5.....6.....7 very certain*
25. Most people who are important to you think that every time you have sexual intercourse, you should  
*Definitely not use condom...1....2....3...4....5....6....7....definitely use condom*
26. People who are important to you want you to use condom every time you have sex.  
*Not true .....1.....2.....3.....4.....5.....6.....7.... .....very true*
27. It is expected from people who are important to you that you will use condom every time you have sex.  
*Not true.....1.....2.....3.....4.....5.....6.....7.... .....very true*



## Appendix B (continued)

### SECTION 4

---

The last set of questions asks about your feeling about condom use. Please circle one number that is TRUE for you.

**Using condoms with your partners would be.....**

- |                      |   |      |         |      |        |        |       |             |
|----------------------|---|------|---------|------|--------|--------|-------|-------------|
| 1. Bad.....          | 1 | ...2 | ...3... | 4... | 5..... | 6..... | 7.... | Good        |
| 2. Harmful.....      | 1 | ...2 | ...3... | 4... | 5..... | 6..... | 7.... | Safety      |
| 3. Foolish .....     | 1 | ...2 | ...3... | 4... | 5..... | 6..... | 7.... | Wise        |
| 4. Unpleasant.....   | 1 | ...2 | ...3... | 4... | 5..... | 6..... | 7.... | Pleasant    |
| 5. Useless .....     | 1 | ...2 | ...3... | 4... | 5..... | 6..... | 7.... | Useful      |
| 6. Undesirable.....  | 1 | ...2 | ...3... | 4... | 5..... | 6..... | 7.... | Desirable   |
| 7. Boring .....      | 1 | ...2 | ...3... | 4... | 5..... | 6..... | 7.... | Interesting |
| 8. Unattractive..... | 1 | ...2 | ...3... | 4... | 5..... | 6..... | 7.... | Attractive  |
| 9. Unnatural.....    | 1 | ...2 | ...3... | 4... | 5..... | 6..... | 7.... | Natural     |

**THANK YOU**

## Appendix C

1

เลขที่.....  
วันที่.....  
สถานที่.....

### แบบสอบถาม

#### การใช้ถุงยางอนามัย ในผู้ชายไทยวัยหนุ่ม

ขอความกรุณาช่วยตอบแบบสอบถามให้ครบทุกข้อ ทุกคำตอบไม่มี ข้อถูก หรือผิด โปรดตอบคำถามตามความคิดเห็นส่วนตัวของท่าน

#### ส่วนที่ ๑

คำถามต่อไปนี้ถามเกี่ยวกับข้อมูลส่วนบุคคลของท่าน

- ๑ อายุ.....
- ๒ วัน เดือน ปีเกิด .....
- ๓ ภูมิลำเนา (สถานที่เกิด) .....
- ๔ การศึกษาระดับสูงสุด (วงกลมเพียงข้อเดียว)
  - ก ประถมศึกษา
  - ข มัธยมศึกษา
  - ค อาชีวศึกษา
  - ง มหาวิทยาลัย
- ๕ สถานะภาพสมรส (วงกลมเพียงข้อเดียว)
  - ก แต่งงาน
  - ข โสด (ไม่เคยแต่งงาน)
  - ค แยกกันอยู่
  - ง หย่า
  - จ หม้าย
- ๖ อาชีพ.....
- ๗ รายได้ เฉลี่ย ต่อ เดือน.....บาท/เดือน

Appendix C

ส่วนที่ ๒

คำอธิบายของคำถามเกี่ยวกับวิธีการวัดทางเพศสัมพันธ์

๘. คุณสมบัติของเพศสัมพันธ์ที่รุนแรงแรก เมื่อถามว่า.....  
เมื่อถามเพศสัมพันธ์ที่รุนแรงแรก ควรใช้ภาษาของตนเองหรือไม่

(จากแบบฟอร์ม)

ก ใช่

ข ไม่ใช่

๙๐. จำนวนครั้งที่ถามเพศสัมพันธ์ครั้งแรกจนเป็นเหตุให้เกิดปัญหาทางเพศสัมพันธ์

๑๑. จำนวนครั้งที่ถามเพศสัมพันธ์ในช่วง ๑ เดือนที่ผ่านมา

.....คน

๑๒. ในช่วง ๑ เดือนที่ผ่านมา จำนวนเพศสัมพันธ์ทั้งหมด ครั้ง

.....ครั้ง

๑๓. จำนวนครั้งที่ถามเพศสัมพันธ์ในช่วง ๑ เดือนที่ผ่านมา

.....ครั้ง

๑๔. คุณสมบัติของเพศสัมพันธ์ที่รุนแรงแรก

.....เดือนที่ผ่านมา หรือ

.....อาทิตย์ที่ผ่านมา หรือ

.....วันที่ผ่านมา

๑๕. ครั้งสุดท้ายที่ถามเพศสัมพันธ์ที่รุนแรงแรก

ก ใช่

ข ไม่ใช่

- 4

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