

ORIGINAL ARTICLE

The Moderating Effect of Gender on Premarital Sexual Practices Among the Late Adolescents in Pahang, Malaysia: An Empirical Study

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ABSTRACT

Introduction: Premarital sexual is a sexual and reproductive health concern among adolescents in Malaysia. Guided by the constructs of the Social Cognitive Theory (SCT), this study aimed to determine the moderating role of gender on premarital sexual practices among the late adolescents in Kuantan, Pahang. **Methods:** Probability sampling was utilized to sample the late adolescents from tertiary educational centres. Confirmatory factor analysis (CFA) was conducted to verify the factor structure of the observed variables, with the interrelationship between variables were studied using structural equation modelling (SEM). Moderation analysis was completed via multigroup analysis (MGA). **Results:** A response rate of 72.2% was obtained, with 390 adolescents aged 18 to 19 years old participated in the study. The total mean for premarital sexual practices was 1.14 ± 0.47 , with highest mean observed for masturbation (1.33 ± 0.83). Attitude ($\beta = -0.111$, $p = 0.021$), religiosity ($\beta = -0.014$, $p = 0.032$) and high-risk activities ($\beta = 0.999$, $p < 0.001$) illustrated significant relationships with premarital sexual practices. A moderated regression analysis showed significant interactive effects between gender and premarital sexual practices, with negative association between attitude and religiosity with premarital sexual practices were found among male respondents. **Conclusion:** This empirical study demonstrated significant moderation effect of gender between attitude and religiosity with premarital sexual practices among targeted late adolescents' population in Pahang, Malaysia. Any efforts to tackle issue related to premarital sexual practices among similar population should be directed towards male adolescents with lower religiosity score.

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developing relevant health policy and intervention for a healthier growth and development of adolescents worldwide.

INTRODUCTION

Adolescence aged group represents approximately 16% of the global population with an increment of 7% is projected in 2030 (1). Adolescence refers to a transition period from childhood to adulthood, involving those age between 10 to 19 years old (1). They can be further categorised into three stages: early (ages 10 to 13), middle (ages 14 to 17), and late (ages 18 and beyond) adolescents (1). The categorisation was proposed to better understand the different dimensions of health that occur at different phases of adolescence. Understanding these changes has become a critical foundation in

Over the years, a profound cultural change has been linked to the changes seen in sexual behaviours of adolescents causing the emergence of new ideas and values such as individual autonomy that influence individual's choices, which include their decision to practice premarital sexual intercourse (2). These new ideas and values bring along several consequences related to the beginning of sexual life, including the belief that not only marriage but a stable unmarried relationship can precede sexual experiences (3), which lead to the experience of first and potentially unsafe sexual intercourse at a very young age (4). A remarkable proportion of young boys and girls reported to experience premarital sexual intercourse before the

age of 15 in several developed countries, causing an increased risk of sexually transmitted diseases (STD) and unwanted pregnancies among them (2). As adolescents are physiologically incapable to rationalise, making good judgment or reckoning right decision in life, just yet they become more vulnerable to consequences of high-risk sexual practices such as premarital sexual intercourse.

Early sexual exposure introduces adolescents to the possibility of unsafe sexual practices. Premarital sexual practices among adolescents have been frequently linked with harmful health outcomes such as sexually transmitted diseases, particularly the Human Immunodeficiency Virus (HIV) due to the practice of unprotected sex (5,6). Other than that, unintended pregnancy which often associated with high-risk maternity and delivery among teenagers also has been found to be a common fallout (7). As statistically supported via the Disability-Adjusted Life Years (DALY) due to pregnancies and deliveries, adolescents account for 23% of the overall burden of disease (8). In addition, approximately 16 million of annual births occurred to female adolescents aged 15 to 19 years old around the world (9). While adolescents should generally enjoy being at the healthiest stage of life as compared to other age groups, their sexual health might be jeopardised due to current scenario of their involvement in premarital sexual practices.

Malaysia is a Muslim majority country, which is dominated by the Malay ethnic community. Premarital sex or 'zina', which an Islamic legal term referring to unlawful sexual intercourse, is considered as fornication and is forbidden in Islam, and is addressed frequently in the holy Quran. However, increasing premarital sexual practices have been observed not only among the adults but also adolescents. The change in sexual attitudes and behaviours are also associated with risky and unsafe sexual practices, which potentially lead to mortality (10). According to the Malaysia National Health Morbidity Survey (NHMS) III conducted in 2006, 8.3% of boys and 2.9% of girls in the adolescence and youth age groups (12 to 19 years old) had experienced their first sexual event, compared to only 2.5% and 1.3% respectively in 1996 (11). Further increment was observed in 2017 with 7.3% secondary school aged adolescents (13 to 17 years old) experienced first sexual contact, witnessing Pahang state had the highest prevalence at 9.5% (12). Despite the overwhelming concern particularly involving the early adolescents' group, discussing and revealing sexual issues among adolescents in general remain a taboo, which make underreporting is common and getting an accurate data on the actual prevalence of premarital sex and the related issues can be difficult and challenging.

The comprehensive sexuality education (CSE) was established and implemented to improve the adolescents'

SRH knowledge, attitudes, and behaviours (13), which was reported to effective. An evaluation analysis by Haberland and Rogow (14) on the CSE programs concluded that the improved reproductive health outcomes among the adolescents were associated with the empowerment approach used through emphasizing on gender and rights. The analysis also suggested that young people who believe in gender role equality in intimate relationships were more likely to delay sexual debut, condom use, and more likely to practice contraception (14).

The Social Learning Theory and the Social Cognitive Theory have been used in related research to better understand adolescents' SRH behaviour (15-17). Some researchers focused on the cognitive aspect of the decision-making process, while others used SCT as a framework to demonstrate the positive relationship between high perceived self-efficacy with both intentions to use condoms and self-reported condom use (17). Sexual behaviour has been influenced by personal knowledge, skills, attitudes, interpersonal relationships, and environmental factors, in which all of these factors are being addressed in the SCT (18).

Research interest has also shifted towards exploring the potential moderator and mediator on relationship between predictors identified and adolescents' premarital sexual practices, in order to effectively tackle the SRH issues among adolescents. Among others, gender has been frequently studied and found to significantly moderate the relationship between predictors and premarital sexual practices among adolescents (19-21). Furthermore, the role of gender in moderating adolescents' premarital sexual practices has been recognized especially in relation to parenting or parental related determinants (20). By utilizing the constructs of the SCT, this study aimed to determine the moderating role of gender on premarital sexual practices among late adolescents in the Pahang, Malaysia.

MATERIALS AND METHODS

Study location, population, and sampling

This study was conducted in Kuantan, Pahang as it has the highest number of tertiary education centres and is the most populated district in Pahang. A total of 14 tertiary education centres were identified in Kuantan, that includes polytechnic, matriculation college, vocational college, community college, college, and university, from which two centres declined participation. The study involved the late adolescents aged 18 to 19 years old, who were randomly recruited via a stratified probability proportionate to size (PPS) sampling method. To be eligible, participants had to be aged 18 to 19 years old and were not married.

Samples were stratified according to their tertiary education centres and the number of participants sampled

from each stratum was determined by the calculated proportion. The proportion of respondent needed were sampled using simple random sampling technique from each of the sampling frame, using Microsoft Excel software for random number. The estimated sample size was calculated using a free interactive webpage for a-priori sample size calculation for structural equation models. With incorporation of 13 observed variables, 6 latent variables, anticipated effect size of 0.2, desired probability level at 0.05, desired statistical power level of 80% and adjustment for response rate of at least 80% in concordance for the survey reports to be generalized to all schools or college, the minimum sample size required was 504. However only 390 completed the survey, giving a response rate of 72.2%.

Study instrument, data collection and analysis

Data was collected using guided self-administered questionnaire, containing three sections namely personal, behavioural and environment, in line with the SCT constructs. Premarital sexual practices and high-risk activities were categorized under the behavioural construct. Premarital sexual practices were measured based on past experience of sexual intercourse, involvement in multiple partners, experience of unprotected sexual act and masturbation. Each item was measured using a 5-point Likert scale, ranging from 0 to 4 with 0 = never, 1 = rarely, 2 = sometimes, 3 = most of the time and 4 = always, and Cronbach alpha value of 0.810. Meanwhile, high-risk activities include smoking, drinking alcohol and intake of illicit drugs. with Cronbach alpha value of 0.766.

On the other hand, the personal construct consists of three variables which include knowledge related to SRH, attitude towards premarital sex and religiosity, with Cronbach alpha values reported between 0.614 and 0.888 for all three variables. The subjective norms and parental communication with were categorised under environmental construct with Cronbach alpha values of 0.705 and 0.779 respectively.

The collected data was entered into a spreadsheet via the IBM SPSS 25.0, which was subsequently cleaned as a fundamental preparation of data analysis and later analysed using the IBM SPSS AMOS 24.0 to answer the research objectives and hypothesis. Confirmatory Factor Analysis (CFA) was conducted to examine the factor structure used in measuring latent variables according to the SCT constructs, as well as to evaluate the convergent validity and the discriminant validity of measurement model from the SEM. The construct reliability (CR) of all tested variables carried an acceptable value with more than 0.7 except for the subjective norms and parental communication. Whereas for the convergent validity, the Average Variance Extracted (AVE) of the high-risk activities, subjective norms and parental communication variables had lower than the acceptable values of 0.5. The interrelationship between variables,

as well as the moderating role of gender were examined via SEM analysis using the IBM SPSS AMOS 24 Graphics software.

Ethical clearance

The study was approved by the Research Ethical Committee Universiti Putra Malaysia (Reference no.: JKEUPM-2019-337). Approval from individual tertiary education centers, as well as oral and written consents were obtained from individual eligible respondents prior to data collection.

RESULTS

The background characteristic of the respondents is tabulated in Table I, presented as frequencies (n), percentage (%) and mean scores. The mean age of the respondents is 18.89 ± 0.314 years old. The sample is dominated by female (70.5%), Malay (99.5%), Muslims (99.5%), fathers (61.0%) and mothers (57.7%) with tertiary education and staying with both parents (90.3%). Meanwhile, Table II is showing the descriptive findings for premarital sexual behaviours. Total reported mean for premarital sexual behaviours was 1.14 ± 0.47 , with masturbation reported the highest mean score (1.33 ± 0.83).

Once a good model fit was established during the measurement modelling stage, which comply to the normality assumption, discriminant validity,

Table I: Characteristics of respondents (N = 390)

Variables	Mean \pm SD	n	%
Age	18.89 \pm 0.314		
Gender			
Male		115	29.5
Female		275	70.5
Ethnicity			
Malay		388	99.5
Non-Malay		2	0.5
Religion			
Muslim		388	99.5
Non-Muslim		2	0.5
Fathers' education level			
Tertiary and higher level		238	61.0
Secondary and below		152	39.0
Mothers' education level			
Tertiary and higher level		225	57.7
Secondary and below		165	42.3
Family arrangement			
Staying with both parents		352	90.3
Staying with either one parent		38	9.7
Knowledge [0- 11]	8.85 \pm 1.73		
Attitude [1-5]	3.71 \pm 0.63		
Religiosity [1-5]	3.57 \pm 0.60		
High-risk activities [1-5]	0.52 \pm 0.44		
Subjective norms [1-5]	2.45 \pm 0.69		
Parental communication [1-5]	3.08 \pm 0.86		

Table II: Premarital sexual behaviours (N = 390)

Items	Scale					Mean(SD)
	[0]	[1]	[2]	[3]	[4]	
Ever experience sexual intercourse	371	8	5	1	5	1.11(0.54)
Ever had multiple partners	379	5	2	3	1	1.06(0.38)
Ever had unprotected sex	376	6	4	2	2	1.07(0.42)
Masturbation	321	34	17	11	7	1.33(0.83)
Total Mean						1.14(0.47)

[0]= Never, [1]= Rarely, [2]= Sometimes, [3]= Most of the time, [4]= Always

and multicollinearity, the relationships between the exogenous and endogenous latent variables were examined in the structural modelling stage of the SEM analysis. The test for overall model fit revealed a relative chi square ratio of 1.822, with Goodness-of-fit index (GFI) of 0.907, Comparative fit index (CFI) of 0.940 and Root mean square error of approximation (RMSEA) of 0.046, implying the recommended cut-off values was achieved and the model developed has a good fit to the dataset of this research. The structural model developed is depicted in Fig. 1. The overall model generated indicated that personal and environmental constructs accounted for 54% (R² = 0.54, R = 0.736) of variance for premarital sexual practices. High-risk activities have the strongest influence in predicting premarital sexual practices among respondents, with one unit increase in high-risk activities will contribute to 0.802 unit of increase in the premarital sexual practices among late adolescents.

The moderating effect of gender on premarital sexual practices was tested using the multigroup analysis (MGA) and the result is shown in Table III. Gender significantly moderates the relationship between attitude as well as religiosity and premarital sexual behaviours, with inverse relationship observed for attitude ($\beta = -0.220, p = 0.001$)

Table III: Moderating effect of gender on premarital sexual behaviours (N=390)

Paths	β	Beta	CR	<i>p</i>
Attitude → Premarital Sexual behaviours				
Male	-0.220	-0.262	-2.555	0.011*
Female	-0.057	-0.071	-1.780	0.075
Religiosity → Premarital Sexual behaviours				
Male	-0.897	-0.016	-0.129	0.022*
Female	-0.074	-0.080	-1.784	0.060

*Significant *p*-value < 0.05, β is estimates, and CR is critical ratio.

and religiosity ($\beta = -0.897, p = 0.022$). As a moderator, gender changes the strength of inverse relationship between attitude and religiosity with premarital sexual behaviours.

DISCUSSION

The findings of this study demonstrated masturbation as the commonest premarital sexual practice among the participants. Masturbation has been a frequently reported sexual act, particularly in studies among youth or late adolescents and adults, which was not only almost universal among males, but also not unusual among the females (22,23). Increasing prevalence of masturbation with increase age has been observed in numerous research, with the onset can be as early as 13 years old in 53% of males and 25% of females (24). It is also reported to associate with other sexual behaviours and condom use among male adolescents (24). Nevertheless, masturbation has been highly stigmatised in many cultures and frequently viewed negatively across settings (24). It is among the most sensitive topics in sexual behaviour related research, causing underreporting by adolescents even with the use of confidential reporting techniques (25).

The overall low reported mean score for premarital sexual practices in this study reflecting the potential underreporting of information among the respondents. According to Sessa and Howard (26), the complexity of adolescents' sexual behaviour is influenced by various domains across the developmental processes, as well as the many factors influencing their first sexual experience (26). These factors include biological sexual maturation, parental influence and roles, peer values on sexual behaviours and environmental opportunities for engaging in sexual intimacies (26). Inconsistencies in self-reporting of sexual activity among adolescents and youths are an established concern among many researchers. This was observed in a study assessing the consistency of self-reported sexual activity among 2324 adolescents in Nairobi, Kenya which reported a total of 469 (20%) adolescents gave inconsistent information on whether they have ever had sex or the timing of first intercourse (26). Perceived social norms and individual

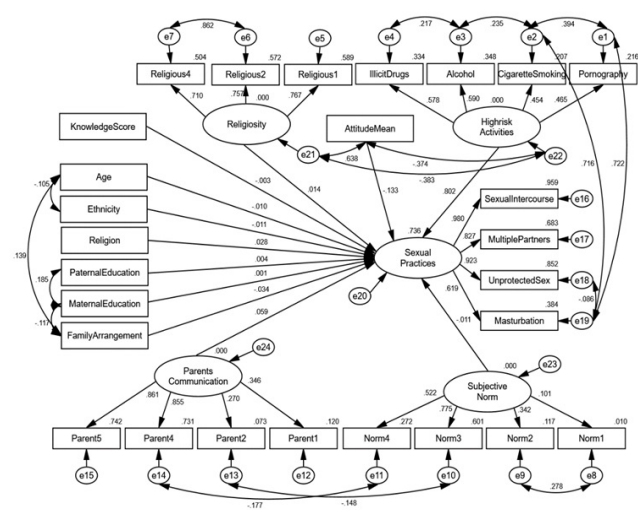


Figure 1: The structural model of adolescents' premarital sexual practices in Kuantan Pahang.

notions of acceptable behaviour were assumed to influence and increase willingness to respond accurately to interview questions (27).

Current study also affirmed the moderating role of gender between attitude, religiosity as well as high-risk activities and premarital sexual practices. Gender is an important factor in understanding premarital sexual attitudes and behaviours, with many studies indicate that males are more likely to initiate sexual intercourse and have more permissive perceptions about sex than females (28). Male with permissive attitude towards premarital sexual behaviours, as indicated by lower score of attitudes in this study were more tolerant or accepting premarital sexual act as compared to the female counterpart. Being male has been reported as one of the significant predictors towards having permissive attitude towards premarital sexual behaviours (29). Gender differences were also delineated clearly in being more permissive about premarital sex initiated by males than by females, and the extent of the double standard held by boys was larger (28), indicating a strong double standard for premarital sex and abstinence until marriage for females. Frequently, premarital sexual activity was considered as a socially acceptable rite of passage among boys (30), with male adolescents expressed a desire to continue to play the dominant role while female adolescents expressed a desire for greater gender equality (28). Meanwhile, girls tend to be stigmatised and blamed for sexual encounters, especially those that resulted in pregnancy and sexually transmitted infections (31). In certain culture and community, the patriarchal practice of favouring boys over girls extends the double standard belief with regard to premarital sexual practices (32). Boys are expected to lose their virginity in order to show their sexual power as well as to mark their manhood while virginity among girls is considered a virtue and held in high regard as a symbol of purity. In an exploration of the knowledge, attitudes and beliefs of the Greek-Cypriot adolescents regarding SRH and sexuality, 54% of the participants believed that it was acceptable for a man to have premarital relationship, but only 36% believed that it was acceptable for a woman to do so (33).

As for religiosity, male adolescents with lower score were found to be more acceptable towards premarital sexual practices. Religiosity refers to people's varying tendencies to commit themselves to religious beliefs, principles, and activities, with different measurement tools have been used by social scientists to measure religiosity (34). The questionnaire used in this study was adapted from the 5-items self-perceived extent of Living according to Religion (LRB) scale by Nor et al., (35). Measuring religiosity and spirituality are increasingly common in the social and behavioural sciences, as well as within medicine and the medical and psychological sciences (36). However, attempting to measure and quantify such vague, nebulous, and seemingly subjective

concepts has caused havoc among investigators.

Although numerous studies have linked religious beliefs with adolescents' sexual behaviours, the nature of this relationship is not well understood, with mixed findings have been reported. Generally, most past studies have modelled a linear relationship between religiosity and sex-related dependent variables, in which increases in religiosity are expected to correspond to monotonic decreases in sexual activities (37). Religious youth are more likely to believe that sex should be reserved for marriage, to become sexually active at later ages, to pledge abstinence until marriage, and to have fewer sexual partners (38). However, nonlinearities in the functional form of the relationships between religiosity and sexual behaviours during adolescence have been proposed in an analysis conducted by Hayward (37). Religious influence, for a variety of potential reasons, may not operate monotonically across adolescents on outcomes of sexual behaviour. Nevertheless, religions seem closely linked to the control of reproductive behaviour, with most religions impose rules about sexuality and sex roles, in terms of who can have sex and with whom, who cares for children and how families are structured (39). Although there is now a more open attitude towards sexuality, the maintenance of virginity is one of the most concerning issues in some religions and religious ethics continue to influence the sexual behaviour of young people today (40).

A related study on sexual activity among teenagers in the United States revealed about a third of the adolescents between ages 15 and 19 reported have not yet had sex due to religious or moral reasons for abstaining (41). However, the findings of this study may also influence by the background characteristics of the respondents which were dominated by Malay late adolescents, who were also Muslims.

The increase acceptability towards premarital sexual activities among male late adolescents can be potentially related to their high likelihood to be involved in other high-risk behaviours such as substance abuse, compared to female adolescents. Consistently, a meta-analysis on risky sexual behaviour and substance uses among adolescents concluded that sex of the adolescents was one of the significant factors moderating the relationship between drug use and risky sexual behaviour (42). Meanwhile, a local study conducted among 1082 adolescents in the Peninsular Malaysia reported a prevalence of 55.1% (95%CI = 52.0-58.2) adolescents who were practicing risky sexual behaviours, with smoking being the strongest predictor (OR = 10.3, 95%CI = 1.25-83.9) (43). Furthermore, adolescents who use illicit drugs also showed a higher tendency to engage in sexual risk behaviours (44).

Meanwhile, none of the environmental factors had significant direct or indirect relationship with premarital

sexual practices. Subjective norms were found to have significant relationship with premarital sexual behaviour in a study among adolescents in Yogyakarta, Indonesia, with 4.66 likelihood to experience premarital sex among adolescents who in favour of premarital sex as subjective norms (45). Subjective norms are closely related to normative beliefs, which is influenced by the act of the surrounding community, including family members and friends. On the other hand, the relationship between premarital sex among adolescents and adolescent-parent communication have been mixed. A related study among high school adolescents in Jakarta reported that those with positive communication with their parents had slightly lower risk of engaging in premarital sex (46).

CONCLUSION

This study highlights the crucial role of gender in moderating the relationship between attitude, as well as religiosity and premarital sexual practices among the late adolescents. Considering the higher possibility of underreporting, the low total mean score for premarital sexual practices should not be taken subtly. More targeted interventions and initiatives should be implemented to tackle the predictors of premarital sexual practices among adolescents of this age according to their gender.

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