The Risk of Premarital Sex Among Thai Youth: Individual and Family Influences

*Chai Podhisita**
*Peter Xenos***
*Anchalee Varangrat**

Introduction

Much of the recent research on adolescents has been motivated by the high-profile risk-behaviors of the young. Behavioral studies of youth in both the developed and the developing worlds have centered on reproductive health behaviors and related issues, in recognition of the direct implications of these behaviors for personal welfare and social policy. In developing countries such as Thailand, interest in these reproductive health issues has been enhanced by the apparent rising prevalence of all kinds of risk behaviors starting in the latter part of the 20th century (Senderowitz, 1995; Alan Guttmacher Institute, 1998), and the emergence of new risks due to the spread of HIV (Monitoring the AIDS Pandemic, 1997), combined with the very rapid growth and changing composition of youth populations (Xenos and Kabamalan, 1998).

The main objective of this study is to identify correlates of premarital sex as an important form of risk-taking among youth in Thailand. We have framed our analysis around the proposition that, as a primary social unit, the family provides individuals with socialization, protection and support in various aspects of life including protection from harmful behaviors of different forms. It is often stated that strong family background, defined in terms of a stable family structure and smooth family processes, can function as a protective and preventive mechanism against risk taking

* Institute for Population and Social Research, Mahidol University, Salaya, Putthamonthon, Nakhon Pathom 73170, Thailand. E-mail: prcps@mucc.mahidol.ac.th; pravr@mucc.mahidol.ac.th
** Population and Health Studies, The East-West Center, 1601 East-West Rd., Honolulu, Hawaii 96848-1601. U.S.A. E-mail: xenosp@eastwestcenter.org

behaviors such as premarital and unsafe sexual practices (for example, Rodgers, 1999). Yet, the family may not be the only precursor that plays an important role. Indeed, the decision to engage or not to engage in any risky behavior falls ultimately on individual actors. Moreover, individual decisions and actions may be influenced considerably by aspects of personal background and orientation. It is appropriate, therefore, to take into account factors at both the individual and family levels.

Previous investigators have identified different types of family influences and measures of them. (For excellent reviews of this subject see FOCUS on Young Adults, 2001; Kirby, 1997, 2001; Jessor, Turbin and Costa, 1998, 1999; and Toumbourou et al., 2000.) The measures included most often in recent analyses may be grouped conveniently into three types: parental characteristics, family structure and family process. Parental characteristics are mainly measures of parental socio-economic status such as education and income but may also include parental attitudes about sexual behavior and other matters. Family structure includes measures of living arrangements and marital statuses of parents, while family process includes measures of relationships within the family and also indicators of parent-adolescent communications and parental authority and monitoring styles. Several individual factors have also been investigated as precursors of adolescent sexual activity. These included psychological and social characteristics of adolescents and youth such as self-esteem, academic performance, sexual attitudes, alcohol consumption and negative behaviors of peers. The following sections briefly examine important findings from selected previous studies.

Parental characteristics: Adolescent sexual behavior is linked to the socioeconomic status of the family, primarily through the education and incomes of the parents. Later onset of sexual intercourse and lower teen pregnancy rates are related to higher family incomes (Inazu and Fox, 1980; Hogan and Kitagawa, 1985). Likewise, higher levels of parental education have been associated with lower adolescent sexual activity, delayed sexual initiation, safer sexual practices and lower risks of pregnancy (Fortste and Heaton, 1988; Kahn, Rindfuss and Guilkey, 1990; Hayward, Grady and Billy, 1992). Sexual activity of adolescents is significantly related to parental sexual attitudes. Generally, a traditional attitude is associated with lower risk, a permissive

attitude with higher risk. Jaccard, Dittus and Gordon (1996) found that perceived maternal disapproval of premarital sex, together with satisfaction with the mother-child relationship, was significantly related to abstinence from adolescent sexual activity and to less frequent sexual intercourse and more consistent use of contraceptives among sexually active youth. A study of White adolescents aged 15 and 16 in the United States also revealed that daughters of traditional parents who communicated with them about sex or about television were less likely to have had intercourse (Moore et al., 1986).

Family structure: Living in the family with both parents implies the availability of support, supervision and behavioral control in many aspects of adolescents' lives. Previous studies commonly suggest that youth in two-parent families are less likely to risk premarital sexual activity. A study of Black and White adolescents in the United States found that, for males, the two-parent family was related to less sexual activity and older ages at first intercourse. For females, however, the effect of a two-parent household was less important than race in influencing sexual behavior (Young et al., 1991). Upchurch et al. (1999) found that teenagers living in single-parent or step-parent families had higher risks of sexual intercourse compared to those from two-parent or intact families. However, a study by Miller, Forehand and Kotchick (1999) found that family structural variables (family income, parental education and maternal marital status) failed to predict adolescent sexual behavior.

Family process: Family process involves relationships, communication and control within the family. Adolescents with greater satisfaction in relationships with their mothers are less likely to be sexually active and to initiate intercourse later than those with less satisfaction (Jaccard, Dittus and Gordon, 1996). Parent-adolescent communication and its correlation to adolescent sexual behavior is a subject of much research, perhaps more than any other parental influence in this area (Meschke, Bartholpmae and Zentall, 2000). Yet, results are not always consistent. Some investigators found no relationship between parent-adolescent communication and teen sexual behavior (Casper, 1990; Miller et al., 1986). Others found higher levels of parental communication to increase the likelihood of sexual activity of adolescents (Widmer, 1997). Still others found a high quality of communication to be related to a

decreased likelihood of intercourse, delayed first sex for boys, but decreased likelihood of being pregnant and increased contraceptive use for girls (East, 1996; Fisher, 1987; Leland and Barth, 1993; Pick and Palo, 1995; Miller, Forehand and Kotchick, 1999). Most studies focusing on parental control, measured in terms of regular monitoring of children's behavior, support the notion that a higher level of parental monitoring is related to delay of sexual intercourse (Ku, Sonenstein and Pleck, 1993), fewer partners and greater use of contraceptives (Luster and Small, 1994; Miller et al., 1999; Rodgers, 1999).

As others who share many common characteristics and interests, siblings have significant influence on adolescents' sexual behavior. Haurin and Mott (1990) examined this issue among White and Black siblings in the U.S. and found that, for White boys and girls, there are significant and meaningful direct linkages between the age of sexual initiation of older and younger siblings. However, this is not the case for Black siblings. The presence of sexually active sisters and adolescent childbearing sisters is associated with permissive sexual attitudes, positive intentions for future sexual activity, and a greater likelihood of being a non-virgin (East, 1996; East, Felice and Morgan, 1993). Similar sibling effects are confirmed by the finding from Widmer's analysis which indicates that the sexual behavior of older brothers has a significant influence on the timing of younger siblings' initiation into sexual intercourse (Widmer, 1997).

Individual characteristics: Self-esteem seems to have a mixed influence on adolescent sexuality. A review of the literature by Chilman reveals that low self-esteem is associated with early intercourse in girls but not in boys (Chilman, 1979). This is in contrast to the review by Flick which suggests that high self-esteem is associated with early sexual activity in males (Flick, 1986). A review of another group of studies, however, concludes that there is no relation between self-esteem and sexual activity of either males or females (Hayes, 1987, cited in Small and Luster, 1994). A recent analysis found that a higher level of self-esteem was negatively related to early intercourse among adolescents in grades 8 through 10 in the United States (Whitbeck et al., 1999). Low academic performance is one of the most important "risk factors" for

sexual intercourse among adolescents (Small and Luster, 1994; Perkins et al., 1998; Luster and Small, 1994). Sexual activity of teenagers is found to be related to permissive sexual attitudes (Whitbeck et al., 1999), alcohol consumption (Luster and Small, 1994; Small and Luster, 1994; Perkins et al., 1998), and negative or delinquent behavior of peers (Small and Kerns, 1993; Whitbeck et al., 1999).

The studies reviewed above were all conducted in Western settings; similar studies conducted in developing countries are lacking. Nevertheless, we believe that many family and individual measures that were found to be good correlates of adolescent and youth sexuality in a Western context will show similar effects in settings such as Thailand. In this study, we use some of the measures employed in previous analyses to explore the premarital sexual behavior of Thai youth.

Premarital Sex in Thailand

Despite fairly restrictive sexual norms, premarital sex is common in Thailand even in the more traditional sector of society such as rural areas (Klausner, 1987). It is believed to be increasing as the country becomes more modernized. A study of adolescents in a Northeastern province (Prasartkul et al., 1987) found that premarital sex was acceptable for the majority of men (more than three-fourths) but for only a minority of women (about two-fifths). Reports of premarital sex were also more common among male adolescents, but less common, or even "rare", among female adolescents. This male-female difference in sexual attitudes and behavior is commonly found in most studies that have investigated Thai sexuality (for example, Sittitrai et al., 1992; McNamara, 1994; Israbhakdi, 1995).

The marked differences in reported sexual behavior of Thai men and women have often been explained in terms of a differential in sexual freedom. We believe that, while this is true, sexual norms alone are not sufficient to account fully for the low reports of premarital sex among women that are evident in most studies. We suspect that the field procedures for data collection have much to do with the observed

differences. Because of normative expectations, women may be less open about their sexual behavior, especially when face-to-face interviews are conducted as in the case of the surveys referred to above.

The onset of sexual experience varies in age pattern between men and women and according to population sub-groups. A large-scale survey of the general population in 1990 shows the median age at first sex to be 18 for males and 21 for females (Sittitrai et al., 1992). Other studies reported earlier ages. Among male youth from low-income communities of Bangkok and an urban center in the Northeast the median age at first sexual intercourse is 16 years (Podhisita et al., 1994); for female youth, more than three-fourths had first sexual intercourse before age 20 (McNamara, 1994). A study of different categories of unmarried men, (students, military conscripts, clerical workers and construction workers,) in a Northern province revealed a life table median age at first intercourse of 19 for the entire sample, but for conscripts and construction workers the medians were 17 and 18, respectively (VanLandingham et al., 1993). Another study of military conscripts (aged 21 years old) in the North reported that 54 per cent of the sample who ever had sexual intercourse had it for the first time by age 16 (Nopkesorn, et at., 1991, 1993). Nearly all these young men had sexual intercourse before they were married.

It is widely believed that most Thai young men have their first sexual experience (locally known as *khuen kruu* --- "approaching the Master"*)* with commercial sex partners. This is probably the case given the relatively convenient access to commercial sex. Among military conscripts, for example, about three out of four men with sexual experience had their first intercourse with commercial sex partners (Nopkesorn et al., 1991, 1993). Other studies, however, reported smaller proportions having the first sex commercially -- usually less than 50 per cent, especially among youth (Podhisita et al., 1994; Israbhakdi, 1995). Reduced rates of using commercial sex in recent years, if this trend is genuine, may be a positive response to continuing campaigns against HIV/AIDS and changing access to commercial sex.

That premarital sex is increasingly common among Thai youth is unquestionable. The major concern among some individuals in this respect has to do with reducing age at onset and greater prevalence of the behavior as the country continues to experience social and economic transformation while the family is loosing its force.

Data and Methods

This analysis uses data from the Family and Youth Survey (FAYS), conducted in 1994 (Podhisita and Pattaravanich, 1995). This national survey interviewed a sample of 2,180 male and female youth aged 15-24 drawn from stratified sample communities consisting of 68 villages and 48 urban blocks randomly selected from 42 districts of 12 provinces across all four regions of the countries (Bangkok included). The sample procedure for this survey is described in detail elsewhere (Podhisita and Pattaravanich, 1995).

The questionnaire for this survey was field-tested three times before data collection began. There are ten sections designed to collect data on various aspects of youth life including family relations, education, work and income, help from and contributions to the family, self image, values and attitudes, family formation, leisure, friends, social networks, health, sexual experience and drug use. Questions on sexual experience and drug use were directly phrased using the commonly understood but polite, central Thai terms.

The section of the questionnaire on sexual experience was self-administered by respondents after face-to-face interviews for other parts had been completed. Questions were prepared on a separate sheet which was handed to the respondents with an envelope. Respondents were advised to answer all applicable questions privately and return the completed questionnaire to the interviewer in the sealed envelope, without respondent's name or other identifications. This strategy resulted in a 100 per cent response rate among those who had already submitted to the face-to-face interview.

The present analysis is based on selected information on sexual experience, family and individual background drawn from different parts of the questionnaire.

The Measures

(a) Outcome Variable

Sexual experience, the focus of this analysis, is limited to penetrative sexual intercourse with a person of the opposite sex only. Based on the answers to the question on marital status at the time of first sexual experience, respondents are classified into three groups: those who had first sex before marriage, those who had first sex within marriage, and those who never had sexual intercourse. Of these, the first group is the focus of analysis here. The condition "married" versus "unmarried" is self-defined by the respondents. In the logistic regression analysis presented below sample youth are divided into those who had premarital sexual experience and those who did not have such experience.

(b) Explanatory Variables

Three sets of explanatory measures are included in our analysis. The first set consists of socio-demographic and background measures: *age, school status, place of residence, parental education* and *financial status*. In the logistic regression analysis described below this set of measures is treated as a set of controls, with the age control taking on a special significance. The second set consists of measures related to family structure (*living arrangement* or co-residence with parents) and family process *(relationship with parents, relationship with siblings* and *a measure of family control)*. The third set of measures reflects individual-level characteristics which include *self-esteem, personal values scale,* two risk-enhancing lifestyle measures *(visiting nightclubs, pubs and bars,* and *alcohol consumption), sexual experience of peers* and *sexual attitudes.* These individual-level indicators include both the personal and the

behavioral, and in our analysis these are distinguished. Additional information on each measure included in our hypotheses is given below.

Socio-demographic Measures

Age: In the FAYS, age is measured in completed years since birth. In the bivariate table, age is grouped into standard five-year categories, 15-19 and 20-24, but in our logistic regression analysis single years of age are used.

School status: Female and male youth who were full-time students at the time of the survey were regarded as "in-school;" others are "out-of-school."

Place of residence: The standard urban definition set by the National Statistical Office of Thailand includes all municipal areas and the entire area of Bangkok Metropolis. FAYS followed this definition and it over-sampled the urban youth. For our analysis the sample was weighted so that their distribution by age, sex and place of residence, etc., is similar to that in the 1990 census population.

Financial status: Although we have found no previous studies focused on the effect of financial status on sexual behavior, we consider it of interest to explore how this measure is related to youth's engagement in risk behaviors, particularly for those youth with ample financial resources. We hypothesize that youth with difficult financial circumstances are more likely to engage in risk behavior including premarital sex.

Family Background Measures

Parental education: For our analysis, only the educational level of mother or father, whichever is higher, is taken to represent parental education. If one of the parents died before the respondent was 10 years old, the education of the surviving parent was used. When both parents had died before the respondent was 10 years old, the case is excluded from analysis. Our use of age 10 as the cutting point reflects the

assumption that the effect of parental education on children's behavior is likely to be reduced considerably if either or both parents died while the respondent was still in early childhood. Studies in some Western settings indicate a mixed effect of parental education; some found it to have a protective effect (Forste and Heaton, 1988), while others found no effect of this measure on youth sexual behavior (Miller, Forehand and Kotchick, 1999; Small and Luster, 1994). In our analysis we expect youth whose parents have higher levels of education to be less likely to engage in premarital sex.

Coresidence with parents: Being close to parents should be an advantage to children at least in terms of the support and supervision which are essential in the process of transition to adulthood. Although parenting style may also be important, just the presence or absence of parents can make a difference as it means availability of supervision and control. We hypothesize that youth living in families with both parents present will be less likely to risk premarital sex.

Relationship with parents: Respondents were asked to assess their relationships with their parents (biological or adoptive). Relationships are grouped into three categories: "good with both mother and father," "good with either mother or father," and "good with neither of them." We hypothesize that youth who have good relationships with both parents are less likely to risk premarital sexual intercourse.

Relationship with siblings: To most adolescents, siblings are family members who share many common characteristics and elements of social position. Some previous studies suggest an influence of older siblings on the initiation of sexual intercourse of younger siblings (for example, Widmer, 1997; Haurin and Mott, 1990). In this study, because direct information is not available, relationship with other siblings is taken as a proxy for the sibling's influence. In FAYS, a direct question was asked to assess respondents' relationships with their siblings (full or half siblings). Those with no siblings were excluded from the analysis. We hypothesize that youth with good relationships with all siblings are less likely to engage in premarital sex.

Family Control Scale: At the core of this measure is the extent to which children's behavior and activities are monitored and supervised. Some previous studies in Western settings that focus on parental monitoring have pointed out significant effects of this measure on adolescent sexuality (for example, Rodgers, 1999). In our analysis, this measure is created by summing the scores derived from the respondent's answers to a set of eight questions that ask about the freedom from family control on specified aspects of the respondent's life. In particular, the questions address freedom from family control over *the kind of people to make friends with, spending money, going out for fun, choosing jobs, having boyfriends/girlfriends, dressing/ clothing, choosing what to study, and choosing potential marriage partners.* Lack of freedom in any of these aspects is considered evidence of greater family control; more freedom, less family control. This variable is measured in terms of the proportion of the total possible score derived from responses to the above questions. We test the hypothesis that lower risk of premarital sex is associated with higher level of family control.

Individual-level Measures

Self-Esteem Scale: This is a composite variable created from the score derived from responses which indicate how well each of the specified statements describes the respondents' perception of themselves. The statements are*: "You feel that you have a number of good qualifications," "You feel that you are as important to your family as other members," "You feel that you can accomplish many things just as other people," "You are hardly proud of yourself," (reverse-coded) " You always know your own strengths and weaknesses," "You feel that many things you do are not so meaningful for yourself" (reverse-coded), and "You feel that you mean much to your friends."* We test the hypothesis that youth with a high self-esteem scale are less likely to engage in risk behaviors including premarital sex.

Personal Values Scale: Like self-esteem, the personal values scale is a composite measure taken as a proportion of the total scores derived from the respondent's answers which indicate how important each of the specified values is to him/her. The specified values include*: freedom to do things the way one wants, honesty,*

fun and enjoyment, religion and morality, a goal-oriented life, friendship, collective interest over individual's interest, equality of men and women, and self-restraint. Our analysis tests the hypothesis that higher personal value scale is associated with lower risk of premarital sex.

Drinking and Clubbing: Negative, risky behaviors often go hand-in-hand as elements of a life style. Previous studies have found an association between different forms of negative activities and sexual risk behavior (Perkins et al., 1998). In our study we take drinking of alcohol and clubbing to represent such negative behaviors. Both drinking and clubbing are measured in terms of frequency in the one-month period before the survey. We hypothesize that higher frequency of drinking and clubbing is associated with higher risk of premarital sex.

Peer Sexual Experience: Peers often provide important models of attitudes and behavior for adolescents and youth. Youth whose peers have had sexual experience tend to engage in the same behaviors (Small and Kerns, 1993; Small and Luster, 1994). Based on the recognized significance of peers as models for youth behavior, we hypothesize that youth who perceive that most of their friends have had sexual experience are more likely to engage in premarital sex than those who say their friends have not had such experience. Note that the reports on peer's sexual experience used for this measure represent the perception of the respondents, and may not well represent their peer's actual experience. Perceptions may influence personal behavior but, of course, personal behavior may also influence perceptions. We must interpret this information with caution.

Liberal Sexual Attitudes: Attitudes are a foundation for behavior, and previous studies have found significant effects of permissive sexual attitudes on adolescent sexuality (for example, Whitbeck et al., 1999). We test the hypothesis that more liberal sexual attitudes are associated with higher risks of premarital sex. For our purpose, a liberal sexual attitude scale was obtained by summing the scores derived from positive responses to two specified statements to which the respondents were asked to indicate their agreement: *"It is out-of-date to keep female's virginity till the*

time of marriage," and *"Nothing is wrong for a young man and a young woman to cohabit without going into marriage."*

Results

(a) Patterns of Premarital Sex by the Background Measures

The observed patterns of premarital sex by the background measures are summarized in Table 1 which highlights only a few important points in the findings. First, as expected, there is a sharp contrast in the male and female patterns of sexuality across all background characteristics, with males being far more active than females. Among those who ever had sexual experience, nearly 9 out of 10 males experienced sexual intercourse when they were still unmarried, compared to just less than 1 in 4 among females. However, the male and female patterns show some similarity in that the observed associations between premarital sexual experience and the background factors are in the same directions, although at different levels. This seems to suggest that the family and individual characteristics included in this study work more or less in the same manner for both sexes. For example, among both males and females, the younger youth seem to be more active than the older youth; the in-school, more than the out-of-school; and the urban, more than the rural.

Second, consistent associations between background factors and premarital sex are observed only for some characteristics. For example, the proportion who reported premarital sex increases steadily as "relationship with parents" and "relationship with siblings" are getting worse. Similarly, the proportion having premarital sex increases steadily as the frequency of clubbing and drinking increases. But, on the other hand, there is a general lack of consistent association of premarital sex with parental education, living arrangement, and financial status, suggesting weak effects of these measures as explanatory factors. Different levels of the family control and personal value scales show only small differences in the levels of premarital sex of males and females, while the self-esteem scale, perceived sexual behavior of peers and

the sexual attitude scales show similar associations but at different levels. Lower premarital sexual experience tends to be associated with a high self-esteem scale, more liberal sexual attitudes and perception of "no sexual experience" among most friends.

In general, the bivariate results confirm that a wide gap exists in premarital sexual experience of male and female youth. In the Thai context, such a wide gap is understood in terms of sexual norms which are more permissive for men, the so-called double standard. Results seem to also suggest the significance of socio-demographic background and some family and individual characteristics. However, the bivariate relationships can be fragile and even deceiving evidence in support of causal interpretations. For this reason, we employ multivariate analysis, the results of which are discussed below.

Table 1: Proportion of sexually experienced youth with premarital sexual experience, by family and individual background measures and sex

Characteristics	Male		Female	
	Percent	Number	Percent	Number
TOTAL	88.6	561	22.5	436
Socio-demographic background				
Age				
15-19	98.1	160	24.5	110
20-24	84.8	401	21.8	326
School status				
In-school	96.8	124	50.0	10
Out-of-school	86.3	437	22.0	427
Place of residence				
Urban	91.4	128	48.5	68
Rural	87.8	433	17.8	370
Parental education				
No education	100.0	21	33.3	18
Elementatry	85.8	358	19.5	293
Middle - High school	97.3	37	42.3	26
College or Higher	93.1	29	33.3	3

Table 1: (continued)

Characteristics	Male		Female	
	Percent	Number	Percent	Number
Financial status				
Just enough monthly	88.7	284	24.6	207
At least can save some	88.0	158	18.0	128
not enough, had to borrow	91.2	68	21.8	55
No persoanl income	86.3	51	27.7	47
Family Background				
Living arrangement				
With both parents	87.9	321	21.7	175
With mother or father only	97.6	84	29.1	55
With neither	85.3	156	21.4	206
Relationship with parents				
Good with both	84.0	351	20.0	300
Good mother or father only	98.9	95	32.8	58
Good with neither	100.0	35	31.3	16
Relationship with siblings				
Good with all	87.9	519	22.6	389
Good with some	100.0	23	20.6	34
Good with none	100.0	4	50.0	4
Family control				
Low	89.2	388	21.8	239
High	87.3	173	23.2	198
Individual characteristics				
Self-esteem				
Low	93.0	287	28.6	231
High	83.9	274	16.0	206
Personal value				
Low	92.4	250	22.6	199
High	85.5	311	22.7	238
Clubbing				
Not at all	78.4	255	20.5	351
At least once a week	97.0	302	29.3	82
Everyday	100.0	4	50.0	4

Table 1: (continued)

Characteristics	Male		Female	
	Percent	Number	Percent	Number
Drinking				
Not at all	81.8	99	17.3	104
At least once a week	88.1	353	35.7	84
Everyday	100.0	43	66.7	3
Not a drinker	93.9	66	19.9	246
Percieved sex behavior of peer				
Yest, for most peers	95.6	250	32.2	87
No, for most peers	79.9	239	18.5	249
Sexual attitude				
Less liberal	80.0	185	17.3	277
More liberal	92.8	376	31.4	159

(b) Multivariate Analysis

We use logistic regression analysis to assess effects of the family and individual background measures on the risk of exposure to premarital sex, net of one another and net of the effect of current age. Since our bivariate results show very different levels of exposure to premarital sex among males and females, it is appropriate to separate the models for males from those for females. In the logistic models in Table 2, we present a set of Base models which include only current age, and other explanatory factors – first taken separately, then each one of them with age. Next we present models involving each of three sets of factors: *social background factors*, *individual factors*, and *family factors* with age (Models 2a, 2b and 2c), and then a final model involving all these factors simultaneously (Model 3). The table presents relative odds ratios and associated statistical significance levels. We will discuss these results in the groups in which they are presented. For each explanatory factor we look at how coefficients change between the Base model and models with increasing numbers of controls. We also note important differences between the results for males and females.

Table 2: Coefficients (relative odds ratios) and significance levels for various models involving pre-union sexual experience and combinations of age, social background, individual, and family explanatory factors, male and female youth ages 15-24 in Thailand in 1997

Sex and Group of Explanatory Factors[a]	Model 1				Model 2.a		Model 2.b		Model 2.c		Model 3	
	Base Models: Explanatory Factors Taken Separately				Social Background Factors and Age		Individual Factors and Age		Family Factors and Age		All Explanatory Factors	
	Alone		With Age									
	Coefficient	Sig	Coefficient	Sig	Coefficient	Sig	Coefficient	Sig	Coefficient	Sig	Coefficient	Sig
MALES												
A Base (Age only)	3.327	***			3.336	***	3.125	***	3.535	***	1.558	***
B Social Background												
In School	0.380	***	0.771		0.716						1.028	
Urban Resident	1.034		0.968		0.928						0.350	***
Parent's Education												
None (ref. category)												
Elementary	0.583		0.726		0.660						0.723	
Middle High School	0.593		1.006		1.107						1.491	
Collage or Higher	0.653		0.977		0.919						1.708	
Financial Status												
Just enough (ref. category)												
No income (not working)	4.457	***	2.073	**	6.837	***					1.817	*
Can save some	1.777	***	1.609	**	2.441	***					1.295	
Not enough/borrows	0.991		0.854		1.364						4.662	**
C Individual Characteristics												
Clubbing Last Month												
Never went clubbing												
Infrequent	3.118	***	2.98	***			3.498	***			2.902	***
Once a week – every day	2.780	***	3.756	***			4.748	***			5.886	***
Drinking Last Month												
Never went drinking												
Infrequent	2.091	***	1.754	**			1.961	**			1.710	
Once a week – every day	6.342	***	4.313	***			3.613	***			4.141	***
Self Esteem Scale	0.665	***	0.673	***			0.865				0.893	
Personal Values Scale	1.149		1.093				1.366				1.309	
Has Liberal Sexual Attitudes	1.130	***	1.120	***			1.106	**			1.079	
Peer Influence	4.648	***	3.364	***			3.693	***			3.224	***
D Family												
Co-residence with parents												
With both parents (ref. category)												
With mother or father	1.513	**	1.157						1.200		1.459	
With neither	2.767	***	2.212	***					1.859	**	2.102	*

Table 2: (continued)

Sex and Group of Explanatory Factors[a]	Model 1				Model 2.a		Model 2.b		Model 2.c		Model 3	
	Base Models: Explanatory Factors Taken Separately				Social Background Factors and Age		Individual Factors and Age		Family Factors and Age		All Explanatory Factors	
	Alone		With Age									
	Coefficient	Sig	Coefficient	Sig	Coefficient	Sig	Coefficient	Sig	Coefficient	Sig	Coefficient	Sig
Relationship with Parents												
Good with both (ref. category)												
Good with mother or father only	2.293	***	2.358	***					2.231	***	1.766	*
Good with neither	1.591	*	1.274						1.444		1.169	
Relationship with Siblings												
Good with both (ref. category)	---		---									
Good with some	0.927		1.326						1.110		1.277	
Good with none	2.955		2.931						10.157		5.958	
Family Control Scale	0.018	***	0.112	**					0.063	*	0.661	
-2 Log Likelihood			1205.478[b]		937.369		377.686		969.215		355.397	
Degrees of freedom			1		9		9		(8)		24	
FEMALES												
A Base (Age only)	2.882	***			2.285	***	2.71	***	2.929	***	1.435	***
B Social Background												
In School	0.050	***	0.081	***	0.055	***					0.032	***
Urban Resident	1.710	*	1.627	**	3.161	***					2.030	
Parent's Education												
None (ref. category)												
Elementary	0.420		0.455		0.594						0.743	
Middle High School	0.435		0.588		1.055						2.556	
Collage or Higher	0.120	*	0.200		0.756						3.518	
Financial Status												
Just enough (ref. category)												
No income (not working)	2.788	*	2.430		1.107						1.662	
Can save some	1.610		1.999	*	1.813						0.450	
Not enough/borrows	0.730		0.989		0.767						9.480	
C Individual Characteristics												
Clubbing Last Month												
Never went clubbing												
Infrequent	0.632		0.757				0.895				0.619	
Once a week – every day	0.433	*	0.496				0.400				0.558	
Drinking Last Month												
Never went drinking		*										
Infrequent	1.038		0.762				0.729				0.774	
Once a week – every day	1.816	*	1.339				1.190				2.134	

Table 2: (continued)

Sex and Group of Explanatory Factors[a]	Model 1				Model 2.a		Model 2.b		Model 2.c		Model 3	
	Base Models: Explanatory Factors Taken Separately				Social Background Factors and Age		Individual Factors and Age		Family Factors and Age		All Explanatory Factors	
	Alone		With Age									
	Coefficient	Sig	Coefficient	Sig	Coefficient	Sig	Coefficient	Sig	Coefficient	Sig	Coefficient	Sig
Self Esteem Scale	0.499	†	0.507	††			0.557	†			0.753	
Personal Values Scale	0.724		0.522	††			0.787				0.995	
Has Liberal Sexual Attitudes	1.141	†	1.128	†			1.158	†			1.265	†
Peer Influence	5.451	†††	4.150	†††			4.026	†††			1.792	
D Family												
Co-residence with parents												
With both parents (ref. category)												
With mother or father	2.359	††	1.943						1.851		2.702	
With neither	4.920	†††	4.533	†††					6.293	†††	5.087	††
Relationship with Parents												
Good with both (ref. category)												
Good with mother or father only	1.893	†	2.075	†					1.539		1.434	
Good with neither	1.672		1.278						0.873		0.466	
Relationship with Siblings												
Good with both (ref. category)												
Good with some	0.986		0.971						0.858		1.232	
Good with none	0.728		1.444						1.490		11.033	
Family Control Scale	2.962		20.576	†					1.660		0.171	
-2 Log Likelihood			519.819[b]		337.767		357.554		400.133		355.397	
Degrees of freedom			1		9		9		8		24	

a. Response variable is the log odds of pre-union sexual experience. The models were estimated with the SPSS Logit procedure. The symbol * indicates that a coefficient is significantly different from zero with a two-sided $p \leq 0.05$; the symbol ** indicates $p \leq 0.01$; the symbol *** indicates $p \leq .001$.

b. Model with age alone.

Source: Thailand 1994 Family and Youth Survey (FAYS); male N = 601; female N = 571

Table 2 addresses the question how each variable relates to the dependent variable, separately versus together with other influences. Before turning to the explanatory factors of substantive interest, we will consider the coefficients for current age. One important observation is that the odd ratios suggest a very strong positive effect of age on pre-marital sexual experience. This is of course expected, since the

dependent variable is a lifetime cumulative measure. It is notable, though, that this effect of age is stronger for males than females, reflecting the much higher levels of pre-marital sexual experience ultimately reached by males compared with females. It is also notable that the coefficients for each of the sexes diminish as controls are introduced. In the final model with all explanatory factors included, the effect of age has been reduced by half or more. Nevertheless, there is an age-effect even net of all the control variables. Examination of the full pattern of coefficients suggests how some variables, through their own associations with current age, either inhibit or reinforce the relationship between current age and level of lifetime pre-marital sexual exposure.

For other explanatory variables, we generally observe that effects that are often strong and significant when considered alone, but become weaker and often become insignificant when more and more other variables are introduced. Among the social background variables, this is illustrated well by the coefficients for enrollment in school. Among males this variable has a pronounced and statistically significant relationship with premarital sex when considered by itself. But when age is introduced the effect diminishes and is no longer statistically significant. This reflects the fact that pre-marital sexual experience is more likely at older ages, while enrollment in school is less likely. When other social background variables are introduced the effect is weaker still, and when all other variables are introduced the effect is negligible and statistically insignificant.

The coefficients for urban residence are also instructive because their pattern is quite different. Overall, among males the coefficient is small (the ratio is close to one) and insignificant (we saw in Table 1 that the descriptive difference between urban and rural is negligible), but as more and more other factors are introduced the effect of urban residence among males emerges to be powerful (urban residents have lower levels of pre-martial sex than do rural residents) and statistically significant. That is to say, the observed or uncontrolled urban-rural differential in pre-marital sexual exposure is small, but this is because a variety of urban-rural differentials is concealing an underlying relationship.

By comparing the male and female results some important differences are highlighted. For example, enrollment in school continues to be a statistically significant inhibitor of pre-marital sexual experience among females even when all other variables have been controlled for (for males school enrollment becomes statistically insignificant). In the case of urban residence, the important gender difference is that among males a statistically significant effect (lower pre-marital sex experience among urban youth) emerges with the controls, whereas among females urban residence is associated with nearly double the likelihood of pre-marital sexual experience though this becomes statistically insignificant with the controls.

The influences of parents' education seem to be consistent and clear for both males and females, but are not statistically significant. In the absence of controls the relationship is inconsistent, but when the statistical controls are introduced more parental education increases the likelihood of pre-marital sexual experience (with the effect strongest among males). The influences of parents' education are probably obscured somewhat by the concentration of parents in the elementary schooling category. A larger sample size might have yielded statistically significant results. The emergence of a clear pattern with statistical controls suggests that parents' educational level is associated with one or more other factors that reduce the prevalence of pre-marital sex, so that controlling on those reveals the positive effect of parents' schooling on pre-marital sex. In this instance an important effect was suppressed in the bivariate results.

Some social background variables seem to have roughly consistent effects which are sometimes significant and sometimes not. For example, respondents with the financial status "not enough/borrows" are associated with lower levels of pre-marital sex than are those who "can save some" or who have no income (are not compelled to work). This pattern is stronger for males than females (suggesting a financial prerequisite for pre-marital sexual opportunity?) and becomes insignificant when there are statistical controls, except that in the full model for males evidence of a financial problem is associated, significantly, with pre-marital sexual experience. Perhaps, this indicates that a financial problem (for male, at least) is the result rather than the cause of

premarital sex as indicated in the finding that pre-union sexual initiation is strongly linked to certain life style elements such as drinking and clubbing (See below).

The group of individual characteristics includes risk-behaviors reflecting life styles that might be associated with pre-marital sexual initiation, certain psychological dimensions, and a measure of peer influence. The two life style risk-behaviors measures, night clubbing and drinking, are both strongly linked with pre-union sexual activity among males. Compared to the group of respondents who have gone clubbing "infrequently" or "once a week/every day" in the last month, those who have never gone clubbing have dramatically lower levels of premarital sexual experience. A similar pattern exists among males for drinking, but among females only for clubbing.

One of the two psychological dimensions, self-esteem, has consistent and strong effects that are statistically significant, at least until many other variables are introduced. High self-esteem seems to reduce the level of premarital sexual experience by a third to a half. This powerful effect largely is not diminished by the age control, but is diminished and rendered statistically insignificant by the introduction of other variables. The other psychological dimension, the personal values scale, reduces the prevalence of pre-marital sex for females (though coefficients are only occasionally statistically significant) and may in contrast raise the prevalence of pre-marital sex among males (but none of those coefficients is statistically significant). The liberal sexual attitude scale is associated with higher levels of premarital sex. Although these effects are stronger for females than males, they are not always significant. Note that the effects of sexual attitude scale for males diminish in magnitude as more controls are brought into play, whereas for females they increase.

Finally, the measure of peer sexual experience suggests a powerful peer influence such that those whose peers are thought to have had sexual experience have themselves had pre-marital sex. However, we must recall our earlier caution here; it is not clear whether the respondent's behavior is mimicking the actual or imagined behavior of peers, whether respondents seek out peers with similar sexual histories, or if the peer behavior measure is seriously flawed by respondent falsification.

The group of family explanatory variables includes one measure of family structure and co-residence, two reflecting relationships within families, and one reflecting the nature of authority and hierarchy within families. Though the coefficients for co-residence with parents are sometimes significant and sometimes not, the general pattern strongly indicates a powerful beneficial effect of co-residence with both parents, or conversely the disruptive influence on youth of living with only one parent or with neither of them. We must recall that growing up with an intact pair of parents is by far the modal experience among Thai youth, so that being raised with only one parent or with neither identifies a narrow sub-group of the overall youth population. Being raised with only one parent more than doubles the likelihood of pre-marital sex among females, and raises it by up to fifty percent among males. Moreover, being raised with neither parent more than doubles the prevalence of pre-marital sex among males and more than quadruples it among females. This last effect retains some statistical significance even when many other variables have been introduced.

The coefficients for the two relationships measures (with parents and with siblings) all suggest that the likelihood of pre-marital sex is much enhanced by poor family relationships, but only some of these coefficients are significant among males and none are significant among females. One speculation would be that girls are expected to tolerate such poor family relationships without behavioral display, whereas boys are not. On balance, the analyses of family relationship measures provides some mixed support for the hypothesis that a good relationship with both parents is associated with lower risks of engaging in pre-marital sex. The last family measure is a control scale which has contrasting effects for males and females. Males have much lower likelihood of pre-marital sex when family control is high, but females have much higher likelihood of pre-marital sex under that circumstance. The family control scale effect is not statistically significant when all the other variables have been introduced.

Discussion

Our results do not seem to allow completely firm and consistent conclusions about effects of the family and individual measures on premarital sexual behavior of

adolescents and youth. Nevertheless, our results do indicate that family and individual factors operate and are important enough to warrant policy attention. Not all our measured factors show statistically significant effects in the anticipated directions, yet most of the non-conforming results are not directly inconsistent with the hypotheses. Even though not statistically significant, their effects are in the expected directions. This, we believe, is grounds for suggesting that policy aimed at addressing youth's premarital sexual behavior, and programs directed to young people, should take into consideration the role of family and individual characteristics as important precursors along with influences at other levels such as the local community.

Within the Thai setting, there has been increasing public discussion and concern about untimely sex among adolescents and youth. Much of the concern points to the weakening of the family institution as an important precursor, and the recommendation is made in various forms that the family be strengthened in order to reduce the problem. Our study offers nothing that conflicts with this recommendation. In fact, the empirical evidence from our analysis is generally supportive. In principle, at least, programs can address two related issues to strengthen the family. On the one hand, structural aspects of the family should be addressed with the aim of promoting co-residence of parents and adolescent children and more generally to keeping the family intact. Effort in this direction is, however, likely to meet with some serious difficulties given the changes taking place in all sectors of Thai society today. One highlight of such difficulties is out-migration of youth from their parental households (for work or for studies) and the slow but steady increase in family disruption resulting in a rising number of single-parent families. It seems, then, that not much can really be done relating to the structural aspects of the family, at least in the short term.

On the other hand, programs may address the family processes that directly or indirectly affect the odds of engaging in sexual activity among adolescents and youth. Our results suggest that some family measures such as good relationships with parents and siblings can be improved by facilitating good communication between parents and adolescents. To enhance good parent-adolescent relationships appropriate youth activities within and outside the family context may be promoted. Parents'

participation in these youth programs may be a good strategy for bringing parents and their adolescent children into direct contact outside the family. The outcome may be good relationships and, with that, good parent-adolescent communications which are favorable for reducing the attraction of risk-taking behaviors. Assessment of intervention programs for adolescents and youth that involve participation of parents in the United States suggests a promising prospect for reducing sexual risk behaviors (Meschke, Bartholomae and Zetall, 2000).

Family control is also found to be of protecting value, although its effect is not strong in our data. In our study, this variable is assessed in terms of the degree of freedom permitted, that is, the degree to which freedom in different aspects of the youth's life is limited by other family members. The information we have used for assessing these measures may not be the best, yet the results of our logistic regressions are useful in understanding youth sexual risk behavior. Clearly, increased family control helps lower the risk of premarital sex, suggesting that some control, at least, is better than no control. Parents may thus be advised to seek a measure of control over their adolescents in culturally and socially appropriate ways. In Western settings, as we already pointed out in our review of literature above, parental control is understood as "parental monitoring" of children's behavior. We suggest that this be also understood as "parental supervision." Generally, the two concepts are more or less the same, and both have similar effects on youth sexual behavior.

The individual background measures included in our study seem to show somewhat clearer effects on premarital sex as anticipated in the hypotheses. Based on our results, meaningful interventions may be designed to enhance the characteristics that are not favorable to untimely and risky sexual activities among adolescents and youth. Some of these interventions, on the basis of our results, may involve effective educational programs including those outside the formal educational system. Others may have to do with appropriate social or legal measures. For example, raising self-esteem works against premarital sex among youth, according to our results. Self-esteem may be raised through training programs or youth activities. On the social and legal front, programs may aim at limiting adolescent and youth access to nightclubs, pubs and

bars and to the consumption of alcohol, all behaviors which often carry through to other risk behaviors including sex. For the Thai setting, certainly, existing legal and social measures in this regard should be more effectively enforced.

The fact that our results do not show strong support for some of our initial hypotheses may be surprising, but certainly is not unexpected. Family and individual measures included in this study are not the only potential precursors of youth's premarital sex. There are other factors that impinge upon this behavior as well which we could not include here due to limitations of our data. Future research may combine ecological variables such as characteristics of the community and neighborhood with family and individual measures for a deeper understanding of youth premarital sex. Investigation may also focuses on identifying risk factors for premarital sex, which inevitably calls for inclusion of measures of diverse but relevant factors (see, for example, studies by Small and Luster, 1994; Perkins et al., 1998; Upchurch et al., 1999).

As is common in studies of this kind, we have encountered a variety of measurement problems which prevent us from carrying the analysis any further. Future research should pay attention to selecting the variables for analysis. Some of the additional measures that may be worth including in analysis are, for example, parent-adolescent communications, parental attitudes toward adolescent sexuality, grade level (for the in-school group), parenting processes and styles, and community/neighborhood characteristics.

Acknowledgement

The data for this analysis are from the Family and Youth Survey (FAYS) conducted in 1994 by the Institute for Population and Social Research, Mahidol University, with financial support from the United Nations Population Fund (UNFPA). This analysis was completed under the Asian Young Adult Reproductive Risk (AYARR) project supported by USAID. An earlier version of this paper was presented

at the 5th ASEAN Inter-University Conference, National University of Singapore, May 23-25, 2001. The authors would like to express their sincere thanks and gratitude to the UNFPA (Thailand) for the research grant, Population and Health Studies, the East-West Center, Honolulu, Hawaii, for the generous support during data analysis, and many individuals whose names are not mentioned in this limited space. Without the kind support of those institutions and individuals this work would not have been completed.

References

Alan Guttmacher Institute. 1998. *Into a New World: Young Women's Sexual and Reproductive Lives*. New York: Alan Guttmacher Institute

Casper, L. B. 1990. Does Family Interaction Prevent Adolescent Pregnancy*? Family Planning Perspectives, 22,* pp.109-114.

Chilman, C. S. 1979. Teenage Pregnancy: A research Review. *Social Work, 24,* pp.492-498.

East, P. L. 1996. The Younger Sisters of Childbearing Adolescents: Their Attitudes, Expectations and Behaviors. *Child Development*, *67,* pp.267-282.

East, P. L., Felice, M .E. & Morgan, M. C. 1993. Sisters' and Girlfriends' Sexual and Childbearing Behavior: Effects on Early Adolescent Girls' Outcomes. *Journal of Marriage and the Family. 55*, pp.953-963.

Fisher, T. D. 1987. Family Communication and the Sexual Behavior and Attitudes of College Students. *Journal of Youth and Adolescence*, *16,* pp.481-495.

Flick, L. H. 1986. Paths to Adolescent Parenthood: Implication for Prevention*. Public Health Reports*, *101,* 132-147.

FOCUS on Young Adults. 2001. *Advancing Young Adult Reproductive Health: Actions for the Next Decade*. End of Program Report. Washington D.C.: FOCUS on Young Adults Project.

Forste, R. T. & Heaton, T. B. 1988. Initiation of Sexual Activity among Female adolescents. *Youth and Society. 19*, pp.250-262.

Haurin, R. J. & Mott, F. L. 1990. Adolescent Sexual Activity in the Family Context: The Impact of Older Siblings. *Demography*, *27(4)*, 537-557.

Hayward, M. D., Grady, W. R. & Billy, J. O. 1992. The Influence of Socioeconomic Status on Adolescent Pregnancy. *Social Science Quarterly, 73,* pp.750-770.

Hogan, D. P. & Kitagawa, E. M. 1985. The Impact of Social Status, Family Structure, and Neighborhood on Fertility of Black Adolescents. *American Journal of Sociology*. *90,* pp.825-855.

Inazu, J. K. & Fox, G. L. 1980. Maternal Influence on the sexual Behavior of Teen-Age Daughters: Direct and Indirect Sources. *Journal of Family Issues, I,* pp.81-102.

Israbhakdi, Pimolpan. 1995. Determinants of Sexual Behavior that Influence the Risk of Pregnancy and Diseases among Rural Thai Young Adults. Unpublished research report.

Jaccard, J., Dittus, P.J. & Gordon, V. V. 1996. Maternal Correlates of Adolescent Sexual and Contraceptive Behavior. *Family Planning Perspectives*, *28(4),* pp.159-65+185.

Jessor, R., Turbin, M. S. & Costa, F. M. 1998. Protective Factors in Adolescent Health Behavior. *Journal of Personality and Social Psychology, 75(3),* pp.788-800.

_____. 1999. Risk and Protection in Successful Outcomes Among Disadvantaged Adolescents. *Applied Development Science 2(4), pp.*194-208.

Kahn, J. R., Rindfuss, R. R. & Guilkey, D. K. 1990. Adolescent Contraceptive Method Choice. *Demography, 27,* pp.323-335.

Kirby, D. 1997. *No Easy Answers: Research Findings on Programs to Reduce Teen Pregnancy.* Washington D.C.: National Campaign to Prevent Teen Pregnancy

_____. 2001. *Emerging Answers: Research Findings on Programs to Reduce Teen Pregnancy*. Washington, D.C.: National Campaign to Prevent Teen Pregnancy.

Klausner, W. J. 1987. *Reflections on Thai Culture: Collected Writings of William J. Klausner*. Bangkok: Siam Society.

Ku, L., Sonenstein, F. L. & Pleck, J. H. 1993. Factors Influencing First Intercourse for Teenage Men. *Public Health Reports, 108,* pp.680-694.

Leland, N. L. & Barth, R. P. 1993. Characteristics of Adolescents who have attempted to Avoid HIV and Who Have Communicated With Parents about Sex. *Journal of Adolescent Research, 8,* pp.58-76.

Luster, T. & Small, S. A. 1994. Factors Associated with Risk-Taking Behaviors Among Adolescents. *Journal of Marriage and the Family, 56,* pp.622-632.

McNamara, R. 1994**.** A Report of Sexual Attitudes and Experiences Among Low-income Females in Bangkok and Udon Thani. Unpublished paper presented at the Seminar of the Research Project on Behavioral Research for AIDS Prevention in Thailand: Bangkok: Institute for Population and Social Research, Mahidol University, 2 August 1994.

Meschke, L. L., Bartholomae, S. & Zentall, S. R. 2000. Adolescent sexuality and parent-adolescent process: Promoting healthy teen choices. *Family Relation*, *49(2),* pp.413-154.

Miller, B. C., Norton, M. C., Fan, X. & Cristopherson, C. R. 1986. Parental Discipline and Control Attempts in Relation to Adolescent Sexual Attitude and Behavior. *Journal of Marriage and the Family*, *48,* pp.503-512.

Miller, Kim S., Forehand, R., & Kotchick, B. 1999. Adolescent Sexual Behavior in Two Ethnic Minority Samples: The Role of Family Variables. *Journal of Marriage and the Family, 61(1),* pp.85-98.

Monitoring the AIDS Pandemic (MAP). 1997. *The Status and Trends of the HIV/AIDS/STD Epidemics in Asia and the Pacific: A Provisional Report*. Unpublished.

Moore, K. A., Petersen, J. L., & Furstenberg, F. F. 1986. Parental Attitude and Occurrence of Early Sexual Activity. *Journal of Marriage and the Family, 48,* 777-782.

Nopkesorn, T., Sungkorom, S. & Sornlum, R. 1991. *HIV Prevalence and Sexual Behavior among Thai Men age 21 in Northern Thailand*. Bangkok: Thai Red Cross Society.

Nopkesom, T, Sweat, M. D., Kaensing, S. & Teppa, T. 1993. *Sexual Behavior for HIV Infection in Young Men in Payao*. Program on AIDS, Kai Somdej Pranaresuan Hospital, Third Army Area and Thai Red Cross Society.

Perkins, D. F., Luster, T., Villarruel, F. A. & Small, S. 1998. An Ecological, Risk-Factor Examination of Adolescents' Sexuality in Three Ethnic Groups. *Journal of Marriage and the Family, 60,* pp.660-673.

Pick, S., & Palo, P. A. 1995. Impact of the Family on the Sex Lives of Adolescents. *Adolescence, 30,* pp.667-675.

Podhisita, C., Kanungsukksem, U. & Pramualratana, A. 1994. Selected Characteristics and Sexual Behavior of the BRAIDS Samples. Unpublished paper presented at the Seminar of the Research Project on Behavioral Research for AIDS Prevention in Thailand: Bangkok: Institute for Population and Social Research, Mahidol University, 2 August 1994. (in Thai)

Podhisita, C. & Pattaravanich, U. 1995. *Youth in Contemporary Thailand: Results from the Family and Youth Survey*. Bangkok: Mahidol University

Prasartkul, P., Chamratrithirong, A., Bennett, A., Jitwatanapataya, L. & Israbhakdi, P. 1987. *Rural Adolescent Sexuality and the Determinants of Provincial Urban Premarital Adolescent Sex*. Bangkok: Institute for Population and Social Research, Mahidol University.

Rodgers, K, B. 1999. Parenting Process Related to Sexual Risk-Taking Behaviors of Adolescent Males and Females. *Journal of Marriage and the Family, 61,* pp.99-109.

Senderowitz, J. 1995. *Adolescent Health: Reassessing the Passage to Adulthood.* Discussion Paper 272. Washington, D.C.: World Bank

Sittitrai, W., Phanuphak, P., Barry, J. & Brown, T. 1992. *Thai Sexual Behavior and Risk of HIV Infection: A Report of the 1990 Survey of Partner Relations and Risk of HIV Infection in Thailand.* Bangkok: Program on AIDS, Thai Red Cross Society and Institute of Population Studies, Chulalongkorn University.

Small, S. A., & Kerns, D. 1993. Unwanted Sexual Activity Among Peers During Early and Middle Adolescence: Incidence and Risk Factors. *Journal of Marriage and the Family*, *5,* pp.941-952.

Small, S. A. and Luster, T. 1994. Adolescent Sexual Activity; An Ecological, Risk Factor Approach. *Journal of Marriage and the Family*, *56,* pp.181-192.

Toumbourou, J. W., Patton, G. C., Sawyer, S., Olsson, C., Webb-Pullman, J., Catalano, R. & Godfrey, C. 2000. *Evidence-Based Interventions for Promoting Adolescent Health*. Parkville, Victoria, Australia: Centre for Adolescent Health

Upchurch, D. M., Levy-Storms, L., Sucoff, C. A. & Aneshensel, C. S. 1999. Neighborhood and Family Contexts of Adolescent Sexuality. *Journal of Marriage and the Family*, *61,* pp.920-933.

VanLandingham, M. J., Suprasert, S., Sittitrai, W., Vaddhanaphuti, C. & Grandjean, N. 1993. Sexual Activity among Never-Married Men in Northern Thailand. *Demography, 30(3),* pp.279-313.

Whitbeck, L. B., Yoder, K. A., Hoyt, D. R. & Conger, R. D. 1999. Early Adolescent Sexual Activity: A Developmental Study. *Journal of Marriage and the Family, 61,* pp.934-946.

Widmer, E. D. 1997. Influence of Older Siblings on Initiation of Sexual Intercourse. *Journal of Marriage and the Family, 59,* pp.928-938.

Xenos, P. & Kabamalan, M. 1998. The Changing Demographic and Social Profile of Youth in Asia. Program on Population, East-West Center, Honolulu: *Asia-Pacific Population Research Reports.*

Young, E. W., Jensen, L. C., Olsen, J. A. & Cundick, B. P. 1991. The Effects of Family Structure on the Sexual Behavior of Adolescents. *Adolescence, 26 (104),* pp.977-986.