

# SEXUAL RISK BEHAVIORS AMONG EARLY ADOLESCENTS CURRENTLY STUDYING AT PRIMARY SCHOOLS IN THAILAND

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## Abstract

The purpose of this study was to investigate sexual risk behaviors and identify factors influencing sexual risk behaviors among early adolescents studying at primary schools in Thailand. This cross-sectional analytical research study used 3-stage cluster sampling and included 193 males and 230 females aged 10-12 years old. The data were collected using a self-administered questionnaire. The data analysis used descriptive and inferential statistics. The factors influencing sexual risk behaviors were analyzed using chi-square, binary logistic regression, and adjusted odds ratio with 95% confidence intervals (95% CI, AOR). The results revealed the mean age of the early adolescents was 11.03 (SD = 2.97) years, 86.3% were living with parents, and 71.6% of their parental statuses were married. A total of 71.2%, with more girls than boys (45.4 versus 25.8%) as participants, had a low level of sexual risk behavior. Variables which could significantly influence sexual risk behaviors include gender, usage of internet, communication with a girlfriend/boyfriend, attitude, and perceived behavioral control. These findings could bring more understanding to early adolescents as they develop into adulthood. They are also useful for parents, administrators of schools and local organizations, public health personnel, and related organizations or groups to develop appropriate preventive strategies and solutions to alleviate sexual risk behaviors.

**Keywords:** Early adolescent, sexual risk behavior, primary schools, factors influencing

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## Introduction

Adolescence is the time period during human growth and development that occurs after childhood and before adulthood, ranging from ages 10 to 19. It is one of the most critical transitions in the life span of a human (Santrock, 2008). There are an increasing number of early adolescents involved in sexual risk behaviors (SRBs) worldwide. Many adolescents face pressures to consume alcohol, use cigarettes or other drugs, and begin initiating sexual relationships at earlier ages. This puts them at high risk for unintentional and unintended pregnancies and also puts them at risk of getting sexually transmitted infections (STIs), including the human immunodeficiency virus (HIV) infection. Many adolescent girls between the ages of 15 and 19 get unwanted pregnancies. Adolescent pregnancy is dangerous for both the mother and the child and can lead to multiple health problems as side effects. Adolescents aged 10-19 account for 11 of all births worldwide, including Thailand (World Health Organization, 2014, 2016).

Thailand is facing a new rise in HIV and STI cases, especially among young people who have 70% of all STI cases occurring in their age group (10-19 years of age). The Progress Report in Thailand noted that this group has the highest number of HIV and AIDS cases (The Joint United Nations Programme on HIV/AIDS, 2014). This is due to the fact that early adolescents are at the stage when they will begin to consider and perform risky actions because of peer pressure, the desire to be included in a group, pressure to form relationships, and exposure to explicit pornographic media from magazines, television, and access to internet pornographic sites (Chang *et al.*, 2014). Early adolescents who have these kinds of behaviors are more likely to participate in sexual behaviors within the next 2 years (Nagamatsu *et al.*, 2013). An adolescent who underestimates the vulnerability of the consequences that can occur by participating in risky sexual behavior has an increased chance of engaging in sexual behavior. SRBs can contribute to a number of negative health consequences. This continues

to be a large problem in rural areas in Thailand's Northeastern region. This research, thus, intended to study and explore the situation of SRBs and identify factors influencing the SRBs of early adolescents currently studying in primary schools in Thailand. Most importantly, the aim is to pinpoint the basis of such problems laid in early adolescent years that impacted their health and wellbeing, as well as the quality of their lives.

## Materials and Method

This cross-sectional analytical research study evaluates early adolescents currently studying in grades 4-6 at 46 government primary schools and 12 government extended primary schools (which comprises additional grades 7-9 students) 10-12 years old living in Khon Kaen province, Thailand. These sample sizes were selected using a 3-stage cluster sampling technique, with the probability proportional to the size of school in each area to represent them completely. The sample size was calculated based on the following equation:

$$n = Z^2_{1-\alpha/2} p(1-p)/d^2, n_{Adjust} = n \times deff$$

where  $Z$  is the standard normal distribution = 1.96 at level 0.05,  $P$  is the acceptable proportion of SRBs based on previous study = 50.0% or 0.50 (Doyle *et al.*, 2012),  $d$  is the acceptable allowable error of 0.05, and  $deff$  is the design effect = 1 (Wayne, 1995). The estimated sample size was 385 students. Calculating for a 10% dropout rate, one would need a total of approximately 423 students. The theory of planned behavior (TPB) was used as the framework for this study. The TPB states that appropriate behaviors of an individual result from his or her intentions and are influenced by attitudes about the behavior, subjective norms, and perceived behavioral control. In this study, attitudes about SRB comprised beliefs about consequences of the SRB and expected outcomes of such SRB.

Subjective norms are defined as comprising normative beliefs about the prevalence of SRB and acceptability of the SRB by significant others, i.e., peers and parents. Perceived behavioral control comprises perceived control over SRB, which reflects individual evaluation of the presence of factors that may facilitate or impede performance of the SRB and perceived power to overcome any obstacles for control over the SRB. (Ajzen, 2002; Armitage and Talibudeen, 2010; Martin *et al.*, 2011; Turchik and Gidycz, 2012). This study was approved by the Ethics Committee of Mahasarakham University (Ref. No. 0094/2013). In addition, the participants aged less than 18 years were included in the present study based on their own willingness and permission from their parents or guardians.

The questionnaire was developed based on literature reviews and then submitted for corrections and revisions by 5 experts. A pilot test was carried out among 30 early adolescents with similar characteristics in the selected population. The reliability of the questionnaire was calculated using the Cronbach  $\alpha$  coefficient. Attitude scores toward SRBs were 0.91, perceived peer norm scores toward SRBs were 0.96, and perceived behavioral control scores towards SRBs were 0.94. The self-administered questionnaire that was collected had contents covering the objectives and conceptual framework in the research. The questionnaire consisted of 5 sections: 1) Socio-demographic, 2) SRBs among early adolescents in the past three months, 3) Attitude toward SRBs, 4) Perceived peer norm toward SRBs, and 5) Perceived behavioral control toward SRBs. The socio-demographic study listed 7 questions. To assess the SRB among early adolescents, the study listed 11 questions offering 3 possible scales: 1 = never, 2 = sometimes (1-2 times a month), and 3 = always (weekly). The score varied from 11-33 and the cases were divided into 2 categories based on the scores. Scores  $\geq 80\%$  = high level of SRBs and scores  $< 80\%$  = low level of SRBs. The attitude towards the SRBs' study listed 25 questions. These statements were measured on a 3-point Likert scale: 2 = agree, 1 = not sure, and

0 = disagree. The score varied from 25-75. The following scoring was considered in order to divide the group into 2 categories. Scores  $\geq 80\%$  = a negative attitude toward SRBs and scores  $< 80\%$  = a positive attitude toward SRBs. To assess the perceived peer norm towards SRBs, the study lists 12 questions. These statements used a 4-point ordinal scale: 0 = None, 1 = Some, 2 = Most, and 3 = All. The possible score range was 0- 36. The following scoring was considered in order to divide into 3 categories: high levels of perception that more friends were engaging in SRBs (scores  $\geq 80\%$ ), moderate levels of perception that more friends were engaging in SRBs (scores 60-79%), and low levels of perception that more friends were engaging in SRBs (scores  $< 60\%$ ). For perceived behavioral control towards SRBs, the study lists 8 questions and these questions offered a 10-point confidence scale suggesting "0" score for no confidence and "10" for complete confidence. The possible score range was 0-80. The following scoring was considered in order to divide into 3 categories: high levels of confidence towards perceived behavioral control (scores  $\geq 80\%$ ), moderate levels of confidence towards perceived behavioral control (scores 60-79), and low levels of confidence towards perceived behavioral control (scores  $< 60\%$ ). The data collected were analyzed using SPSS version 15 for Windows. Descriptive and inferential statistics were used. Socio-demographics, SRB, attitudes, perceived peer norm, and perceived behavioral control variables were stratified by gender. To describe the sample and association factors, chi-square and binary logistic regression analysis were employed to examine the factors influencing SRB among early adolescents and the adjusted odds ratio with 95% confidence intervals (95% CI, AOR).

## Results and Discussion

The socio-demographic characteristics of the participants were as follows: When the gender was considered, 54.3% were female and 45.7% were male. The ages of the participants ranged

from 10 years to 12 years with a mean age of 11.03 (SD = 2.97) years. Most of the participants had a grade point average (GPA) greater than 3.00 (69.0%) and females were reported to have a greater GPA than males (82.6% versus 52.9%,  $p < 0.05$ ). The education level was between grades 4-6 and most of them were studying in grade 5 (39.0%). Almost all

participants were living with parents (86.3%). However, it was a notable point that 13.7% of participants were living with relatives. The majority of parental status was married (76.6%) and only 18.2% were divorced. More than half of the respondents got a daily allowance of less than 30 baht (63.3%). Leisure activity of the participants was noted

**Table 1. Demographic characteristics by gender (n = 423)**

Demographic characteristics	Male n (%) (n = 193)	Female n (%) (n = 230)	Total n (%) (n = 423)	p-value
Age				0.444
10	84(43.5)	98(42.6)	182(43.0)	
11	54(28.0)	79(34.3)	133(31.4)	
12	55(28.5)	53(23.0)	108(25.5)	
Mean=11.03, SD= 2.97, Min= 10, Max= 12				
Grade Point Average				<0.001*
Less than or equal 2.99	91(47.1)	40(17.4)	131(31.0)	
Greater than 3.00	102(52.9)	190(82.6)	292(69.0)	
Education				0.670
Grade 4	40(20.7)	55(23.9)	95(22.5)	
Grade 5	75(38.9)	90(39.1)	165(39.0)	
Grade 6	78(40.4)	85(37.0)	163(38.5)	
Living arrangement				0.678
Parents	168(87.0)	197(85.6)	365(86.3)	
Relatives	25(13.0)	33(14.4)	58(13.7)	
Marital status of the parents				0.448
Married	153(79.3)	171(74.3)	324(76.6)	
Widowed	8(4.1)	14(6.1)	22(5.2)	
Divorced	32(16.6)	45(19.6)	77(18.2)	
Daily Allowances				0.449
<30 Baht	119(61.7)	150(65.2)	269(63.6)	
≥30 Baht	74(38.3)	80(34.8)	154(36.4)	
Mean= 30.8, SD= 14.5, Min= 10, Max= 70				
Leisure activity				
Watching television				0.012*
Yes	61(31.6)	100(43.5)	161(38.1)	
No	132(68.4)	130(56.5)	262(61.9)	
Using internet				0.001*
Yes	43(22.3)	24(10.4)	67(15.8)	
No	150(77.7)	206(89.6)	356(84.2)	
Playing games online				<0.001*
Yes	39(20.2)	15(6.5)	54(12.8)	
No	154(79.8)	215(93.5)	369(87.2)	
Talking with girlfriend/boyfriend				0.131
Yes	14(7.3)	9(3.9)	23(5.4)	
No	179(92.7)	221(96.1)	400(94.6)	
Playing sport				<0.001*
Yes	100(51.8)	53(23.0)	153(36.2)	
No	93(48.2)	177(77.0)	270(63.8)	

\*significant ( $p < 0.05$ )

in more than one- third (39.3%) with more females than males currently watching television (22.3% versus 10.4%,  $p<0.001$ ). The data showed that more males were involved in using the internet than females (10.2% versus 5.7%,  $p<0.001$ ), and more males were involved in playing games online than females (20.2% versus 6.5%,  $p<0.001$ ).

Most of the participants were not talking with a girlfriend or boyfriend (94.6%) and slightly less than two- thirds had not played sports (63.8%), although it was notable that a number of participants had to play sports (36.2%). The data showed that more males had to play sports compared to females (51.8% versus 23.0%,  $p<0.001$ ) as shown in Table 1.

**Table 2. SRBs among early adolescents in the past three months by gender (n = 423)**

Sexual risk behaviors	Male n (%) (n = 193)	Female n (%) (n = 230)	Total n (%) (n = 423)	p-value
Visit night place				0.001*
Never	180(93.2)	228(99.1)	408(96.4)	
Sometimes (1-2 times/month)	13(6.8)	2(0.9)	15(3.6)	
Watch pornographic movie/pornographic website				<0.001*
Never	161(83.4)	222(96.5)	383(90.5)	
Sometimes (1-2 times/month)/ Always (once/week)	32(16.6)	8(3.5)	40(9.5)	
Communication with boyfriend/girlfriend by internet				0.573
Never	180(93.3)	218(94.8)	398(94.1)	
Sometimes (1-2 times/month)	8(4.1)	7(3.0)	15(3.5)	
Always (once/week)	5(2.6)	5(2.2)	10(2.4)	
Use internet for find boyfriend/girlfriend				<0.001**
Never	160(83.0)	215(93.5)	375(88.7)	
Sometimes (1-2 times/month)	27(13.9)	12(5.2)	39(9.2)	
Always (once/week)	6(3.1)	3(1.3)	9(2.1)	
Talk with unknown person on internet				0.008*
Never	161(83.4)	214(93.0)	375(88.7)	
Sometimes (1-2 times/month)	21(10.9)	10(4.4)	31(7.3)	
Always (once/week)	11(5.7)	6(2.6)	17(4.0)	
Alcohol consumption				0.002**
Never	170(88.2)	221(96.1)	391(92.5)	
Sometimes (1-2 times/month)/ Always (once/week)	23(11.8)	9(3.9)	32(7.5)	
Time alone with girlfriend/boyfriend				0.020**
Never	182(94.3)	226(98.2)	408(96.4)	
Sometimes (1-2 times/month)/ Always (once/week)	11(5.7)	4(1.8)	15(3.6)	
Dating with boyfriend/ girlfriend				0.009**
Never	180(93.3)	226(98.3)	406(96.0)	
Sometimes (1-2 times/month)	13(6.7)	4(1.7)	17(4.0)	
Touching Body				0.083 <sup>a</sup>
Never	181(93.8)	225(97.9)	406(96.0)	
Sometimes (1-2 times/month)/ Always (once/week)	12(6.2)	5(2.1)	17(4.0)	
Have more than 1 boyfriend /girlfriend				0.547
Never	187(96.9)	225(97.8)	412(97.4)	
Sometimes (1-2 times/month)	6(3.1)	5(2.2)	11(2.6)	
Having sexual intercourse				NA
Never	193(100)	229(99.6)	422(99.8)	
Sometimes (1-2 times/month)	0(0)	1(0.4)	1(0.2)	

<sup>a</sup> Fisher's exact test, \*significant ( $p<0.05$ )

### Sexual Risk Behavior in the Past Three Months by Gender

Table 2 displays the SRB in which 3.6% of participants had sometimes visited adult night places e.g: clubs or bars (6.8% for males; 0.9% for females,  $p<0.05$ ). There were 9.5% participants who had watched pornographic movies or been on a pornographic website (16.6% for males; 3.5% for females,  $p<0.01$ ), and 11.5% indicated having used the internet to find a boyfriend/ girlfriend (17.0% for males; 6.5% for females). There were 11.3% of participants who had communication with an unknown person on the internet (16.6% for males; 7.0% for females). There were 7.5% of participants who indicated that they had already drunk alcohol (11.8% for males; 3.9% for females). There were 3.6% who reported having time alone with their girlfriend/ boyfriend (5.7% for males; 1.8% for females,  $p<0.05$ ) and 4.0% of participants had been dating (6.7% for males; 1.7% for females,  $p<0.05$ ); 4.0% indicated to have been touching the body, 2.6% reported having more than 1 boyfriend/ girlfriend, and 0.2% of participants had already had sexual intercourse.

### Attitude Toward SRBs by Gender

Table 3 displays the results, showing that 49.2% of the participants had a negative attitude towards SRBs, but 50.8% indicated that they had a positive attitude towards SRBs. It was also indicated that there is no significant association between attitude towards SRBs by gender ( $p>0.05$ ).

### Subject Peer Norm Toward SRBs by Gender

Table 3 displays that the subjective peer norm towards SRBs did not have a significant association between genders ( $p>0.05$ ). About 48.7% of participants had a low level of perception that more friends were engaging in SRBs. However, about 29.8% of participants had high levels of perception that more friends were engaging in SRBs. For example, about 37.8% perceived that friends were watching pornographic clips/videos and 29.3% of the participants perceived that friends had boyfriends or girlfriends.

### Perceived Behavior Control by Gender

Table 3 shows that the perceived behavioral control toward SRBs was a significant

**Table 3. Attitude, subjective peer norm, perceived behavioral control, and sexual risk behaviors by gender (n=423)**

Dependent variables	Male n (%) (n=193)	Female n (%) (n=230)	Total n (%) (n=423)	p-value
Attitude				0.082
Positive	107(55.4)	108(47.0)	215(50.8)	
Negative	86(44.6)	122(53.0)	208(49.2)	
Subject peer norm				0.142
High level	49(25.4)	77(33.5)	126(29.8)	
Moderate level	43(22.3)	48(20.9)	91(21.5)	
Low level	101(52.3)	105(45.6)	206(48.7)	
Perceived behavior control				<0.001*
High level	66(34.2)	139(60.4)	205(48.5)	
Moderate level	38(19.7)	19(8.3)	57(13.5)	
Low level	89(46.1)	72(31.3)	161(38.0)	
Sexual risk behavior				<0.001*
Low - Moderate level	109(56.5)	192(83.5)	301(71.2)	
High level	84(43.5)	38(16.5)	122(28.8)	

\*significant( $p<0.01$ )

association between genders ( $p < 0.01$ ). A total of 48.5% with more female than male (60.4% versus 34.2%) of the participants reported having a high level of perceived behavioral control toward SRBs but 38.0% indicated that they had a low level of perceived behavioral control toward SRBs. Participants were able to perceive behavior control in high and low levels that were similar (48.5%, 38.0%).

### Sexual Risk Behavior by Gender

SRB was significantly associated between genders ( $p < 0.01$ ). A total of 71.2% (more females than males, 83.5% versus 56.5%) of participants had low-moderate level SRB. However, the data showed that 28.8% had high-level SRB as shown in Table 3.

### The Factors that Influence Sexual Risk Behaviors Among Early Adolescents

Table 4 presented by binary logistic regression was used to identify the factors that influence SRB. The results showed that male early adolescents were 2.75 times more likely

to perform SRB than females (AOR = 2.75, 95% CI: 1.66- 4.54,  $p < 0.001$ ). Male early adolescents (19.9%) had high-risk SRB, more than female pre- adolescents (9.0%). The participants who had used the internet were 2.01 times more likely to have SRB than those who did not use the internet (AOR = 2.01, 95% CI: 1.08-3.76,  $P = 0.028$ ). Participants who had lots of communications with their girlfriend(s)/ boyfriend(s) had a chance of SRB 4.01 times higher than those who did not have a lot of communication with their girlfriend(s)/ boyfriend(s) (AOR = 4.01, 95% CI: 1.43-11.24,  $p < 0.05$ ). Those who had positive attitudes toward SRBs were 3.14 times more likely to have SRBs than those with negative attitudes (AOR = 3.14, 95% CI: 1.88-5.24,  $p < 0.001$ ). Those who had low and moderate perceived behavior control in SRBs risk having SRB ( 3.48 times and 5.12 times, respectively) higher than those who had high perceived behavior (AOR = 3.48, 95% CI: 1.98-6.12,  $p < 0.001$  and AOR = 5.12, 95% CI: 2.50-10.40,  $p < 0.001$ , respectively).

**Table 4. Factors that influence sexual risk behaviors among early adolescents**

Dependent variables	Sexual risk behaviors		AOR (95% CI)	p-value
	Low-moderate n (%)	High n (%)		
Gender				<0.001**
Female	192(45.3)	38(9.0)	1	
Male	109(25.8)	84(19.9)	2.75(1.66-4.54)	
Use Internet				0.028*
No	264(62.4)	92(21.7)	1	
Yes	37(8.7)	30(7.2)	2.01(1.08-3.76)	
Communication with girlfriend/boyfriend				0.008*
No	294(69.5)	106(25.1)	1	
Yes	7(1.7)	16(3.7)	4.01(1.43-11.24)	
Attitude				<0.001**
Negative	87(20.6)	128(30.3)	1	
Positive	35(8.3)	173(40.8)	3.14(1.88-5.24)	
Perceived behavior control				
Low	100(23.6)	61(14.4)	3.48(1.98-6.12)	<0.001**
Moderate	25(5.9)	32(7.6)	5.12(2.50-10.40)	<0.001**
High	176(41.6)	29(6.9)	1	

Abbreviations: AOR= Adjust Odds Ratio; CI= Confidence Interval,

\*significant( $p < 0.05$ ), \*\*significant ( $p < 0.01$ )

In this study, 5 factors were statistically significant with SRBs: gender, usage of internet, excessive communication with girlfriends/boyfriends, attitude toward SRBs, and perceived behavioral control toward SRBs. These findings contribute to the following discussion that male early adolescents had more chance to have SRB, which is similar to previous studies (Tipwareerom, 2010; Wang *et al.*, 2010; Puente *et al.*, 2011; Centers of Disease Control and Prevention, 2012; Sychareun *et al.*, 2013; Guo *et al.*, 2014; Thongnopakun *et al.*, 2016). This study showed that using the internet to watch pornographic movies or to go on pornographic websites, using the internet to find a boyfriend/girlfriend on online dating sites, communicating with an unknown person on the internet, drinking alcohol, and staying alone with their girlfriend/boyfriend contributes to SRB. Usage of the internet to meet boyfriends/girlfriends and communicating with them are important factors that influence SRBs. This may be because 15.8% of participants reported the use of the internet with 9.5% of participants using the internet to view pornographic movies or pornographic websites which were inconsistent with previous studies. It was found that there were incidences of viewing pornographic movies or pornographic websites. The youths spent an average of >7 hours/day using media, the vast majority of them had access to a bedroom television, computer, the internet, a video-game console, and a cell phone (Strasburger *et al.*, 2010; Chi *et al.*, 2012). Early adolescents who have these kinds of behaviors are more likely to participate in sexual behaviors in the next 2 years.

From the study, it was found that early adolescents who had a positive attitude toward SRBs had more chances to have SRBs than early adolescents who had a negative attitude toward SRBs. The findings suggested most early adolescents agreed in their answers about having SRBs and had a high-risk level of SRBs, having sexual intercourse, and using a condom for the first sexual intercourse. This corresponded to the study mentioning that dating plays a part in an early adolescent's healthy development. But when teens are

dating exclusively, they are more likely to have sex at an earlier age (Collins *et al.*, 2008). Considering the gender, it was found that females and males with a positive attitude or support toward SRB similarly found that sexual experience is common among early adolescents. This shows that our study was somewhat similar to previous studies (Thongnopakun *et al.*, 2016). This study also indicated that early adolescents who had a low and moderate level of perceived behavior control had more chances to have a high-risk level of SRBs. This is in line with prior research that has indicated the intention to control behaviors has better factors influencing perceived behavior control than other TPB constructs (Buhi and Goodson, 2007; Shiferaw *et al.*, 2014; Kalolo and Kibusi, 2015).

## Conclusions

Early adolescents aged 10-12 years old who were students from grades 4-6 in primary schools residing in Khon Kaen, Thailand in the present study had SRBs that include alcohol consumption, having more than 1 boyfriend/girlfriend, and for a small percentage having had sexual intercourse. The results reveal that gender, internet use, communicating with girlfriends/boyfriends, attitude, and perceived behavior control were the best factor influences to having SRBs among early adolescents. Therefore, interventions that have great importance regarding self-efficacy and improvement in avoiding access to sexual content found in media among early adolescents include creating a negative attitude of SRB, providing appropriate sexual health education, life skills, and helping further perceived behavior control. This will help with early adolescents' decision-making in performing certain behaviors and will demonstrate that empowerment in looking after themselves is important in turning risky intentions into controlled behavior. Findings from this research study could bring more understanding to early adolescents as they develop into adulthood. It is also useful for parents, administrators of schools and local

organizations, public health personnel, and related organizations or groups to develop appropriate preventive strategies and solutions to alleviate SRB.

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