

SEX ON CAMPUS: A PRELIMINARY STUDY OF KNOWLEDGE, ATTITUDES AND BEHAVIOUR OF UNIVERSITY STUDENTS IN DELHI, INDIA

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Summary. Eight hundred and eighty-seven students from two major universities in Delhi, India, were surveyed, using a self-administered questionnaire, about their sexual knowledge, attitudes and behaviour. The data show that female students seem to be rejecting traditional Indian repressive sexual standards of premarital and non-procreative sex and the gender differences are beginning to narrow. Despite their sexual awareness, the students were highly ignorant of the facts of life. Being male and married did not make them more knowledgeable.

Introduction

A vast literature exists on sexual mores in ancient India (Banerji, 1980; Ganguli, 1988; Jha, 1979; Kakar, 1989; Sur, 1973) and on sexual practices in tribal India (Banerji, 1980; Shashi, 1978); however, few systematic studies are available on how the urban youth behave sexually today. A few studies in the 1970s and early 1980s are largely case studies involving small samples of individuals designed to examine a single issue such as orgasmic experience (Sur, 1973), prostitution (Kapur, 1979), sexually transmitted diseases (Ganguli, 1988) or the aetiology and treatment of sexual dysfunction among males. Kumar (1994, 1995, 1996) investigated sexual myths and factors related to adjustment in marriage. Even Sandhir (1994) in her study of female sexuality focused largely on the orgasmic response of married women and how it associated with sociodemographic and personal factors in their lives. However she acknowledged the difficulty in conducting such studies, particularly with unmarried women, because of the inherent problems in eliciting information due to sex taboos. The Indian Council of Social Sciences Research (1988) reviewed all the research studies conducted between 1970 and 1986 and concluded that research on sexual practices and attitudes among Indian people was virtually non-existent. The only systematic study recently undertaken was by the Family Planning Association of India (FPAI) on a national sample of 3850 urban unmarried males and females aged 15–29 years (FPAI,

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1993). The study surveyed the respondents' attitudes towards marriage, partner selection, dowry and parenthood and explored their sexual attitudes only tangentially. Furthermore, the study did not examine sexual behaviour of the respondents and the response rate was only 38.6%. Recently, the spread of AIDS has generated an even greater interest in and response to young adolescents' sexual activity. It is estimated that there are 6.3 million HIV infected individuals in India representing nearly half the total prevalence in the world (*India Abroad*, 4 August, 1995). The disease initially spread through prostitutes and their clients but has now made its way into the general population including college campuses (FPAI, 1993; *India Today* survey, 1994; *Times of India*, 7 December, 1994).

Method

Sample

Eight hundred and eight-seven students from two major universities in Delhi, India, participated in the study. The students were largely females (76.8%), unmarried (82.1%) and aged between 19 and 24 years (mean age = 21.1 years). More than three-fifths (62.7%) were Hindus or Sikhs; one in ten (11%) was a Muslim; one-fifth (22.1%) were Christians, mostly (95%) Catholics, and 4.2% reported no affiliation. Compared to the general population, Hindus/Sikhs were under-represented by about 20% and Christians over-represented by 18%. Eighty percent claimed to be either very religious or somewhat religious. Nursing/medical students were the largest group (40.9%) in the sample, followed by social work students (37.6%). One-fifth (22.5%) of the students were majoring in humanities and related disciplines (e.g. law, business, communication).

Procedure

The information was collected anonymously using a questionnaire containing 87 items which included a knowledge inventory and Likert type response scales to assess respondents' attitudes toward premarital sex and masturbation. To reduce random error, terms such as menopause, orgasm, impotence, hysterectomy, circumcised male, frigidity, intercourse, were explained in the questionnaire. A pretest of the questionnaire involving social work and nursing students revealed clarification of these terms was needed. Initially, the Head of Department and then instructors were contacted and all gave permission for their students to take part in the survey, which was carried out in class time.

An attempt was made to contact students in classes from different campuses and at varying times, days and semesters to reduce sampling bias. Students were told that some of the questions were of a sensitive nature and they were free to leave the classroom or not answer those questions, if they chose not to do so. None of the students refused to participate in the survey or answer any questions and all responses were anonymous.

Instrument

The respondents' degree of sex knowledge was assessed by a 30-item inventory (reliability coefficient $\alpha = 0.75$) which dealt with the male and female sexual

anatomy and its functioning, surgical/non-surgical contraception, reproduction and menopause, common sexual problems (e.g. erectile dysfunction, impotence, orgasm, sex drive). Each question was answered either true, false or don't know. The 'don't know' response option was provided to reduce the guessing factor and was treated as an incorrect answer. The scores ranged from 0 to 23 with a mean score of 9.4 (standard deviation = 4.4). Students were classified as having poor knowledge with a score of < 33.3%, good knowledge with a score of between 33.3% and 66.7% and excellent knowledge with a score of 70% or better.

Six items assessed attitudes towards premarital sex with Cronbach's reliability coefficient $\alpha = 0.80$, indicating high internal consistency among items. These items were as follows: (1) premarital intercourse is morally undesirable; (2) women should have sexual experience prior to marriage; (3) sexual experience should occur only between married partners; (4) men should have sexual experience prior to marriage; (5) premarital intercourse between consenting adults should be socially acceptable; (6) virginity among unmarried girls should be encouraged in society. Five items assessed the students' attitude towards masturbation with Cronbach's reliability coefficient of 0.75. These items were as follows: (1) relieving tension by masturbation is a healthy practice; (2) parents should stop their children masturbating; (3) girls should be prohibited from engaging in sexual self-stimulation; (4) masturbation is generally unhealthy; (5) masturbation seems as natural for females as for males.

Scores on the attitude subscales were obtained for each respondent by assigning a value of 1–5 for response options ranging from strongly agree (1) to strongly disagree (5) with an uncertain midpoint (3) (including reversing negative items). The mean score was obtained by summing the five levels of agreement across the five items and then dividing by five. Thus, the minimum possible mean of the individual was 1 and the maximum was 5 in which the higher score denotes a more disapproving attitude and vice-versa. Ten respondents (1.1%) who answered less than four items per attitude subscale were eliminated from the analysis. Based on their mean scores the sample students were arbitrarily divided into three equal categories of attitudes: liberal ($1.0 < = x < = 2.5$), uncertain ($2.6 < = x < = 3.4$), and conservative ($3.5 < = x < = 5.0$). One way analysis of variance was used to determine if there were significant differences in the mean attitudes by gender, marital status, religious affiliation and field of study. Chi-square was used to test significance of the difference between proportions.

Results

Premarital sex

The women were quite open in expressing their sexual needs and very few thought that they needed marriage to have intercourse. When asked: 'What is the most casual partner with whom a woman should have premarital sex?', almost six out of ten women (58%) found it acceptable for a woman to engage in intimate or casual sexual relations before marriage (Table 1). Similarly, when asked if virginity among unmarried girls should be encouraged, a similar proportion (57.6%) did not subscribe to the traditional chastity norm. One-third (32.1%) favoured the chastity norm, while one-tenth were undecided (Table 2). The 5-point response format ranging from strongly agree to

Table 1. Most casual partner with whom a man/woman should have premarital sex, by gender (% distribution)

	Male response (<i>N</i> =206)		Female response (<i>N</i> =681)	
	Man should have premarital sex	Woman should have premarital sex	Man should have premarital sex	Woman should have premarital sex
With no one	20.8	21.4	37.2	42.1
In intimate relationship (fiance, steady partner)	33.3	38.6	37.3	39.9
In casual relationship, casual acquaintance, or any willing partner	45.8	40.0	25.5	18.1

Table 2. Virginity among unmarried girls should be encouraged (% distribution)

Degree of agreement	All (886)	Male (211)	Female (675)
Strongly agree/agree	33.2	36.8	32.1
Uncertain	11.9	15.4	10.3
Strongly disagree/disagree	54.9	47.8	57.6

$$\chi^2_2 = 11.30, p < 0.003.$$

strongly disagree was collapsed for analysis into three categories: (1) strongly agree to agree; (2) uncertain; (3) strongly disagree to disagree. There is further indication that the females in the study seem to be rejecting the traditional view of a woman as a passive sexual partner with no sex drive and instead would like to see themselves as equal participants in sexual interactions as men. More than seven out of ten (72.4%) females agreed with the statement: 'It would be better if women were free to express their sexual desires with as much initiative and aggressiveness as men'. Only one-fifth disagreed (Table 3).

Although women are accepting liberal sexual standards, compared with their male contemporaries they are still conservative. The gender gap is quite evident in Table 1. Whereas three-fifths (58%) of the female students endorsed sexual relations before marriage for women, four-fifths (79.1%) of males thought this way for men. Comparison of male and female students' composite mean scores on the attitude scale for premarital sex shows that females had significantly higher mean scores than males, thus indicating their sexual conservatism [3.72 versus 3.21, $F(1,885) = 49.92, p < 0.00$]. Just as in sexual attitudes the disparity between genders is also evident in sexual behaviour. More males than females had a steady dating partner with whom they were romantically involved (49.5% versus 36.1%). There were also gender differences in

Table 3. It would be better if women were free to express their sexual desires with as much initiative and aggressiveness as men (% distribution)

Degree of agreement	All (877)	Male (202)	Female (675)
Strongly agree/agree	72.6	73.3	72.4
Uncertain	11.0	13.0	10.4
Strongly disagree/disagree	16.4	13.7	17.1

$\chi^2 = 0.990$, NS.

terms of the number of partners they had dated. Fewer than one-third (30.2%) of the males had two or more dating partners, compared to less than one-quarter (23.2%) of the females. Similarly, while 39.3% of male students had experienced premarital sex, 20.4% of females had lost their virginity before marriage.

The data, however, indicate that the gender gap is narrowing as these women increasingly reject repressive female sexuality. When asked if parents should allow their daughters as much sexual freedom as they allow their sons the males and females were equally approving (48.3% versus 49.2%). Men too seem to be moving toward egalitarian sexual norms. In Table 1 the percentages show that men endorsed standards making sexual relations before marriage equally operative for both genders (79.1% versus 78.6%). Furthermore, almost seven out of ten males (73.3%) were as likely to favour sexual freedom for women as for themselves, rejecting the stereotype of women's sex roles (Table 3).

Females were more likely than males to maintain the traditional double standard (Table 1). While males show support for premarital sex almost equally for both men and women (79.1% versus 78.6%), females find premarital sex more acceptable for a man than for a woman (62.8% versus 58.0%) and they are considerably more disapproving of casual sex for women than for men (18.1% versus 25.5%). Similarly, in a response to the statement: 'In my own marriage, I would consider it more important for the husband than the wife to be sexually experienced', two-thirds (65%) of the females expressed their agreement, compared to one-half (50.5%) of the males ($\chi^2 = 13.935$, $p < 0.0009$).

The study shows significant differences between the three religious groups with Christians being the most conservative regarding premarital sex compared to Hindus/Sikhs ($F(2,887) = 74.51$, $p < 0.0000$).

Is love still more of a 'woman's thing?'

Women have been more socialised than men to equate sexual enjoyment with a relationship whereas men may have learnt that good sex can happen regardless of whether they love their partner. Thus, one indication that can give a measure of decline in the double standard or of the presence of gender similarity is the extent to which women are willing to dissociate sex from love and to engage in casual or impersonal

Table 4. Importance of love for satisfying sex relations by gender and marital status* (% distribution)

Importance of love	All		Female		Male	
	Male (205)	Female (672)	Unmarried (570)	Married (92)	Unmarried (140)	Married (65)
Not important	44.1	23.1	20.6	35.2	44.1	47.6
Uncertain	15.3	15.2	21.8	14.8	8.4	8.6
Important	40.6	61.7	57.6	50.0	47.5	43.8
	$\chi^2 = 29.63, p < 0.00005$		$\chi^2 = 11.066, p < 0.003$		$\chi^2 = 4.40, \text{NS}$	

*Excluding those of unknown marital status.

sex. Two separate statements with which the students were asked to agree or disagree (on a 5-point scale) were: 'A man/woman can find adequate satisfaction in a sexual relationship even though he/she and his/her partner are not in love with one another'. Table 4 shows that a minority of men (40.6%) believed that good sex is more likely to occur in a loving relationship; three-fifths (61.7%) of the sample women regarded love as essential for satisfying sexual relations. This means that nearly four out of ten (38.3%) women either had no opinion or were not opposed to impersonal sex. The ideological orientation of married women towards impersonal sex is quite significant; 50% of the married women either had no opinion or did not believe that love for the partner is essential for good sex. An uncertain response may indicate a lack of experience with this activity or a lack of objection. Being married did not change the view of the males regarding depersonalised sex.

Masturbation

A majority of women in the study accept their own sexuality and feel free to experience their sexual need. Almost four out of ten females (38.6%) definitely saw masturbation as generally a healthy practice and more than one-half (52.3%) admitted to having masturbated sometimes. This is a significant finding in the context of Indian society where masturbation was believed to be non-existent among females until recent years (Ganguli, 1988; Tuli, 1976). However, despite the evidence of female students' personal and deep interest in sexual gratification, masturbation is still a positively sanctioned behaviour for the male respondents. Significantly more males (50.4%) accepted masturbation as a healthy practice ($\chi^2 = 12.28, p < 0.003$), and almost eight out of ten (76.9%) reported having ever masturbated. Comparison of male and female students' composite mean scores on the attitude scale for masturbation shows that females had a significantly higher mean than males which further confirms attitudes toward masturbation (3.013 versus 2.779, $F(1,1876) = 11.2621, p < 0.0008$). There is a popular belief that married people rarely if ever masturbate because they have a sexual outlet (Masters, Johnson & Kolodny, 1992; Sandhir, 1994). However, the data show that a significantly higher percentage of married students (63.4%) reported

masturbating than the students who were unmarried (57.2%) ($\chi^2=6.36$, $p<0.04$). This may be due to the fact that interpersonal sex perhaps makes people feel more comfortable with their sexuality and this is more true for women (Michael *et al.*, 1994; Nevid, Fischner & Rathus, 1995). Religion wise, the Hindu/Sikh students found masturbation more acceptable than the Muslims. Christians were least disposed to this behaviour. The differences were statistically significant [$F(2,884)=40.98$, $p<0.0001$] and were in keeping with the traditional teachings and strictures of the respective religions on masturbation (Hyde, 1990). The incidence reported here does not indicate the current status or frequency of masturbatory habits of the respondents.

Extramarital sex

While these students acknowledged their deep personal interest in sexual gratification and liberal sexual standards before marriage they overwhelmingly held monogamy as the cornerstone of the marital relationship, at least in intent. Females, however, valued fidelity slightly, but significantly, more than did the males ($\chi^2=6.73$, $p<0.03$). Two-thirds of the females (66.7%) and three-fifths of the males (62.4%) would find marital infidelity equally unacceptable for both partners. Although marital sex was seen by the respondents as virtuous sex, a few students did not put the ideal into practice. Almost one quarter (23.1%) of married males and one-tenth (9.5%) of females admitted to having had at least one sexual encounter with a person other than their spouse. When the respondents were questioned about the effect of extramarital affairs, males were far less concerned than were females about the threat that such affairs pose to a marriage. Nearly three-fourths (72.2%) of the females and fewer than three-fifths (57.6%) of the males agreed with the statement that extramarital relations are almost always harmful to a marriage ($\chi^2=16.19$, $p<0.0003$). The finding that seemed intriguing was that married students were significantly less convinced than were the unmarried that extramarital sexual encounters could be a threat to a marriage. Merely one-half of the married students (55.2%) agreed with the above statement, compared with 70.7% of the unmarried students who believed in the adverse effect of extramarital affairs ($\chi^2=11.68$, $p<0.002$). The explanation for this difference seems to be that the unmarried, having not experienced a marriage, were romanticising about a marriage in which the partners have an unflinching commitment to remain faithful to each other, whereas married respondents could have been disenchanted with the marriage they had idealised. Thus, they were either expressing their actual involvement in extramarital relations or were fantasising about an involvement to seek emotional intimacy or better sex they had missed in their own marriage.

Sex knowledge

Despite their sexual awareness, the students in the sample were highly ignorant of the basic knowledge of sexual anatomy and its functioning. Six out of ten students (60.7%) identified only 33% or less of the correct answers (Table 5) and only 8.2% of all the students correctly answered more than 50% of the questions (not shown in table). Males were as ignorant as females ($\chi^2=0.528$, NS) (Table 5). Being married did not make them more knowledgeable ($\chi^2=1.71$, NS) (Table 3). Students in humanities had the least sexual knowledge followed by nursing/medical students. Social work

Table 5. Degree of sex knowledge by gender, marital status and field of study (% distribution)

Level of knowledge	All (887)	Gender		Marital status†		Study course		
		Male (206)	Female (681)	Unmarried (770)	Married (105)	Nursing/medicine (341)	Humanities (252)	Social (274)
Poor (≤33.3%)	60.7	61.2	60.5	60.3	62.9	56.4	62.9	52.1
Good (36.6–66%)	38.4	38.3	38.5	39.0	35.2	41.1	35.4	45.2
Excellent (70–100%)	0.9	0.5	1.0	0.8	0.9	2.5	1.7	2.8
		$\chi^2=0.528$, NS		$\chi^2=1.71$, NS		$\chi^2=11.96$, $p<0.01$		

*Mean score = 9.36; SD = 4.41; range 0–23.

†Excluding those of unknown status.

students were significantly more informed than the other two groups ($\chi^2_4=11.95$, $p<0.01$). For example, 69.2% of students thought that a woman has to have an orgasm in order to become pregnant. Similarly, 75.9% did not know that it is possible to become pregnant during the menstrual period. The females who are at risk of becoming pregnant were more likely to answer these questions incorrectly ($\chi^2_2=8.83$, $p<0.03$).

The students showed a disturbing lack of knowledge about contraception. For example, 63.2% of all students did not know that withdrawal is not an effective method of contraception. This finding is quite alarming since coitus interruptus is one of the most common methods used by males. Only 23.8% knew that the diaphragm must be left in the vagina for at least 6 hr after intercourse. More than six out of ten (61.8%) students continued to believe that vasectomy can cause impotence in men and males tended to be significantly more ignorant of male sterilisation than females ($\chi^2_1=4.33$, $p<0.03$). It seems that the educational efforts of the Government of India over the past two decades to remove fears and doubts regarding vasectomy have not been highly successful.

One question on which males and females did equally poorly related to the menopause which many women erroneously regard as the beginning of the end of womanhood and loss of sex drive, often causing anxiety. A majority of both men (82%) and women (80%) in the survey believed in this myth. Only one-third (34.6%) of the males knew the size of the penis was not related to women's satisfaction in sex relations. Interestingly, women were more likely to believe in the myth (82.7%) that a larger penis is more capable of affording sexual pleasure.

Given poor sexual knowledge, it is little wonder that for over half of the sample (56.6%) the most common source of information on sex was their friends (sometimes called 'the streets'). One-quarter obtained information from sex manuals and pornographic literature. Parents were the least likely source of information. Only 5.3% of all the students reported having learned about sex at home.

When asked who they would consult for problems regarding sex, males were more likely to prefer a medical doctor or nurse. The intriguing aspect of this finding is that medical professionals are not well versed in sexual knowledge, yet a substantial proportion (43.7%) of the males had faith in the expertise of the health workers. Females were more inclined to consult a friend (42.2%) if they should experience sexual problem. Parents were the choice of a minority, generally more for females (15.2%) than males (7.1%).

Discussion

The study provides baseline information on the sexual attitudes and behaviour of young students from two universities in Delhi. The findings by and large confirm the general trend favouring more liberal sexual attitudes.

Since there is very little research reported on the sexual behaviour of urban youth, it is hard to say whether the sexual activities of the students in this study are in keeping with those of their counterparts. This study gives some evidence that female respondents are beginning to cast off traditional moral restraints and experience their own sexuality. However, significant gender differences in sexual attitudes and behaviour still persist. For example, FPAI (1993) found that more females (45%) than males (37.3%) were willing to marry a partner who was sexually experienced while 48% of males and 18% of females were approving of premarital sex (*India Today* survey).

This study shows that while attitudes are changing, behaviour lags behind. Of significance, only a small minority engaged in premarital sex and had a dating partner. Females also reported a lower incidence of masturbation. The lower rates among females could reflect simply a difference in willingness to admit to the stigmatised practices or reflect a real difference due to the lack of privacy in most Indian households or the lack of opportunities for sexual contact without being under the watchful eyes of chaperones. Also, it seems likely that the vestiges of traditional restrictions might have acted as a damper on these women's sexuality, discouraging them from engaging in the 'forbidden' sexual practices. These factors may explain why the attitudes of these women are more liberated than their sexual behaviour. Similar patterns have been observed in previous investigations. Sandhir (1994) noted in her sample of 110 married women that one-quarter admitted having engaged in premarital sex; this almost matches the incidence in this study. Two studies reported dating practices among their respondents. In the FPAI survey, 55.5% of the male respondents and one-third (33.6%) of the females either had or would like to have a steady date. These figures closely resemble the proportion of respondents in this study who had a steady dating partner. However, the *India Today* poll reported a slightly lower percentage of males (35.5%) and females (17%) who had a steady dating partner.

Another significant finding is that a sizable proportion (52.3%) of the female students are seeking sexual fulfilment through masturbation. Several American studies report that the percentage of college women experiencing masturbation has risen in the four decades from 58% in the Kinsey study to about 70% or higher, depending on the particular study (Hyde, 1990; Kelly, 1994; Reinisch, 1990). This increase in the incidence coincided with the weakening of social taboos against female sexuality. It is therefore possible that more Indian college women are likely to engage in this sexual behaviour as cultural forces give them more freedom to express their sexuality.

The data show that there is a lack of sex knowledge among the respondents. Also, most of them relied less for information on their parents and more on their peers. Studies have shown that attitudes and behaviour of adolescents, especially daughters, are significantly influenced by maternal attitudes in a family where there is open sexual communication (Fisher, 1989; Furstenberg, 1976; Romer *et al.*, 1994; Thornton & Camburn, 1987; Weinstein & Thornton, 1989; Whitbeck, Simons & Kao, 1994). These findings are supported by Kumar (1995, 1996) who examined the prevalence of sexual myths among a sample of 100 college students as well as 100 married persons in Bombay. Using a check-list of 23 items he found that 43.5% of the sample did not have an accurate knowledge and married and unmarried respondents were almost equal in their beliefs in the sexual myths; female students were more ignorant than males in this sample about sexuality and had beliefs in sexual myths.

One caution is in order. The findings of this study are based on a convenience sample of male and female students from urban universities and should not be generalised to young people or college students in the general population.

Acknowledgments

The author wishes to thank Professor Jeffrey Bulcock for his helpful comments and assistance with data analysis, Gerry White for statistical assistance, and Professor P. K. Gandhi and Professor R. V. Varma for assistance in data collection.

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