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EDITORIAL NOTE

All praise and thanks are due to ALLAH (S.W.T.), Who made it easy for the Publication Bureau of the Postgraduate Students' Society (PGSS) 2009, to introduce you to the ninth issue of *Al-Risala,* which is an academic refereed journal. PGSS hopes that the content of this issue will meet the expectations of every IIUM postgraduate student as well as the non-IIUM community. Since its founding in 1988, the PGS society has been struggling resolutely to ensure that *Al-Risala* maintains and portrays the credibility, reliability and quality of both completed or current on-going research and development within the postgraduate level. Thus, great research findings have been selected to be shared with the rest of the research and educational world.

This current issue is a contribution of researchers and their fellow advisors in International Islamic University Malaysia from various disciplines. The focus of this issue mainly covers the current social, welfare, economical as well as educational matters, which have affected the global population as a whole. Hence, it will reflect the research scenario and achievements inside IIUM community during 2009. The contents of this issue are diverse, reflecting the multidisciplinary of IIUM research background.

The editorial board would like to appreciate the authors' great effort resulting in the production of this qualitative journal. In addition, on behalf of the editorial board, the special gratitude goes to the board of reviewers who has found the articles publishable. We are looking forward to receiving more articles to better standards and prospects. We are always here to give the chance to the IIUM Postgraduate community to have their research findings published and acknowledged by the people in accordance with the topic of interests as this journal will be promoted and distributed around the world.

A MULTIDIMENSIONAL CONSTRUCT OF PERCEPTIONS ON SEXUAL AND REPRODUCTIVE HEALTH AMONG MUSLIM UNDERGRADUATE STUDENTS*

Samsoo Sa-U**
Mohamad Sahari Nordin***
Nik Suryani Nik Abd Rahman****

Abstract

This study examines factors influencing undergraduate students who are all Muslims from one of the public universities in Malaysia. Data were obtained from a survey conducted among the undergraduate students (n=255). Principle Components Analysis (PCA) revealed four latent factors: the electronic and printed media, knowledge of circumcision, the Islamic values on sexuality and their prior knowledge of sexual act. Based on the views of the respondents on the roles played by curriculum, religion and media in disseminating knowledge on sex-related matters, recommendations are drawn to assist the relevant parties in coming up with comprehensive sexuality education for Muslim adolescents.

Key words: *sex/sexuality education, reproductive health, undergraduate student, Muslim, perceptions, Principle Component Analysis (PCA).*

INTRODUCTION

Studies, which have been carried out in Muslim societies on sexual and reproductive health, are limited. Many young Muslims are emitted from the

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learning process to cater the cultural and religious restrictions (Cok, 2000; DeJong *et al.*, 2007; Halstead, 1997; Nurazzura, 2007; Underwood, 2000). Very little is, therefore, known about the factors that influence the Muslim youths on sexual and reproductive health. Several studies in some Muslim countries reported that Muslim youth are not well prepared and educated in sexual and reproductive health due to some contributing factors. (Burazeri *et al.*, 2003; GÖkengin *et al.*, 2003; Mohammad Reza *et al.*, 2006; Nik Suryani *et al.*, 2007; Paruk *et al.*, 2006).

Cok (2000) described sex education in Turkey, as similar as many other Muslim countries in the world, as "there are no sexuality classes, no mention of sexuality in health courses or no sexuality textbook material in Turkish school. Other issues take priority and sexuality education is pushed aside as unimportant and irrelevant" (p.5). Moreover, he stated that Turkish Muslim adolescents are highly influenced by media especially form Europe and North America. In addition, the study on 2,227 first-and-fourth-years students at Ege Univesity, GÖkengin *et al.*, (2003) revealed that knowledge about sexual health and sexually transmitted diseases, is insufficient among their samples.

In Albania, Burazeri *et al.* (2003) reported the mean age at first sexual intercourse 720 undergraduate students in Tirana was 17.9 for men and 18.8 years for woman. They also found positive associations of parental education and income level with sexual activity and consistent use of condoms among Albanian undergraduate students.

Mohammad Reza *et al.* (2006) described the sex education in Iran that cultural sensitivities which may be a factor in young people's poor knowledge about reproductive health. Furthermore, few programs provide sexuality education to adolescents or enable youth to ask questions and correct misconceptions about reproductive health. Indeed, large numbers of young Iranians lack information about safe sex and the necessary skills to negotiate and adopt safe sex practices. In their study of 1,385 males aged 15–18 in Tehran about their beliefs and knowledge regarding reproductive health and their engaging in sexual activity, they found that there was a relatively high prevalence of sexual activity and the lack of knowledge regarding STIs and contraceptives pose a significant threat to the sexual and reproductive health of Iranian adolescent males. Hence, they requested programs to provide adolescents with the accurate information and skills to make safe sexual decisions.

A study conducted by Nik Suryani *et al.* (2007) with undergraduate students (n=300) in Malaysia, discovered that, in general, students held a

positive view toward sex and sex-related matters; however, their knowledge on sexuality education, sexual and reproductive health matters calls for attention from the relevant authorities. Findings on their sources of information on sexuality education also revealed that more could be done to help them obtain an accurate picture of sex-related matters particularly with the roles played by parents, school, religion and media in disseminating knowledge on sex-related matters.

Paruk *et al.* (2006) presented finding on the influence of religiosity on attitude toward people with HIV/AIDS using 90 South African Muslim university students. They found that higher religiosity was significantly correlated with a more positive attitude to people with HIV.

Ojo & Bidemi (2008) conducted a study with 520 adolescent of Nigerian students on contemporary clothing habits and sexual behavior of adolescents in the South Western Nigeria. They found that there is no significant difference in the factors influencing adolescents' dressing habits and the fact that there is relationship between clothing habits and their sexual behavior.

In Pakistan, Qidwai (2000) surveyed perception among 188 Pakistani young men, who presented to family physicians, at the outpatient department of the Aga Khan University Hospital, Karachi, about enjoyment of sexual experiences in women. He found a high prevalence of misconceptions about female sexuality among Pakistani young men. Furthermore, Hennink, Rana, & Iqbal (2005) studied on knowledge of personal and sexual development amongst young people in Pakistan. They found that young women typically gain information from a limited number of sources while young men accessed a wide variety of information sources outside the home.

From studies done in various Muslim countries, however, there is not enough information on factors influencing the basic sexual and reproductive health among Muslim undergraduate student as well as in other developing countries (Singh, Bankole & Woog, 2005). Intervention studies are largely absent. There is a need, therefore, to determine factors associated with Muslims' sexual perception to develop a clear understanding in student variables, the results of which may contribute to help students on their knowledge and behavior regarding to sexual and reproductive health and it will help determine best bets for programs for sex education for Muslim youths.

The purpose of this study was to survey Muslim undergraduate students' perceptions in sexual and reproductive health, and in doing so, to clarify the meaning of the construct itself. Thus, the study addressed the following

research questions: What are the factors influencing Muslim undergraduate students' perceptions towards sexual and reproductive health?

This study is based on the crossed different populations and geographic regions influencing factor adolescent on sexual and reproductive health studied by Manlove *et al.* (2001). They pointed out that there are multiple domains in an adolescent's life associated with reproductive health outcomes. By grounded on *the ecological approach*, individual factor, family factor, peers, partners, school context, neighborhood, community, and social policy characteristics are all associated with sexual behaviors, adolescent pregnancy, and STI. However, this study looked at certain dimensions only, which comprised (1) *individual factor* (religiosity, knowledge of reproductive health and attitudes, and belief about sex); (2) *school context* (curriculum); and, (3) *media*.

The authors, therefore, hypothesized that there are four influencing factors of undergraduate Muslim students' perception on sexual and reproductive health: (1) school and tertiary curriculum support, (2) Islamic values on sexuality, (3) electronic and printed media, and (4) students' prior knowledge on sexual and reproduction health. (Figure 1 below depicts the conceptual framework of the study).

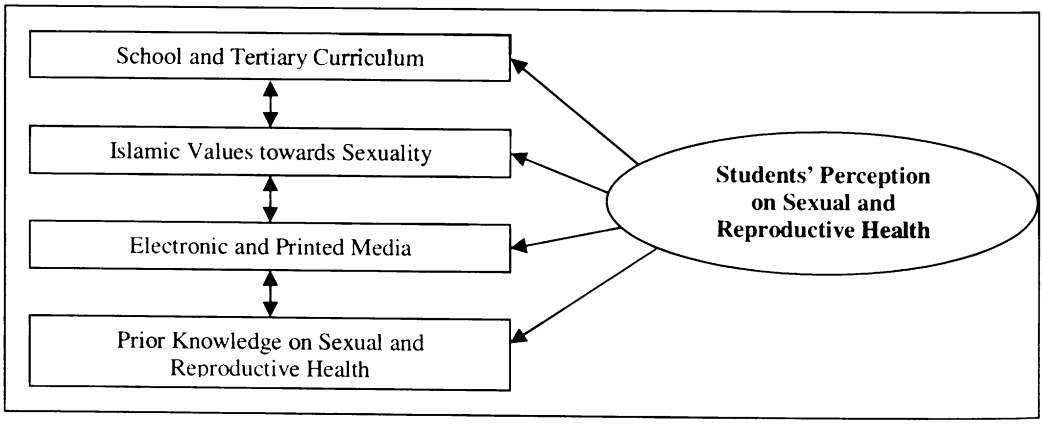

Figure 1 Conceptual Framework of Study

Significance of Study:

This study is very significant because its results are pictured to provide empirical data on factors influencing perception on sexual and reproductive health among Muslim undergraduate students that have not been fully studied. Thus, the results of this study are expected to help in the

understanding of students' perception towards sexual and reproductive health and sex education, which is promoted by several factors. The findings are beneficial to understand and determine the success or failure of factors influence and the implementation of sex education in Islamic higher learning institute as perceived by students. Such information can help to improve the strategy in order to accomplish the sex education particularly for Muslim youths.

Method of Study:

a) Research design

In this study, the survey method was employed. A questionnaire was selected from Nik Suryani et al. (2007) measured these relationships. It consisted of two parts. The questionnaires were distributed randomly to a sample of undergraduate in the International Islamic University Malaysia (IIUM).

b) Population and sample

The population is the undergraduate students in IIUM, Gombak campus, Kuala Lumpur, Malaysia. All were Malaysians. A random sampling was used to select participants. The principle component analysis (PCA) was conducted where the number of sample depends on the items of the questionnaire. Since the number of the item is 40, the minimum sample size is 40 x 5 = 200 participants. In this study, the number of participants was 255, which was more than the minimum requirement (Hair *et al.*, 2006).

d) Data Collection

To distribute the questionnaires, researchers sought help from three students, which researchers have known. The questionnaire has an attached covering letter that assures the confidentially of data collected and describes the major components of questionnaires to be completed. One week was given to the students in order to complete the questionnaires and return them to the assigned persons within the time allocated. The usable returned response rate was 72.9 % (n=255) out of 350 students. The data collected was operated on January 2008.

e) Validity and Reliability

To establish the face and construct validity of the instrument, the opinions of two experts in education were sought on the design and items used for the various dimension. The instrument was pilot tested on 30 students that

was not on the list of the selected students. Based on the pilot test, 50 items from Nik Suryani *et al.* (2007) was tested and a few items were omitted in order to refine the instrument further. Finally, 40 items were confirmed with a reliability of Alpha Cronbach = .72.

f) Instrumentation

The survey instrument was adopted from a core questionnaire developed by Nik Suryani *et al.* (2007). The questionnaire comprised 40 questions divided into two sections: social and demographic variables and students' views and knowledge on a wide range of topics on sex and attitudes towards sex. It sought to find out students' perceptions on: (1) school and tertiary curriculum (5 items; no.1-5); (2) Islamic values on sexuality (6 items; no.6-11); (3) electronic and printed media (4 items; no.12-15); (4) sexual novel (4 items; no.16-19); (5) their prior knowledge of sexual and reproductive health:- (5.1) protected sex (6items; no.20-25): (5.2) sexual act (9 items; no.26-34); (5.3) circumcisions (9 items; no. 35-40).

The response to each item is in the form of a five-point Likert scale of "strongly disagree," "disagree," "undecided," "agree," and "strongly agree."

The demographic characteristic of the first section of the questionnaire contains questions with regard to the respondent's background information (gender, age, country of origin, former school and location, faculty, year of study, CGPA, and marital status).

g) Data analysis

For the demographic data, frequency and percentage were employed. To answer the research question on factors influencing students' perceptions of sexual and reproductive health, principle component analysis was utilized.

An explanatory factor analysis was conducted to construct-validate the factor influencing students' perception. To find out the number of factors the following rules were used: (1) the Kaiser's rule of 1.0 as the minimum eigenvalues, (2) the screen test and (3) the interpretability of the solutions. The degree of inter-correlation among items justified the application of the factor analysis as well as the Batlett's test of sphericity recorded a Chi square value.

Results:

Table 1 shows out of 255 students, 152 (59.6%) were females and 101 (39.6%) were males. A majority of the students (91.4%) were between 20 and 25 years of age, the remaining being distributed between the age group

of younger than 20 (7.4%) and older than 25 (1.2%). Approximately, 239 (93.7%) of the respondents were Malaysians while 16 (6.3%) were international students. Most of students (37.2%) graduated from urban day school, followed by religious school (27.1%), boarding school (16.5%), rural day school (9.0%), private school (5.9%), and others (1.9%). The respondents were represented from different faculty with nearly half (42.4%) being law students (AIKOL). The other half was distributed between Human Sciences (24.3%), KENMS (11.8%), ENGINEERING (7.1%), KAED (5.5%), INSTED (3.9%), KICT (2.7%), and IRK (2.4%) respectively.

Majority of students were second year student (32.5%), the remaining being almost distributed between the final year (29.8%), the first year (21.2%), and the third year (16.5%). In general, almost more than half of the students (49.4%) had CGPA more than 3.0, while the rest (28.7%) had less than 3.0. Almost 95.7% students were single which 131 (53.7%) were not attached to someone and 110 (45.1%) were having attached to someone, only 11 (4.3%) students were married.

Table 1
Respondents' Demographic Background

Variables	N	Percent
1. Gender:		
Male	101	39.6
Female	152	59.6
Missing Value	2	0.8
2.Age		
<20	19	7.4
20-25	233	91.4
>25	3	1.2
3.Country of Origin		
Malaysian (local student)	239	93.7
Non-Malaysian (international student)	16	6.3
4. Former School and Location		
Urban Day School	95	37.2
Rural Day School	23	9.0
Boarding School	42	16.5
Religious School	69	27.1
Private School	15	5.9
Others	6	2.4
Missing values	5	1.9
5. Faculty		
Information and Communication Technology (KICT)	7	2.7
Engineering	18	7.1
Laws (AIKOL)	108	42.4
Human Sciences (HS)	62	24.3
Islamic Revealed Knowledge (IRK)	6	2.3
Institute of Education (INSTEAD)	10	3.9

Economics and Management Sciences (KENMS)	30	11.8
Architecture and Environmental Design (KAED)	14	5.5
6. Year of study		
1st year	54	21.2
2nd year	83	32.5
3rd year	42	16.5
4th year	76	29.8
5. CGPA		
< 2.00	1	0.4
2.00-2.49	11	4.4
2.50-2.99	61	23.9
3.00-3.49	102	40
>3.50	24	9.4
Missing Value	56	21.9
6. Marital status		
Single	244	95.7
Single and have attached to someone	110	45.1
Single and have not attached to someone	131	53.7
Missing Value	3	1.2
Married	11	4.3

n = 255

Perceptions toward Sexual and Reproductive Health

Table 2 summarizes the results of the descriptive analysis of the students perceptions on sexual and reproductive health. The data showed that the mean scores ranged between 1.83 (items PRO23) and 4.57 (items REL10); the standard deviations ranged from .66 (items SEX34) to 1.18 (items PRO23). The mean scores were located within the expected range (none of the items are included a mean score of zero, at 95 % level of confidence, with a reliability of Alpha Cronbach = .72). The data showed that the dispersion of the scores for each item sufficiently discriminated the students' perceptions. In addition, the degree of bivariate correlation among most of the 40 items matric variables ranged from low to high. However, six of them (items EDU1, EDU2, PRO24, SEX28, SEX31, and CIR39) were found to link weakly and negatively with the rest of the items.

Table 2

Mean (Standard Deviation) and Item-Total Correlations of Students' Perceptions on Sexual and Reproductive Health

Items	Code	M	SD	r
1. The content of information on sexual related matters taught at school is sufficient.	EDU1	2.95	1.157	.081
2. Courses like Family Management and Parenting at undergraduate level should openly discuss sexual and reproductive health matters.	EDU2	4.11	.876	.023
3. Sexual education should be taught as subject of its own at secondary schools.	EDU3	3.28	1.176	.227

4. Sexual education should be taught as a separate subject at the tertiary level.	EDU4	3.60	1.043	.195
5. Sexual education should be taught in pre-marital courses.	EDU5	4.38	.686	.176
6. *Qur'ān* provides me with information on sexuality in a decent manner.	REL6	4.38	.789	.239
7. My religious knowledge provides basis for me to develop the conscience not to engage in premarital sex	REL7	4.52	.728	.192
8. Religion helps me suppress my sexual desire.	REL8	4.26	.847	.237
9. Fasting is one of the best ways to keep my sexual desire under control.	REL9	4.31	.910	.327
10. Watching pornography is forbidden in Islam.	REL10	4.57	.767	.303
11. The only way to eliminate illicit sex is by implementing the *Sharī'ah* Law.	REL11	4.19	.922	.389
12. Electronic media portrays negative perception of sexuality.	MED12	3.70	1.079	.339
13. Printed media portrays negative perception of sexuality.	MED13	3.65	1.075	.372
14. Electronic media leads young people to embark on pre-marital sexual relationship.	MED14	4.10	.927	.357
15. Printed media leads young people to embark on pre-marital sexual relationship.	MED15	3.94	.987	.412
16. Reading sexy novels leads people to having pre-marital sex.	NOV16	3.42	1.036	.354
17. Novels are most descriptive about sexual intercourses than other sources.	NOV17	2.98	1.072	.350
18. Novels with sexual descriptions increase my desire to masturbate.	NOV18	2.69	1.107	.324
19. Novels with sexual descriptions increase my sexual fantasies.	NOV19	2.95	1.093	.268
20. There is fertility problem if pregnancy does not occur in the first year of marriage.	PRO20	2.52	.972	.218
21. Unprotected sexual intercourse will guarantee pregnancy.	PRO21	3.32	1.175	.339
22. Protected intercourse guarantee pregnancy will not occur.	PRO22	2.70	1.085	.235
23. Kissing and touching can lead to pregnancy.	PRO23	1.83	1.177	.153
24. The use of contraceptives or protected sex ensures safety from sexually related diseases.	PRO24	3.41	.996	.069
25. Islam forbids the use of contraceptives.	PRO25	2.87	1.010	.169
26. Preservation of virginity is most important for both men and women before getting married.	SEX26	4.53	.781	.125
27. Sex is painful for first timers.	SEX27	3.44	.933	.100
28. Sex is painful for women.	SEX28	3.22	.886	.069
29. Sex is pleasurable to both men and women.	SEX29	4.04	.853	.162
30. Only matured people enjoy sexual relationship.	SEX30	2.88	1.088	.100
31. Sexual relationship is for young people only.	SEX31	1.91	.909	-.057
32. Good Communication between spouses ensures satisfying sexual relationship.	SEX32	4.32	.839	.100
33. Knowledge about sex is a pre requisite for enjoying sex.	SEX33	4.05	.876	.246
34. Understanding between each other's needs help improve sexual satisfaction.	SEX34	4.39	.660	.168
35. Circumcision is mainly for health reasons.	CIR35	3.93	1.090	.192
36. Circumcision is for cultural reasons.	CIR36	2.43	1.033	.189
37. Circumcision for women reduces sexual satisfaction.	CIR37	2.89	.935	.116
38. Circumcision for women represses their sexual desires.	CIR38	2.96	.856	.235
39. Circumcision for men reduces sexual satisfaction.	CIR39	2.59	.977	.076
40. Circumcision for men represses their sexual desires.	CIR40	2.92	.969	.105

The Underlying Dimensions of Students' Perceptions

To identify the factors that influence undergraduate Muslim students' response toward sexual and reproductive health, the data collected from the

sample of 255 respondents were subjected to principal component analysis. Nevertheless, the present analysis used only the responses on the 34 of the 40 items (Table 3). Based on the results of item analysis as described in the preceding section, 6 of the items (items EDU1, EDU2, PRO24, SEX28, SEX31, and CIR39) were excluded because they were behaving poorly in the item-total correlation.

Table 3 summarizes the correlations among the 34 items supported the use of principal component analysis. Specifically, the Bartlett Sphericity Test yielded statistically significant inter-correlation χ^2 (561) = 2525.854, p = .001 with an overall MSA of .65, which exceeded the value of .60.

Thus, the data matrix has sufficient correlation to justify the use of the exploratory factor analysis. The principal component analysis yielded a seven – factor dimension structure, accounting for 60.69% of the variance. This indicates that four underlying dimensions explain more than 60% of the variance among the 34 variables.

The eigenvalues, ranging from 1.616 to 3.0622 (which is greater than 1 as required), satisfied the standards of important factors as prescribed by Hair, Jr. et al. (2006).

Table 3

Correlation Matrix and Descriptive Statistic

	EDU3	EDU4	EDU5	REL6	REL7	REL8	REL9	REL10	REL11	MED12	MED13	MED14	MED15	NOV16	NOV17	NOV18	NOV19	PRO20	PRO21	PRO22	PRO23	PRO25	SEX26	SEX27	SEX29	SEX30	SEX32	SEX33	SEX34	CIR35	CIR36	CIR37	CIR38	CIR40
EDU3	.548																																		
EDU4	-.284	.557																																	
EDU5	-.134	.128	.747																																
REL6	.051	-.046	-.085	.769																															
REL7	-.021	.017	-.107	.385	.735																														
REL8	.061	-.006	.027	.125	.233	.724																													
REL9	-.052	.028	-.011	-.130	.104	.210	.771																												
REL10	.015	-.084	-.110	-.084	.023	.234	-.002	.742																											
REL11	.007	.040	.099	.027	.140	.031	.194	-.153	.782																										
MED12	.062	.071	.045	-.034	.068	.107	.062	-.183	.015	.669																									
MED13	.162	-.074	.029	-.025	.014	.082	.046	.100	-.202	-.784	.666																								
MED14	.046	.052	-.088	.045	-.021	.080	.110	-.118	.071	.005	-.172	.664																							
MED15	.032	-.025	.017	.003	.001	-.124	-.044	.120	-.113	-.074	.052	-.763	.688																						
NOV16	.162	-.022	.047	-.145	.047	.001	-.010	-.069	-.191	.020	.072	-.138	-.034	.757																					
NOV17	-.020	-.056	.094	.046	.028	.017	-.174	.000	.125	.028	-.029	.045	-.141	-.328	.713																				
NOV18	.034	.113	-.079	.017	-.081	.124	-.030	-.024	.209	-.019	-.076	.141	.089	-.189	-.191	.591																			
NOV19	.085	-.105	-.101	.183	-.018	-.168	.126	.040	-.053	-.004	-.012	-.011	.013	-.001	.047	-.663	.588																		
PRO20	-.106	.172	.097	-.095	.194	.099	.024	-.007	-.015	-.018	-.118	-.040	.033	-.075	.118	.036	-.051	.630																	
PRO21	.032	-.077	-.059	.056	-.056	.056	-.098	.072	-.002	.006	-.031	.051	-.044	-.124	.065	-.090	.049	.093	.610																
PRO22	-.055	-.041	.006	-.023	.001	.022	.140	.004	-.097	-.053	.109	.067	-.031	.108	-.111	-.081	.059	.147	-.290	.485															
PRO23	.120	.028	.054	.017	.112	-.070	.003	.149	-.198	-.060	.030	.141	.111	.012	-.050	-.087	.012	.010	-.045	.196	.619														
PRO25	.088	-.126	.092	-.052	.056	.126	-.134	-.206	.005	.114	.030	.028	-.017	-.015	.002	.025	-.096	.120	-.169	.099	-.126	.490													
SEX26	.004	.041	.071	.092	-.141	.034	-.010	-.063	-.056	-.031	.023	-.049	.067	.080	-.175	.047	.036	-.006	-.204	.086	.101	.057	.671												
SEX27	.079	.083	.093	.080	-.078	-.056	.098	.135	-.107	.051	-.024	-.100	.015	.098	.074	-.135	.085	.026	.196	-.244	.092	-.128	.197	.319											
SEX29	-.085	-.058	-.089	.088	.013	-.091	.011	.055	.033	-.086	.153	.029	-.007	.048	-.105	.135	.199	-.211	-.196	.120	.069	.111	.114	-.195	.572									
SEX30	-.023	.064	.009	.090	.118	.029	-.161	-.055	.048	-.006	.000	-.110	.075	-.117	-.027	.114	-.097	-.009	.011	-.001	.036	.092	.101	.143	.147	.536								
SEX32	.243	.095	.094	-.039	.066	-.068	-.006	.074	-.018	-.148	.127	-.028	.018	.047	-.001	-.043	-.004	.231	-.038	.114	.041	-.106	-.040	-.103	-.054	.089	.640							
SEX33	-.023	.060	.014	.163	-.195	.084	-.110	-.149	.058	.090	-.043	.062	-.055	-.124	-.088	.088	-.092	-.192	.057	.133	-.119	.097	-.036	-.040	.056	-.046	-.193	.570						
SEX34	.127	-.132	.039	-.139	.173	-.044	.020	.067	-.049	.105	.085	-.076	.025	.064	.193	-.167	.075	.158	.006	-.155	.072	.032	-.058	.123	-.256	-.054	-.333	-.463	.555					
CIR35	.103	.093	.052	-.006	.018	.025	-.115	-.101	-.075	-.026	.058	-.053	.056	.011	-.026	-.020	-.012	.065	-.052	.054	.038	-.065	.104	-.074	.019	.018	.053	.128	-.237	.600				
CIR36	.003	.139	.060	.085	.159	-.147	.181	.069	-.084	.015	.045	-.014	.021	.025	.197	-.173	.174	-.052	-.137	.084	.010	-.066	.108	-.114	.020	-.026	.032	.170	.133	-.113	.613			
CIR37	.145	.013	.021	.044	.011	.168	-.081	.037	.072	.034	.015	-.086	.068	-.157	.067	.104	-.121	.003	.126	-.073	.089	.039	-.024	-.022	.002	-.006	.121	.070	.142	-.075	.207	.642		
CIR38	-.077	-.072	.014	.008	-.056	.045	.011	-.093	.021	.052	-.015	-.043	.022	.044	-.038	-.023	.025	-.052	.026	-.071	-.032	.052	.050	.023	-.039	-.032	-.136	-.118	.098	.000	.060	-.193	.663	
CIR40	-.017	.022	.046	.057	-.007	-.042	.117	.061	-.060	-.135	.131	-.111	-.105	.040	-.024	.056	.002	.114	.108	.058	.024	-.060	.123	-.076	.096	.014	.046	.013	-.083	-.029	-.066	-.102	.502	.646

Table 4 summarizes the result of the analysis, in which the Varimax with Kaiser normalization rotation was used to produce the final solution. The result of the exploratory factor analysis revealed that there were four latent variables measured by the data. The solution, extracted positive statistically

significant loadings, and free from factorial complexity and variable-specific factor which four factors loading = 60.69%.

Table 4
Varimax with Kaiser Normalization Rotated of Principal Component Analysis Factor Matrix

Variables	Factor1	Factor2	Factor3	Factor4	Communality
MED12	.820				.689
MED13	.827				.704
MED14	.847				.722
MED15	.803				.652
CIR37		.699			.508
CIR38		.790			.660
CIR39		.768			.667
CIR40		.772			.622
REL6			.782		.628
REL7			.784		.631
REL8			.723		.546
REL9			.698		.497
SEX29				.525**	.320**
SEX32				.765	.586
SEX33				.749	.582
SEX34				.832	.697

** *Items SEX25 is problematic due to (1) its loading value is less than 0.6 considering as unstable item and (2) its communality is less than .4 indicating a less good fit.*

Table 5 shows that the first rotated factor, *the electronic and printed media*, has significant loadings, ranging between .803 and .847 on the same four items (MED14, MED15, MED16, and MED17) and Alpha Cronbach reliability = .84. Students' scores on this factor reflect the influence of media on getting information about sexual and reproductive health.

The second rotated factor includes four items (CIR37, CIR38, CIR39 and CIR40) ranging between .699 and .790, and Alpha Cronbach reliability = .76. Students' scores on this factor reflect their *prior knowledge of circumcisions.*

The third rotated factor comprises four items (REL6, REL7, REL8, and REL9), ranging between .698 and .784 and Alpha Cronbach reliability = .74. This factor can be described as the *Islamic values on sexuality* which essentially is religious affiliation relating to adolescents' sexual values.

The forth rotated factor comprises four items (SEX29, SEX32, SEX33, and SEX34), ranging between .525 and .832 and Alpha Cronbach reliability

= .71. Students' scores on this factor reflect their *prior knowledge of sexual act.*

Table 5
Solution and Statistic from Principle Component Analysis according to Scale of Assessment of Students' Perceptions and Reliability of Items for Each Scale

Measures	No. of factors (items)	Communality	Factor loading	Prop of Var. explained	Alpha Coeff
Electronic and Printed Media	1(4)	.652-.722	.803-.847	17.17	.84
Prior Knowledge of Circumcisions	1(4)	.508-.667	.699-.790	31.85	.76
Islamic Values of Sexuality	1(4)	.497-.631	.699-.790	46.46	.74
Prior Knowledge of Sexual Act	1(4)	.320-.697	.525-.765	60.69	.71

Discussion:

Confined within the limitations of the study, the present results confirm and add new information to current understanding on sex education. It is clear that students' perceptions are a multidimensional construct and it confirmed that the context within which student live affects their perceptions toward sexual and reproductive health. This study examined the factor influencing on teaching thinking. Four factors were detected as the influencing factors in sexual and reproductive health, which were identified as (1) *the electronic and printed media*, (2) *prior knowledge of circumcisions*, (3) *Islamic values on sexuality*, and (4) *prior knowledge of sexual act.*

The first latent factor, *electronic and printed media*, confirmed that Media highly influenced Muslim adolescents (Cok, 2000). However, results are hand in hand with much research discovering that youths get information about sexual and reproductive health mainly from media. This study concurs with Boies (2002) found that university students in Canada used the internet to obtain sexual information and said they benefited from it. It is because cyber space is the most convenient and accessible for youth to access worldwide and internet has a great potential medium for information. Here, it substantiated that the electronic and printed media can be effective for delivering instruction on sexual and reproductive health (Evans, Edmundson-Drane & Harris, 2000).

The rest of three latent factors corroborated with earlier works on sex education especially the work of Manlove *et al.* (2001) on *the individual factor*s particularly on the knowledge of reproductive health and attitudes and belief about sex and their religiosity.

The second and forth factors related to *students' prior knowledge on circumcision and sex act.* Although students may have differed on prior sexual and reproductive knowledge, the principal component analysis indicated that perceptions in sexual and reproductive health demanded a common sense prior knowledge. Whereby, an accurate knowledge on both circumcision and sex act are related to sexual and reproductive health should be promoted such as to that they would influence students' perceptions on sexual and reproductive health. Students who have an accurate knowledge on sexual and reproductive health, they may have a positive behavior on sexual health. Nevertheless, regarding to some previous study, Muslim students are lacking of the accurate knowledge on sexual and reproductive health (GÖkengin *et al.*, 2003; Mohammad Reza *et al.*, 2006; Nik Suryani *et al.*, 2007; Qidwai, 2000). Moreover, it will be worried to young Muslims were critical of the quality of information they received, which often led to confusion and stress in understanding sexual development (Hennink, Rana, & Iqbal, 2005). This may call attention particularly with the roles played by parents, school, religion and media in disseminating knowledge on sex-related matters especially the prior knowledge of basic sexual and reproductive health.

In this study, religious affiliation (the third factor) affected adolescents' perceptions on sexual and reproductive health (Francis *et al.* 2004). Research found the relationship between religiosity and positive attitude and behavior among Muslim youths (Paruk *et al.*, 2006). It means that is clear that sex education is not contradict with Islamic principles (Ismaiel, 2007; Underwood, 2000), but in many part of Muslim societies some of cultural taboos are major obstacles to informed discussions about sexual and reproductive health issues, particularly with regard to young people (DeJong *et al.*, 2007; Mohammad Reza *et al.*, 2006). Additionally, factors influencing students' perception on sexual and reproductive health indicated the religion plays crucial roles in shaping Muslim students' perception on sex-related issues. Therefore, it can be said that students who have accurate interpretation of Islamic principles, they enclose the positive perception on sexual and reproductive health.

To empower Muslim youths for protecting their sexual and reproductive health, it is be recommended that (1) provide comprehensive

sexuality education in learning institution, particularly knowledge on of basic anatomy, physiology and sexual act, (2) expand education and communication on sexual and reproductive health, using the mass media especially electronic media such as the internet, and (3) religious leaders have to provide ethical guidance to young Muslim as together they confront the changes that scientific and technological innovations bring to develop a full understanding of the interpretations.

Recommendations for Research:

Limitation of this study was scoped only by certain factors. More multidisciplinary and multidimensional research is needed that examines young Muslims' sexual and reproductive health perceptions as they relate to social, cultural, and economic conditions. Identifying factors associated with reproductive health behaviors will help determine best bets for comprehensive sex education to reduce negative behavior and misperception among Muslim students.

CONCLUSION

This study examined factors that influenced undergraduate Muslim students' perception on sexual and reproductive health. Four factors were detected as the influencing factors, which were identified as (1) the electronic and printed media, (2) knowledge of circumcisions, (3) the Islamic values on sexuality, and (4) the prior knowledge of sexual act.

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