Adolescent coital activity and the attendant risk of pregnancy is a problem with far-reaching implications. The aim of this study was to investigate the influence of family variables on adolescent sexual behavior and contraceptive practices. More specifically, the research question was: Could a set of parent-adolescent interpersonal variables be identified which would differentiate sexually active users (AU), sexually active non-users (ANU), and sexually non-active non-users (NANU) of contraception? Subjects were 45 females from a clinic setting--family planning and prenatal clinics--and 40 from a non-clinic setting. An attempt was made to obtain both black and white Ss from several social class levels, and data was collected from a questionnaire sent out to subjects. It was noteworthy that six of the eight scales which met the statistical criterion dealt with father-daughter relations while only two dealt with mother-daughter relations. It seems likely that type of paternal discipline, and father-daughter communication and joint activity may be key variables to understanding and predicting adolescent females' coital and contraceptive behavior. (Author)
Adolescent coital activity and the attendant risks of pregnancy is a problem with far-reaching implications. Evidently it is a problem which is increasing in frequency. Kantner and Zelnik (1972) studied a national sample of 4,240 adolescent females aged 15-19 and reported an increase in coital behavior. An increase in the incidence of illegitimate pregnancies among adolescents aged 15-19 has also been documented (Cutright, 1972; National Center for Health Statistics, 1968).

Gradually there have been changes in public and professional concern for, and provision of, contraceptive services for adolescents (Goldsmith, 1969; House and Goldsmith, 1972; Lincoln, 1972; Moran, 1970; Pomeroy, 1972). Recent changes in state laws increasingly permit the provision of contraceptive information and services to any person requesting them, regardless of age, marital status or parity (Filpel and Wechsler, 1969, 1971).

Changes in attitudes and laws which permit the provision of contraceptive information and services are probably helpful. However, the need for further study of variables which influence adolescent sexual activity and contraceptive usage is clearly evident. Most studies have focused primarily on demographic variables (Goldsmith, et al., 1973; Kantner and Zelnik, 1973; Tyler, 1970). Few data are available on interpersonal variables and especially familial variables, which may help explain adolescent sexual activity and their need for, or use of contraception.

Furstenberg (1971) investigated communication about sex and contraception by 337 girls from a clinic (some of the Ss were pregnant) and 308 of their mothers. All Ss were under the age of 18 and two-thirds were under 16; nearly 96% were black. Discussion of birth control by mothers and their daughters was related to the likelihood of contraceptive usage. Provision of specific instructions on contraceptive usage, especially on contraceptive techniques which required the female to assume responsibility, was associated with contraceptive usage. On the other hand, when instructions were vague, the rate of contraceptive usage was little higher than when nothing at all had been said. Maternal knowledge of female adolescents' sexual activity and a "stable, romantic relationship" with a male were also positively related to contraceptive usage. Furstenberg (1971) concluded that "the family can and does play a part in transmitting expectations about birth control use" (p. 197).

A relation was reported between adolescent females' coital experience and their living arrangements in Kantner and Zelnik's (1972) national sample. Ss living alone had the highest incidence of coital experience (74%) while those living in households headed by their natural fathers had the lowest rate (22%). Coital rates for adolescents living in families headed by their mothers was 38%; the comparable percentage for families headed by women other than their mothers was 59. Ss who confided in their parents were substantially less likely to have coitus than those who did not confide, but the percentage declined as Ss' age increased.

In a later analysis of the 1342 sexually-active adolescent females from the original sample, Kantner and Zelnik (1973) found that Ss living out of the home were the most likely to use contraception consistently. Sexually-active adolescent females who were least likely to use contraceptives were those who lived in a household headed by a woman other than their mothers;
consistent contraceptive usage was only slightly higher in households headed by girls' fathers. To be noted, however, is that when age and education variables were controlled, differences in contraceptive usage by living arrangement became negligible, and no relationship was found between imminence of marriage plans and contraceptive practices.

Sørenson (1973) reported that family closeness and lack of privacy were given by over 50% of the female Ss as reasons for not using contraceptives.

The aim of the present study was to investigate further the influence of family variables on adolescent sexual behavior and contraceptive practices. More specifically, the research question was: Could a set of parent-adolescent interpersonal variables be identified which would differentiate sexually active users (AU), sexually active non-users (ANU) and sexually non-active non-users (NANU) of contraception?

**METHODS**

**Measurement of Variables**

Existing literature, personnel who were directly involved in family planning services for adolescents, a researcher in the field of adolescent contraception, and adolescent females were sources for developing items which were included in the questionnaire. Since premarital coitus may be considered deviant behavior (e.g. Reiss, 1970), a decision was made to include some items which Nye (1958) had used in his study of family relations and juvenile delinquency.

Eight scales, comprised of 4-13 items each and having provisional weights assigned for scoring, were used to measure parent-adolescent relations. Variables measured included: frequency of parent-adolescent communication (10 items) on specific topics; attitudes of Ss and S's perceptions of parental attitudes toward parent-daughter communication (5 items); frequency
of specific indications of affection toward Ss by their parents (9 items); frequency of selected types of discipline of Ss by their parents (10 items); acceptance or rejection of and by parents of Ss (13 items); amount of freedom and responsibility granted Ss by their parents (11 items); Ss' perception of their parents' attitudes toward their daughters' possible sexual and contraceptive practices (4 items); and one item each on Ss' perception of degree of rapport between them and their parents, frequency of parental affection toward Ss, and whether parents knew Ss had had coital experience.

Coital status, age of first coital experience, incidence of pregnancy, childbirth and abortion, and use or non-use of various types of contraception were determined. Three criterion groupings were used in data analyses: active user (AU); active non-user (ANU); and non-active non-user (NANU).

Selection of Subjects

Available resources and the nature of the data sought precluded having a probability sample from a known universe. Efforts were made to obtain sexually active and non-active females from both clinic and non-clinic populations, as well as users and non-users of contraception. An attempt was also made to obtain both black and white Ss from several social class levels. The clinic population was obtained from several family planning and prenatal clinics: one in a university town of about 50,000; one in a nearby rural community; and five in counties which comprise a large metropolitan area. Non-clinic Ss were obtained from residents of several middle-class neighborhoods in the town of 50,000; from an upper-middle-class neighborhood in the suburbs of a large city; and from an upper middle-class protestant church youth group of a college town in a predominantly rural area.
Data Collection

Procedures varied slightly by setting, but in all instances the purpose of the study was explained to Ss, the voluntary nature of participation and absolute confidentiality were emphasized, the importance of candor in responding was stressed, and parental permission for Ss' to participate was sought. Assistance in reading the questionnaire was provided to approximately 20 Ss who read slowly or with difficulty. Five health educators, a social worker, two health aides, and one adolescent assisted the investigators in data collection. Of 116 questionnaires that were distributed 113 were returned and 85 (75%) were usable; unusable questionnaires were either incomplete or from persons beyond the age limit of 17. There were 45 clinic Ss and 40 non-clinic Ss.

Description of Subjects

The mean age of Ss was 16, with a range of 12-17 years. Fifty-six percent were white; 43% were black. Education ranged from 5-12 with a mode of 10. Both parents resided in the home of 47 Ss (3 of who were stepparents); 24 lived with mother only; 1 with father only; 3 with guardians; 7 were married; and 2 were cohabiting. Parents' education had a mode of either high school attendance or graduation from high school, with a range from elementary school only to post-graduate study. There were 28 blue-collar fathers and 25 white-collar; 36 mothers were employed full-time white 34 were housewives; 26 fathers were absent. Ten Ss were from a large city; 41 from a town of about 50,000; 16 were from suburbs; 18 were rural residents. About 66% lived in privately owned homes; 13 lived in federal apartment projects; 9 lived in other apartments and 6 lived in trailers.
Nearly 70% of Ss had their first menstrual period at age 12 or 13, three at age 10, 13 at age 11, five at age 14, and four at age 15; one who was 13 had not had her first menstrual period. About 70% had had coitus at least once at the mean age of 14 and one Ss had begun coitus at age 8. Twenty-four Ss had been pregnant; nine had delivered babies; four had an abortion; and 11 were still pregnant. All who had babies kept them. Sixteen Ss were engaged; 15 were going steady; 18 were dating one person but not going steady; 15 were dating several persons; 14 were not dating.

The majority of clinic Ss were slightly older (78% were 16 or 17) than non-clinic Ss (46% were 16 or 17; 48% were 14 or 15). A larger percentage of clinic Ss were black (56% vs 30% non-clinic population). More clinic than non-clinic Ss were on welfare or had parents in blue collar occupations. Most clinic Ss were AU's (73%) or ANU's (22%) who had come to a family planning or prenatal clinic. Of the non-clinic Ss, 15% were AU's; 25% were ANU's had 57% were NANU's. There was one NAU S in both the clinic and non-clinic populations; these were excluded from the study.

RESULTS

Criterion Scales Identified. As Table 1 shows, six scales yielded F values above the criterion of 1.5 for sexually A vs NA groups of Ss; five of the scales measured father-daughter variables while one scale measured a mother-daughter variable.
### TABLE 1

**ANALYSIS OF VARIANCE FOR PARENT-ADOLESCENT SCALES BY ACTIVES VS NON-ACTIVES AND USERS VS NON-USERS**

<table>
<thead>
<tr>
<th>Groups</th>
<th>Scale</th>
<th>Between Mean Square</th>
<th>Within Mean Square</th>
<th>df</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Father's type of discipline</td>
<td>118.00</td>
<td>28.63</td>
<td>150</td>
<td>4.14</td>
<td>.047</td>
</tr>
<tr>
<td></td>
<td>Father-daughter communication-</td>
<td>135.93</td>
<td>35.20</td>
<td>156</td>
<td>3.86</td>
<td>.054</td>
</tr>
<tr>
<td></td>
<td>Father-daughter Acceptance-</td>
<td>175.78</td>
<td>59.37</td>
<td>150</td>
<td>4.14</td>
<td>.047</td>
</tr>
<tr>
<td></td>
<td>Father-Daughter Conflict</td>
<td>89.52</td>
<td>45.92</td>
<td>156</td>
<td>3.86</td>
<td>.054</td>
</tr>
<tr>
<td></td>
<td>Father-Daughter Rejection</td>
<td>57.55</td>
<td>32.46</td>
<td>150</td>
<td>4.14</td>
<td>.047</td>
</tr>
<tr>
<td></td>
<td>Mother-Daughter Conflict</td>
<td>45.67</td>
<td>29.91</td>
<td>150</td>
<td>4.14</td>
<td>.047</td>
</tr>
<tr>
<td></td>
<td>Mother-Daughter Affection</td>
<td>126.68</td>
<td>33.06</td>
<td>150</td>
<td>4.14</td>
<td>.047</td>
</tr>
<tr>
<td></td>
<td>Maternal attitudes toward sex and contraception</td>
<td>9.49</td>
<td>4.65</td>
<td>150</td>
<td>4.14</td>
<td>.047</td>
</tr>
</tbody>
</table>

1. Refers to coital activity
2. Refers to use of contraceptives
Father-Daughter Variables. Six of the eight scales whose analyses exceeded the criterion value $F = 1.5$ measured father-daughter variables (see Table 1).

Father's Type of Discipline. Father's discipline was the scale which discriminated most reliably between A and NA Ss, but did not discriminate between Us and NUs of contraceptives (see Table 1). Within the scale, Table 2 shows that 3 of the 10 items on discipline were judged statistically acceptable for reporting; they were: "not letting me go to social events," "not letting me visit friends," and "doesn't punish me but discusses the problem." These-to-five times more As than NAs (53% of AUs, 31% of ANUs vs 10% of NANUs) indicated that their fathers disciplined them by not permitting them to attend social events. Similarly, about four-to-five times more As than NAs (48% of AUs, 38% of ANUs vs 10% of NANUs) indicated that their fathers prevented them from visiting friends as a form of discipline. A similar trend toward less punitive discipline for NAs was indicated by 94% of the NANUs who reported that their fathers discussed problems with them rather than punishing them, as compared to 67% of ANUs and 59% of AUs.

Father-Daughter Communication. Communication between father and daughter was the only scale which discriminated to an acceptable degree of reliability between both As and NAs and Us and NUs of contraceptives (see Table 1). However, none of the analyses of the 10 individual items resulted in statistically acceptable chi square values. Of a possible 36 points (range = 9-36), the mean communication scores for Us and NUs of contraceptives were 15.6 and 19.5 respectively. Comparable mean scores for As and NAs were 16.9 and 20.2.
### TABLE 2

**CHI SQUARE VALUES FOR INDIVIDUAL PARENT-adolescent ITEMS BY SCALE FOR AU, ANU, NANU**

<table>
<thead>
<tr>
<th>Scale</th>
<th>Questionnaire Number</th>
<th>Item</th>
<th>$x^2$</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discipline</td>
<td>45-4</td>
<td>Father not let daughter visit friends</td>
<td>14.07</td>
<td>6</td>
<td>.03</td>
</tr>
<tr>
<td></td>
<td>45-6</td>
<td>Father discusses problem without punishment</td>
<td>12.10</td>
<td>6</td>
<td>.06</td>
</tr>
<tr>
<td></td>
<td>45-3</td>
<td>Father not let daughter attend social events</td>
<td>13.40</td>
<td>6</td>
<td>.04</td>
</tr>
<tr>
<td>Acceptance-Rejection</td>
<td>52-1</td>
<td>Father respects daughter's opinions</td>
<td>11.20</td>
<td>6</td>
<td>.08</td>
</tr>
<tr>
<td>Affection</td>
<td>44-7</td>
<td>Father takes daughter places</td>
<td>12.06</td>
<td>6</td>
<td>.06</td>
</tr>
<tr>
<td>Rapport</td>
<td>40-</td>
<td>Rapport with father</td>
<td>7.11</td>
<td>2</td>
<td>.05</td>
</tr>
<tr>
<td>Conflict</td>
<td>39-6</td>
<td>Conflict with mother over sex</td>
<td>14.07</td>
<td>6</td>
<td>.03</td>
</tr>
<tr>
<td>Contraception Attitudes</td>
<td>54-2</td>
<td>Mother's response to use of contraceptives</td>
<td>9.94</td>
<td>4</td>
<td>.04</td>
</tr>
</tbody>
</table>
Father-Daughter Acceptance-Rejection. Mutual acceptance or rejection by father and daughter was the third most reliable scale in discriminating between As and NAs, but it was statistically unreliable in discriminating between Us and NUs. Only 1 of the 13 items, the one relating to fathers respecting their daughter's opinions and judgments, was statistically acceptable (see Table 2). When the four response categories were collapsed into two (seldom or never; sometimes or often), 90% of the NANUs, 69% of the ANUs and 62% of the AUs reported that their fathers respected their opinions and judgments.

Father-Daughter Affection. The fourth-ranking scale in discrimination between As and NAs was affection; the scale did not discriminate between Us and NUs. Only one of the eight items, that of fathers taking their daughters places, was statistically acceptable (see Table 2). When the four response categories were reduced to two, 68% of the NANUs, 36% of the ANUs and 25% of the AUs indicated that their fathers often took them places.

Father-Daughter Conflict. The fifth and last scale to discriminate between As and NAs was on conflict; it too failed to discriminate between Us and NUs. None of the 10 individual items yielded acceptable chi square values. Of 40 possible points (range = 10-40), mean total scores on this scale were 18.7 and 16.8 for As and NAs respectively.

Father-Daughter Rapport. A single item was used to obtain a global rating of rapport. When four response categories were collapsed to two, more AUs (17%) and ANUs (36%) than NANUs (none) indicated that generally they did not get along well with their fathers.

Mother-Daughter Variables.

Only two of eight possible scales had results which exceeded the criterion value $\chi^2 = 1.5$ for mother-daughter relations. As shown in Table 2, only one item on each of the two scales had statistically significant chi
square values.

Mothers' Attitudes Toward Ss' Sexual Behavior and Contraceptive Practices. Table 1 shows that maternal attitudes toward Ss' possible sexual and contraceptive practices was the scale which discriminated most reliably between Us vs NUs of contraception. A comparable result was not obtained for As vs NAs. On only 1 of 11 items was there a statistically significant value at the $\alpha .05$ level; more of the ANUs (61%) than either AUs (24%) or NANUs (26%) perceived that their mothers would be angry or hurt or would kick them out of the house if they knew their daughters used contraceptives (see Table 2).

Father Absence

As part of a larger study of the same Ss, those living with both parents were compared with Ss who lived in households headed by their mothers or by a female guardian. More of the sexually non-active Ss (73.9%) lived with both parents, while 50% of the AUs and 20% of the ANUs had absent fathers ($X^2=5.60; df=2; p=.06$).

DISCUSSION, CONCLUSIONS, AND IMPLICATIONS

Father-Daughter Relations

It is noteworthy that six of the eight scales which met the statistical criterion dealt with father-daughter relations while only two dealt with mother-daughter relations. This finding is similar to that of Kantner and Zelnik (1972, 1973) and strongly suggests the importance of the father's role in adolescent daughters' coital and contraceptive behavior.

It seems likely that fathers' type of discipline, father-daughter communication and joint activities by fathers and daughters may be key variables to understanding and predicting adolescent females' coital and contraceptive behavior. Findings from the present study permit a tentative conclusion that mutually satisfying father-daughter interaction, effective
communication, mutual acceptance and affection, and perhaps the severity of discipline are inversely related to both coital activity and to contraceptive usage.

Should the present findings prove to be reliable in future research, at least one rather tough problem is readily apparent for those who are concerned with the welfare of adolescents: how can pregnancy be prevented in sexually active adolescent females whose relationships with their fathers may discourage contraceptive usage? A second problem which may be evident from the present study is whether ways can be found to improve the experiences which fathers and daughters have with each other and which adolescent females have with males other than fathers. Some fathers and daughters may wish to relate more effectively to each other, but not know how. It seems probable that ineffective relating to one another precedes adolescence, and may become more acute in implications as reproductive maturity is reached. Ineffectual father-daughter relations may generalize to female-male relations outside the family and may have very direct bearing on social problems such as unwanted pregnancies and unwise early marriages.

**Mother-Daughter Relations**

The scarcity of mother-daughter variables which differentiated among adolescent Ss for either coital activity or contraceptive usage is puzzling. The hints which are provided from the present study suggest that mother-daughter conflict over sex per se may help to explain why some scales, especially those on affection, communication, and acceptance-rejection, were not statistically reliable: the conflict may cancel out differences which otherwise might appear. What is known is that 61% of the ANU's
feared that their mothers would be angry or hurt or would kick them out of the house if it were known that daughters used contraceptives. (Implicitly, maternal disapproval probably would have occurred had mothers known of their daughters' coital activities.) The small number of Ss and the low statistical reliability of mother-daughter findings warrant caution in interpretation, but it seems noteworthy that, as with father-daughter relations, mother-daughter relations may be such as to reduce the likelihood of adolescent females using contraceptives even though they are sexually active. What can be done about such a problem deserves our most careful and immediate attention and action.

In conclusion, it must be remembered that the present study was exploratory. There are some leads as to what might deserve investigation in the future, and there are some inferences which may be drawn by persons who provide, or who wish to provide, needed services to adolescent clients regarding coitus and contraception. One of the most pressing concerns is that of identifying needed services for sexually-active, non-users of contraception, and how those services are to be provided and financed. Another pressing concern is what services might be extended to parents of adolescents, and especially to fathers, to help them deal realistically and sympathetically with their adolescents' sexuality. Although the present study provided no data on male adolescents, it seems transparently clear that their needs must be taken into account more in the future than has been done in the past.