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Jean Claude Martin

Jennifer Y. Mak

*Marshall University*, mak@marshall.edu

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## College Students' Sexual Knowledge and Attitudes

*Jean Claude Martin, Marshall University*

*Jennifer Y. Mak, Marshall University*

### Abstract

There is currently a controversy in this country about college students' perceived sexual knowledge and attitude. The purpose of the study was to identify and examine: 1) students' sexual knowledge, sexual attitude, and students' main source of sexual knowledge; 2) the differences between sociodemographic variables of gender, age, and self-perceived sexual knowledge in relation to sexual knowledge and sexual attitude; and 3) the relationship between sexual knowledge and sexual attitude. Participants were college students (n=201) of a Mid-Atlantic university. The students achieved an average score of 83% on the sexual knowledge test with all (100%) students having either an ambivalent or progressive/open-minded attitude toward sex as opposed to a traditional view of human sexuality. The top two sources of students' sexual knowledge came from friends and personal experience. Results indicated that a significant difference was found between students' self-perceived sexual knowledge and their actual sexual knowledge test scores. Students who rated themselves as having excellent sexual knowledge achieved the highest test score. A significant difference was also found between male and female students in their sexual attitude. Female students were significantly more progressive/open-minded than male students in their attitude. Males were more ambivalent.

*Keyword(s):* student issues, sexual knowledge, health promotion

### Introduction

The 2005 Youth Risk Behavioral Survey and the 1995 College Risk Behavioral Survey revealed that 63.1% of high school seniors and 79.5% of college students have had sexual intercourse (Centre for Disease Control and Prevention [CDC], 2006a, 2006b). Every year about 250,000 college students took a human sexuality course (Moglia, 1994). The National Survey of Family Growth (NSFG) reported that 90% of 18 to 19 year old women received formal instruction on Sexually Transmitted Infections (STIs), safer sex, and how to say no to sex (Mosher, 2001). A similar study conducted by the National Survey of Adolescent Males (NSAM) discovered that 88% of males ages 17 to 19 received instruction on STIs and 87% received information about birth control (Sonenstein, 1995).

Two recent surveys of teens supported by the National Institute of Child Health and Human Development (NICHD) discovered that there was a decline for the seventh year in a row in sexuality activity, an increase in the use of condoms, and a declining approval of premarital sex (National Institute of Child Health and Human Development [NICHD], 2006). The NICHD attributed these results to sex education. Mckelvey, Webb, Baldassar, Robinson, and Riley

(1999) revealed that there was a relationship between knowledge and attitudes in where the college students who have less sex knowledge exhibited negative attitudes toward gay/lesbian/bisexual behavior, masturbation, premarital sex and contraception.

Conversely, a survey that determined sexual knowledge of college students in four Louisiana universities discovered that students performed poorly on the sexual knowledge test, averaging 55.39%, despite most of the students having a school-based sexuality education (Synovitz, Herbert, Kelley, & Carlson, 2002). This implied that college students, who were sexually active, were not equipped with sufficient knowledge to adopt responsible behaviors. There was a flaw in sex education since many students, despite gaining sex knowledge, did not practice safer sex (Pilkington, Kern & Indest, 1994; Rodden, Crawford, Kippax, & French, 1996). Other studies also contend the notion that sex education/information has no influence on sexual behavior, implying that knowledge influences attitudes which in turn influence behavior (Haywood, 1996; Thomson, 1994).

Studies suggested that sexual behavior could be predicted from sexual attitudes (Geringer, Marks, Allen, & Armstrong, 1993; Plotnick, 1992). Geringer and his colleagues (1993) revealed that attitude toward condom use predicted the use of condoms. It was unclear how sexual attitudes were mainly formed. The family influence may have a greater impact in the development of sexual attitudes than sex knowledge/education (Robertson, 1995; Whitbeck, Simmons & Kao, 1994). Other studies suggested that having divorced parents, lesser parental supervision, living with a single parent and having more permissive sexual attitudes put adolescents at an increased risk for sexual intercourse, pregnancy, and contracting an STD (Miller, Benson & Galbraith, 2001; Thornton & Camburn, 1987; Whitbeck, et al., 1994).

Interestingly, most students (96.9%) thought that sex education should come from parents. In reality, however, peers were the most significant source of sexual information, not literature, school, or parents (Kisker, 1985; Miller, 2002). Parents tended to be the least cited source of sexual information for young people (Sanders & Mullis, 1988). The lack of sex education at home causes students to turn to their peers and, unfortunately, peers might spread incorrect sexual information among each other (Rozena, 1986).

Sexual attitudes among college men and women appeared to have merged over recent years (Larry, 2004). Differences, however, still existed. Oliver and Hyde (1993) reported that college men still had a more permissive attitude toward casual sex while college women appeared to have a more conservative attitude in discussing condom use. In addition, college men had a more negative attitude regarding homosexuality than women did and were more likely to believe that sexual intimidation was justifiable (Feltey, Ainslie, & Geib, 1991; Kite & Whitley, 1996).

Keller's study (1959) suggested that male college students were more knowledgeable about human sexuality than female college students. However, other researchers found that female college students were more knowledgeable than male college students (Gunderson & McCary, 1980; Woods & Mandetta, 1975). A possible explanation for females' better sexual knowledge was indicated by studies showing more college female students enrolled in sexuality courses (Gunderson & McCary, 1980).

The researchers noticed much disagreement in the literature about college students' perceived knowledge in sex education and decided to conduct a survey to better clarify these important issues. The purpose of this study was to identify and examine: 1) students' sexual knowledge, sexual attitude, and their main source of sexual knowledge; 2) the differences among variables of gender, age in self-perceived sexual knowledge in relation to sexual knowledge test score; and 3) the differences among variables of gender, age and self-perceived sexual knowledge in relation to sexual attitude.

## **Methodology**

Participants of this study were 201 college students from a Mid-Atlantic university which consisted of 101 males and 100 females. They were mainly undergraduates (94.5%), white (87.5%), between the ages of 20 to 22 (60%) with an age range of 17 to 46. The researchers were permitted to enter classrooms to instruct the students about the data collection procedure. **No** names were to be placed on the questionnaire to assure full anonymity, voluntary and self-administered. The researchers explained the purpose of the study, distributed the questionnaires, and supervised the data collection procedure.

The questionnaire consisted of three parts. Part 1 elicited information about the students' socio-demographic characteristics such as age, gender, major, year in college, race/ethnicity, source(s) of their sexual knowledge, and self-evaluation on how well informed they were about human sexuality. Part 2 consist of a modified/adapted Kinsey Institute/Roper Organization National Sex Knowledge Test that consisted of 12 true and false questions (Insel & Roth, 2002). This part of the questionnaire contained questions about sexual intercourse, masturbation, pregnancy, body image, sexual dysfunction, sexual anatomy, and contraception. The researchers received written permission to use this knowledge test from the Kinsey Institute. Part 3 elicited answers about sexual attitudes, which contained 18 questions for students to either agree, disagree, or are not sure to each of the statements. With written permission, the Insel/Roth, Core Concepts in Health questionnaire was employed to assess college students' sexual attitudes. Students responded to statements regarding their views about sex education, homosexuality, pornography, rape, feminism, masturbation, prostitution, and relationships (Insel & Roth, 2002).

Factorial ANOVA and descriptive statistics were used to analyze the data in this study. 2X4X3 factorial ANOVA was used to analyze the differences between 1) demographic variables

(gender, age group, self-perceived knowledge) and the sexual knowledge test scores; and 2) demographic variables and the sexual attitude. The rejection level of factorial ANOVA was set at  $\alpha = .05$ .

## Results

In descending order, the source of students' sexual knowledge was obtained from friends (39.8%), experience (36.3%), school education (23.9%), parent(s) (14.4%), and from other sources (6%) such as T.V., movies, books, or magazines. Any response with more than one answer was eliminated since students were asked to note their main source of sexual knowledge. When asked to rate their sexual knowledge, one percent of students stated their sexual knowledge as very poor, 1.5% as poor, 29.9% as average, 51.2% as good, and 16.4% as excellent. No particular definition was given to students as to what constituted very poor to excellent for the purpose of not influencing self-perception about their sexual knowledge.

### *Sexual Knowledge*

Students achieved a mean score of 83% on the sexual knowledge portion of the questionnaire. The lowest test score was 71.6% in response to the statement "most women prefer a sexual partner who has a large penis". The highest score was 93.0% in regards to the statement "a woman cannot get pregnant if the man withdraws his penis before ejaculating". Please refer to table 1 for a more detailed account of students' sexual knowledge.

*Table 1. Descriptive Information of Sexual Knowledge Test Results*

Questions	N	Answer Correctly %
1. A woman cannot get pregnant if the man withdraws his penis before ejaculating.	201	93.0
2. Masturbation is physically harmful.	201	91.5
3. The average length of a man's erect penis is 5 to 7 inches.	200	90.0
4. All men like large female breasts.	201	87.1
5. A woman cannot get pregnant if she has sex during her menstrual period.	201	87.1
6. Most women have orgasms from penile thrusting alone.	200	85.0
7. Impotence usually cannot be treated successfully.	201	81.1
8. About 6 to 8 out of every 10 American women have masturbated.	200	79.0
9. People usually lose interest in sexual activities after age 60.	201	76.6
10. The average American first has sexual intercourse at about 16 or 17 years of age.	199	75.9
11. Petroleum jelly, Vaseline Intensive Care, and baby oil are not good lubricants to use with a diaphragm or condom.	200	75.5

12. Most women prefer a sexual partner who has a large penis.	201	71.6
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There were no statistical significant differences between males and females, younger and older students to their sexual knowledge test scores. A significant statistical differences was found, however, between students' self-perceived sexual knowledge and sexual knowledge test scores [ $F(190)=3.381$ ,  $p<.05$ ] (See table 2). Students who rated themselves as having "excellent" sexual knowledge achieved the highest test scores ( $M=10.8$ ). For unknown reason(s), students who rated themselves as "good" or "average" in sexual knowledge have similar knowledge test scores.

*Table 2. Sexual Knowledge Test Scores by Gender by Age Group by Self-perceived Knowledge*

Source of Variation	Sum of Squares	df	Mean Square	F	p
Gender	.035	1	.035	.014	.908
Age Group	2.036	3	.679	.257	.856
Self-perceived Knowledge	17.833	2	8.916	3.381	.036*
Gender/Age Group	.785	3	.262	.099	.960
Gender/ Self-perceived Knowledge	8.428	2	4.214	1.598	.205
Age Group/Self-perceived Knowledge	17.160	6	2.860	1.085	.374
Gender/Age Group/Self-perceived Knowledge	21.112	6	3.519	1.334	.245

\*significant at the .05 level

### *Sexual Attitude*

Sexual attitude was determined by adding up a numerical value associated with whether the students agree, disagree, or are not sure with a particular statement such as "abortion should be personal, a private choice for a woman". The results in table 3 showed that there were no significant differences among age group, self-perceived knowledge and sexual attitude. However, the results showed that female students ( $M=43.57$ ) were significantly more progressive/open-minded than male students ( $M=40.19$ ) (see table 3).

*Table 3. Sexual Attitude Test Scores by Gender by Age Group by Self-perceived Knowledge*

Source of Variation	Sum of Squares	df	Mean Square	F	p
Gender	228.34	1	228.34	8.65	.004*
Age Group	140.04	3	46.68	1.77	.155

Self-perceived Knowledge	12.43	2	6.21	.235	.791
Gender/Age Group	125.63	3	41.88	1.586	.195
Gender/ Self-perceived Knowledge	6.07	2	3.04	.115	.891
Age Group/Self-perceived Knowledge	103.70	6	17.28	.654	.687
Gender/Age Group/Self-perceived Knowledge	170.07	6	28.35	1.07	.381

\*significant at the .05 level

### Discussion and Conclusion

University students in the present study were very knowledgeable (mean score at 83%) about human sexuality. In contrast to our findings, Synovitz and his colleagues (2002) obtained a score at 55.39%. Since the actual Kinsey test was a landmark study, the researchers decided to compare specific differences between our results and those of Kinsey. Our participants outperformed the participants of the 1989 Kinsey test. 55% of the participants in the 1989 Kinsey test failed; on the other hand, only 17% of our participants failed the test. Table 4 showed the portion of performance between the participants of our study and the Kinsey study.

Table 4. Sexual Knowledge Test Results of Current Study and Kinsey Report

Questions	Current Study %	Kinsey Report* %
Question: Average age of Americans having first sexual intercourse <i>Correct Answer: 16-17 years of age</i>	76.0	24.0
Question: Percentage of females who masturbate. <i>Correct Answer: 60% to 80%</i>	79.0	18.0
Question: Impotence usually cannot be treated successfully <i>Correct Answer: False</i>	81.1	64.0
Question: Petroleum jelly, Vaseline Intensive Care, and baby oil are not good lubricants to use with a diaphragm or Condon <i>Correct Answer: False</i>	75.5	50.0
Question: Most women prefer a sexual partner who has large penis <i>Correct Answer: False</i>	71.6	40.0
Question: woman cannot get pregnant if the man withdraws his penis before ejaculating. <i>Correct Answer: False</i>	93.0	65.0

\*Reinisch, J.M., Beasley, R., & Kent ,D. (1990). *The Kinsey Institute New Report on Sex: What You Must Know to be Sexually Literate*. New York: St. Martin's Press.

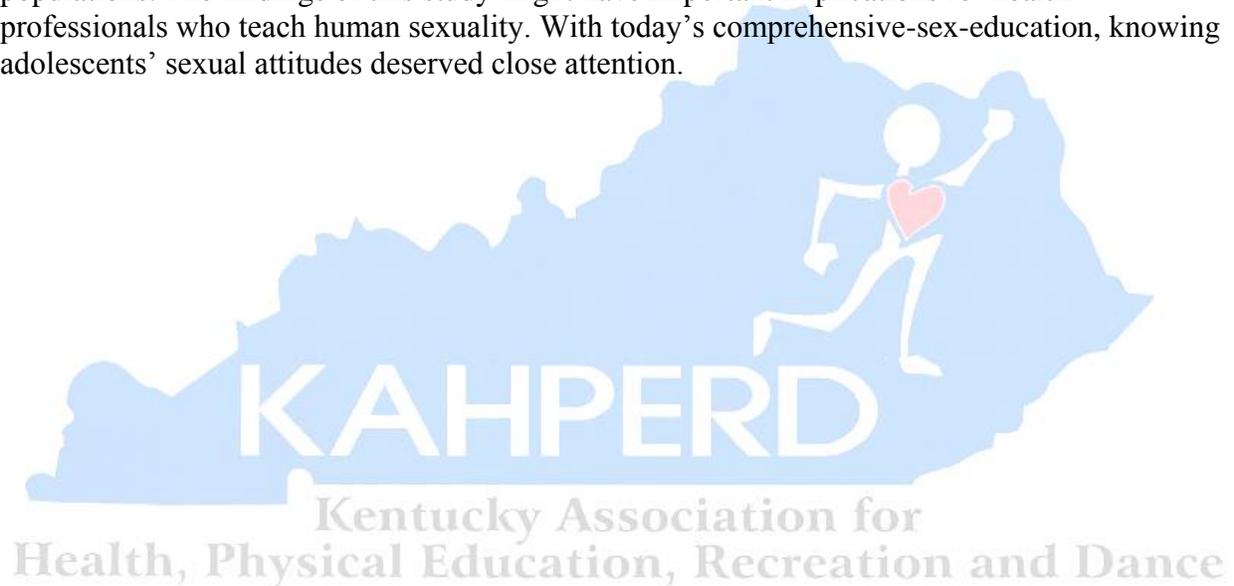
The differences of results of this study to the research of others can be due to regional differences, sample size, age of a person, kinds of questions asked, wording style, and the manner in which researchers presented themselves to the survey participants. In addition, it was not clear how much, if any, high school students or college students had enrolled in a human sexuality course. The literature, however, stated that half of high schools offered elective health classes (Kann, Brener & Allensworth, 2001). At this point, there was no way to know how many high school students have enrolled in these classes nationally was unknown and also unknown was the contents of the various sex curricula. Moglia (1994) reported that every year about 250,000 college students enrolled in a human sexuality course, which may partially explain the different results obtained from our study and that of Kinsey institute/Roper Organization (Reinisch, Beasley & Kent, 1990). More college students who took the human sexuality course, the better performance of the sexual knowledge test.

The researchers found that sources of students' sexual knowledge in descending order were friends, experience, school, and parents. The results of this study were consistent with previous research. Peers were often rated highest as source of sex information and parents were rated as the lowest source (Kisker, 1985). The finding in this study was consistent with other studies in that none of the students had a traditional view of human sexuality, although some researchers had shown adolescents were becoming more conservative in their sexual attitudes (Feltey, Ainslie, & Geib, 1991; Roche & Ramsbey, 1993).

The finding in this study revealed that there were no significant statistical differences in sexual knowledge between males and females as well as between younger and older students. This finding contradicted with the results of Synovitz and his colleagues (2002) that found sex knowledge increased with each year in college and also with those of Gunderson and McCarty (1980). Synovitz and his colleagues (2002) found that females scored significantly higher on the knowledge test than did males.

The researchers also discovered that female students were significantly more progressive and open minded than male students in their sexual attitude. The findings in this study were similar to Kite and Whitley's (1996) result that males tended to have a more negative attitude toward homosexuality than females. Oliver and Hyde (1993) reported in their study that males were more permissive than females toward causal sex. The researchers received mixed results, depending on the attitude statement. For example, half of both male and female students agreed to the statement that "having sex just for pleasure is ok". On the other hand, more males than females agreed with the statements "prostitution should be legalized" and "access to pornography should not be restricted for adults". Feltey and his colleagues (1991) found that more male than female responders believed that sexual intimidation was justifiable. The researchers obtained a similar result when more males than females agreed with the statement "A woman who is raped usually does something to provoke it."

Overall, the researchers achieved part of the research goals by reaffirming the results of several past studies. The methodological limitations of the present study should be noted. First, students were chosen from one Mid-Atlantic university which implied that the results might not be generalizable to all university students. Second, students were selected out of convenience. The participants were not randomly selected from a larger pool of potential subjects. Third, the majority of the participants were white (87.5%). Fourth, one thing to keep in mind was that participants may differ in their interpretation at commonly used sexual words, meanings, or behavior. More research still needed to determine the factors that affect people's sexual attitudes, since past research tended to support that attitude influences sexual behaviors, perhaps more so than knowledge. Further research was needed which used more diverse and larger samples in order to determine the extent to which the current results may be generalizable to other populations. The findings of this study might have important implications for health professionals who teach human sexuality. With today's comprehensive-sex-education, knowing adolescents' sexual attitudes deserved close attention.



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