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Predicting Contraceptive Behavior Among College Students: The Role of Communication, Knowledge, Sexual Anxiety, and Self-Esteem

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Undergraduate students were surveyed about their sexual behavior and contraceptive behavior. In addition, measures of their self-esteem, knowledge about contraception, communication with their dating partners, communication about sexual matters with their sexual partners, and sexual anxiety were taken. Consistent with Byrne's (1983) model of effective contraception, it was found that general and sexual communication with one's partner were significant predictors of contraception use. Directional, but statistically weak, support was obtained for the predictions that knowledge about contraception and sexual anxiety would be related to contraception use. No support was found for the prediction that general self-esteem would be associated with contraceptive behavior

KEY WORDS: contraception; communication; contraceptive knowledge; sexual anxiety; self-esteem.

INTRODUCTION

The problem of unwanted pregnancies continues to grow in this country. Despite the increased availability of relatively reliable methods of contraception, it is estimated that there are now more than one and a half million abortions performed in the United States each year. In an effort to better

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understand the use, or lack of use, of contraception, Byrne (1983) has constructed a five-step model outlining the effective contraception behavior sequence. These steps are (1) acquisition of accurate contraceptive information; (2) acknowledgment of likely sexual intercourse; (3) obtaining contraceptive devices; (4) communication with one's partner about contraception; and (5) the utilization of the chosen method of contraception.

The present study was designed to examine several predictors of contraceptive behavior as suggested by the Byrne model. Students at a private coeducational university were surveyed concerning their sexual and contraceptive behavior. In addition, five measures were obtained that were predicted to be related to contraceptive behavior: knowledgeability about various contraceptive devices; sexual anxiety; self-esteem; general level of communication with one's partner; and level of communication with one's partner about sexual matters.

Consistent with the first step in the Byrne model, it was predicted that the more knowledgeable the subject was about contraception, the more effective he or she would be in using it. Although past research on this question has been mixed (cf. Allgeier, 1983), it can be expected that knowledge about contraception is, in fact, a necessary part of using contraception and that those who have decided to become effective users of contraception will seek out this information.

The second step in the Byrne model, the acknowledgment that one is likely to become sexually active, seems to be related to numerous important psychological variables. One of these might be the individual's general level of anxiety about sexual matters. For example, Mosher (1968) has introduced the idea of individual differences in sex guilt, the expectation that one will be punished for violating sexual standards. It has been found that persons scoring high on measures of sex guilt are less likely to become sexually active (Mosher and Cross, 1971) and, when sexually active, are less likely to use contraception (Gerrard, 1982) than are persons low in sex guilt. More recently, Janda and O'Grady (1980) have introduced the concept of sexual anxiety, the extent to which individuals generally find sexual matters anxiety provoking. It was expected that this general level of sexual anxiety would be related to contraception, with persons high in anxiety having the greatest difficulty admitting their intentions to have sexual intercourse and thereby not planning for effective contraception.

A second, perhaps related, aspect of acknowledging that one is planning for sexual activity is the individual's general level of self-esteem. Accepting and appreciating oneself for what one is includes the acceptance of sexual desires and plans for sexual intercourse. People low in self-esteem probably will have a greater difficulty admitting to this part of themselves and therefore will be less likely to plan for effective contraception. Research with

various concepts related to personal efficacy have provided some support for this reasoning (Oskamp and Mindick, 1983).

Finally, Byrne suggests that communication between partners is an important step in the contraception process. Because effective contraception requires planning before sexual intercourse, discussions about sexual activity and contraception before sexual intercourse would seem to be necessary. It has been found that as couples learn more about one another they become more likely to use contraception (Foreit and Foreit, 1978). This suggests that perhaps the general level of communication between couples, as well as communication about sexual matters, may be related to contraceptive behavior. The more open and disclosing two people are with each other generally, the more likely they might be to create the kind of intimate and trusting relationship that can facilitate the discussion of a topic as intimate as contraception. Accordingly, it was predicted that the degree of general communication, as well as the amount of communication about sexual matters, that partners have with one another would be a significant predictor of contraceptive behavior.

METHOD

Subjects

A survey questionnaire was distributed to 188 undergraduate students, approximately equal numbers of males and females. The students were contacted in several upper-level psychology courses at a private university. The sample consisted primarily of juniors and seniors and was heavily represented by psychology majors. The final sample comprised 52 males and 71 females who returned the questionnaire. One male subject's questionnaire could not be used because of an obvious failure to take the survey seriously.

Questionnaire

The survey questionnaire consisted of six parts. The first part was the Texas Social Behavior Inventory, Short Form A (Helmreich and Stapp, 1974), a 20-item measure of self-esteem. Next, a short measure of the subject's general knowledge about contraception was presented. Subjects were asked to indicate if they generally were aware of the advantages, disadvantages, and use of each of several different contraceptive techniques. The total number of *yes* responses was used as the knowledge score. This method of obtaining

a knowledge score was selected over an objective test of the subject's knowledge about contraception because there was no way of ensuring that the subjects would not look up or seek out the correct answers when completing the questionnaire at home, and because such a test might have been threatening to those who were unsure of their knowledge or afraid of not doing well on the test.

The third part of the survey contained a scale designed to assess the level of general communication and sexual communication between the subject and his or her partner. Fourteen items were presented, with subjects asked to indicate their answers for each item on a seven-point scale. The four items used to assess general communication referred to *your dating partner* (e.g., "To what extent do you usually share your intimate feelings with your steady dating partner?"). The ten items used to assess sexual communication referred to *your sexual partner* (e.g., "To what extent do you generally share your sexual fantasies with your sexual partner?"). All items also provided a *does not apply* option for the respondents. Because these communication scales were created by the investigators, an effort was made to determine some of the psychometric properties of the scales. Internal consistency coefficients were calculated for the returned questionnaires. It was found that the four-item General Communication Scale had a Kuder-Richardson 20 internal consistency of 0.76 and that the 10-item Sexual Communication Scale had an internal consistency of 0.91.

The fourth part of the survey asked subjects about their contraceptive behavior. Subjects were asked to estimate the percentage of time they used contraception when they had sexual intercourse. In addition, a list of contraceptive methods was provided, and subjects were asked to indicate the percentage of time they used each of the methods (birth control pills, intrauterine device, diaphragm, condom, spermicides, rhythm as plotted by a knowledgeable source, rhythm based on intuitive feelings about what is and is not a good time, withdrawal, douching, none, and other).

The next part of the survey was the Sexual Anxiety Scale (Janda and O'Grady, 1980), a 25-item forced-choice scale designed to measure general levels of anxiety about sexuality and sexual matters. Finally, subjects were asked about their sexual behavior. Subjects were asked to indicate their age at first coitus and the number of partners they had engaged in heterosexual sexual intercourse with. They also were provided with a list of six conditions (e.g., with a stranger, with an extramarital partner) and asked to indicate under which conditions they had ever engaged in sexual intercourse. Finally, a list of 17 sexual acts, ranging from kissing to group sex, were provided, and subjects were asked to indicate for each if they had ever engaged in the act.

Procedure

The survey questionnaire was distributed in several upper-level psychology courses. The experimenter explained the general nature of the survey and distributed the survey package, which contained a cover letter, the survey questionnaire, and a stamped, self-addressed envelope. Subjects were instructed to complete the questionnaire anonymously if they chose to participate and to return it through the mail. The voluntary nature of their participation and the anonymity of the responses were emphasized. A few subjects who had been or currently were married were not given survey packages.

RESULTS

Five predictor variables were computed from the completed questionnaires. These included a self-esteem score, a contraceptive knowledge score, a general communication score, a sexual communication score, and a sexual anxiety score. Several dependent measures also were obtained from the returned questionnaires. First, four measures of sexual behavior were calculated: the age of first intercourse, the number of partners, the total number of conditions for intercourse, and the total number of sexual acts participated in. Two measures of contraception also were calculated. The percentage of time subjects estimated that they used contraception when they engaged in sexual intercourse provided one measure. In addition, the percentage of time subjects used each contraceptive method was multiplied by the average effectiveness rating for that method. For example, because it has been estimated that only one woman in a hundred using birth control pills will become pregnant in a year's time, an effectiveness rating of .99 was multiplied by the percentage of time the subject (or his partner) used birth control pills. These figures then were summed to form an overall contraception effectiveness rating, or roughly an indication of that person's possibility of becoming involved in an unwanted pregnancy within a year's time.

Using only those subjects who were sexually active, i.e., who had engaged in sexual intercourse (37 males and 44 females), each of the predictor variables was correlated with the sexual behavior and contraception behavior measures for males and females separately. The correlations are presented in Table I. As can be seen in the Table, the general communication level with the partner was the best predictor of contraceptive behavior for the male subjects. Sexual communication with the partner was also slightly related to percentage of contraception use. For females, sexual communication with

Table I. Correlations between Predictor Variables and Contraceptive and Sexual Behaviors[a]

	Contraceptive behavior		Sexual behavior			
	Percentage	Effectiveness	Age of first coitus	Number of partners	Total conditions	Total acts
Males						
Self-esteem	.06	−.03	.16	−.13	−.16	.08
Knowledge	.21	.07	−.11	.01	.05	.18
General communication	.33[b]	.24	−.05	−.32	−.24	.15
Sexual communication	.25	.09	.39[b]	.14	.34[b]	.47[b]
Sexual anxiety	.16	.04	−.34[b]	.19	.22	.46[b]
Females						
Self-esteem	.08	.00	−.02	−.08	.03	−.08
Knowledge	.25	.18	−.23	.07	.04	.16
General communication	.33[b]	.10	−.17	.12	.06	.16
Sexual communication	.40[b]	.45[b]	.23	−.03	−.18	.37[b]
Sexual anxiety	.15	.12	−.48[b]	.37[b]	.44[b]	.51[b]

[a]The higher the score, the higher self-esteem, more knowledgeable, more general communication, more sexual communication, lower sexual anxiety, more contraceptive use, more contraceptive effectiveness, older age of first coitus, greater number of partners, more total conditions, and more acts; $n = 37$ males, 44 females.
[b]$p < 0.05$.

one's partner was the best predictor of contraceptive behavior, with general communication also predicting percentage of contraception. Knowledge of contraception was somewhat predictive of contraception behavior. Sexual communication and sexual anxiety were related to many of the sexual behavior measures for both males and females.

DISCUSSION

The results of the survey provide partial support for some of the steps in the Byrne (1983) model for understanding effective contraception behavior among college students. The fourth step in the model, communicating with one's partner, received the greatest amount of support. It was found that general communication as well as communication about sexual matters tended to be related to the use of contraception, with more communication associated with more, and sometimes more effective, contraception. This finding is consistent with the reasoning that effective contraception requires planning, and thus probably some discussion, before engaging in sexual intercourse. Although it is possible that one person may take responsibility for contraception without communicating this to his or her partner, the lack of communication increases the possibility that both will assume that the other is taking action, or that neither will think to take action to avoid an unwanted pregnancy. As Byrne (1983) notes, discussing contraception apparently requires a greater level of intimacy than does engaging in sexual intercourse. It is also possible that the use of contraception requires the partners to communicate about contraception and thus may have increased general communication and communication about sexual matters, thereby contributing to the correlation.

The remainder of the predictor variables provided general directional, but weak statistical, support for the model. Knowledge about contraception and low sexual anxiety were found to be positively related to contraception use, but these correlations were weak. One obvious explanation for these low correlations has to do with weaknesses in the measures employed to assess these variables. It is possible that different measures of sexual anxiety and contraception knowledge might have been more highly related to the contraception measures. Recently, however, Daugherty and Burger (1984) also failed to find a significant correlation between a different measure of sexual anxiety and contraception behavior with a sample from this same population. It also should be noted that the sexual anxiety scale used here was found to be a good predictor of sexual behavior. With regard to knowledgeability, it is possible that whereas some knowledge about contraception is required to use a contraceptive device, knowledge about contraception may

not be a good predictor of contraception use beyond a certain minimal amount of information. In addition, because most of the subjects in the sample were fairly knowledgeable about contraception, the correlations may have been reduced by the restricted range of these scores.

Self-esteem was found to be a surprisingly poor predictor of contraceptive behavior. Although acceptance of oneself, including one's sexual self, would seem to be related to acknowledgment of one's intention to have intercourse and therefore to contraceptive planning and action, it is possible that a general measure of self-esteem is not sensitive enough to assess this. It may be necessary to design a measure that deals specifically with the acceptance of one's sexuality and sexual desires before this part of the contraceptive behavior sequence can be predicted. Finally, it should be noted that sexual behavior, including contraceptive behavior, is influenced by many divergent sources. That any individual measure can account for only a small percentage of that complex behavior, therefore, should not be discouraging.

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