CALIFORNIA STATE UNIVERSITY, NORTHRIDGE

THE PERCEPTION OF PREGNANCY PROBABILITY AMONG
CONTRACEPTING AND NON-CONTRACEPTING ADOLESCENT WOMEN

A thesis submitted in partial satisfaction of the requirement for the degree of Master of Arts in

Educational Psychology,
Counseling and Guidance

by

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ABSTRACT

THE PERCEPTION OF PREGNANCY PROBABILITY AMONG CONTRACEPTING AND NON-CONTRACEPTING ADOLESCENT WOMEN

by

Carol Jean Bason

Master of Arts in Educational Psychology

The purpose of this research was to investigate adolescent women's perception of pregnancy probability associated with unprotected intercourse. Seventy women, age 13 to 17, were administered a questionnaire at a family planning agency. Two groups were identified for comparison: regular users of an effective method of contraception and non-users. Hypothesis I stated that adolescent women who regularly use an effective method of contraception will believe in a higher probability of pregnancy among women engaging in unprotected intercourse than will adolescent
women who do not regularly use an effective method of contraception. Hypothesis II stated that adolescent women who regularly use an effective method of contraception will believe subjectively that they have a higher probability of pregnancy with unprotected intercourse than will adolescent women who do not regularly use an effective method of contraception. The chi-square test of significance was calculated on the data associated with the stated hypothesis. Hypothesis I was found to be significant at the .05 level of probability. Hypothesis II was not found to be significant. An additional finding was that when the sample was considered as a whole and a comparison was made of the perception of personal pregnancy risk with the perception of the risk of others, the subjects saw themselves significantly less at risk, \( p < .001 \). These findings indicate that there is a relationship between contraceptive use and beliefs concerning pregnancy probability with unprotected intercourse.
Chapter 1

INTRODUCTION

The sexual and contraceptive behavior of adolescents and their modes of coping with unplanned pregnancy have become subjects of increasing concern for society. Nearly half of all unmarried women have had sexual intercourse by the time they are 18 years of age. A recent national survey indicated that eighty percent of the sexually active adolescent girls were not using contraception or were using it inefficiently and that a large proportion of these were becoming pregnant (Kantner and Zelnik, 1972). Thus, more than two million unmarried women aged 15 to 19 are sexually active and at risk of unintended pregnancy.

Many teenagers recognize the hazards associated with unprotected coitus, as is demonstrated by the fact that substantial numbers are turning to family planning clinics for contraceptive services. There is, however, a widespread and pervasive belief among female adolescents that they personally cannot become pregnant. Among those polled in the national sample who reported unprotected intercourse, seven in ten said they did not use contraception because they did not think they could become pregnant.

Although research has been done exploring the reasons for this belief (Adolescent Sexuality, 1978), no
research to date has dealt specifically with the adolescent perception of pregnancy probability associated with unprotected intercourse. The purpose of the present research was to design a study to shed light on this issue, especially as it relates to the use of contraceptives.

Statement of Hypotheses

The purpose of this study is to explore the attitudes and beliefs among female adolescents concerning unprotected intercourse and pregnancy probability. Indications from previous research (Miller, 1973) and personal clinical observation suggest that there may be a relationship between perceptions of pregnancy probability and contraceptive use. These general ideas have generated the following hypotheses:

I. Adolescent women who regularly use an effective method of contraception will believe in a higher probability of pregnancy among women engaging in unprotected intercourse than will adolescent women who do not regularly use an effective method of contraception.

II. Adolescent women who regularly use an effective method of contraception will believe subjectively that they have, as
sexually active individuals, a higher probability of pregnancy with unprotected intercourse than will adolescent women who do not regularly use an effective method of contraception.

Definition of Terms

Adolescence is generally defined as that period of time in a person's life that stretches from the onset of puberty to young adulthood. For the purpose of this study, the term "adolescent" will refer to an individual in the age group 13 to 17. Eighteen year olds were not included because they often move away from home at that age and sexual experience may change radically. It is believed that they represent a biased subset not representative of the population being studied in this research.

The term "effective contraception," as used here refers to the antifertility action of a contraceptive method under ideal conditions, i.e., correctly prescribed and correctly used according to the prescription, without omissions and errors of any kind. Criteria for effective use is based on a standard contraceptive text (Calderone, 1970) and includes oral contraceptives, temperature rhythm (the Fertility Awareness Method), interuterine devices, the diaphragm with cream or jelly and the condom. Regular use
is determined by the self-report of the respondent.

Pregnancy probability is here defined as the relative frequency of conception associated with any single act of sexual intercourse. The statistical probability is that eighty percent of all women who regularly engage in coitus without contraception will become pregnant (Potter, 1963).

"Subjective belief" in hypothesis #2 is to be understood as the personal belief about one's own probability of becoming pregnant with any single act of sexual intercourse. Unprotected intercourse refers to any act of intercourse when an effective contraceptive method is not used or not used properly.

Limitations of the Study

There are biases involved in generalizing the findings of this study to other adolescent populations. This sample includes only adolescents who have come to a family planning clinic seeking contraceptive protection or gynecological services. Because it takes considerable courage and motivation for a teenager to take this step in our culture, this group of young women represents a special subgrouping that is different from the general population of adolescent girls.

Some research suggests that knowledge about contra-
ception and contraceptive use improves markedly after teen-age women have obtained contraceptive services (Reichelt and Werley, 1975). Some of the women in this study have filled out the questionnaire on the occasion of their first visit. Other women have been attending the clinic for various lengths of time. This study is limited by the fact that information on how long a subject has been a clinic patient is not known. Data can be analyzed, however, according to whether or not the respondent has participated in the birth control discussion group offered by the clinic.

A third limitation concerns the level of sexual experience of the respondents. The relationship between knowledge and behavior seems to be influenced by whether it is a first or subsequent sexual encounter (Kanter and Zelnik, 1979). Knowledge is usually less a factor in determining use at first intercourse than in subsequent experiences because the first intercourse is usually an unplanned event. There has been no attempt in this study to classify the results according to how often intercourse has occurred or how long the individual has been sexually active.

A fourth variable which is not dealt with in this study has to do with antecedent patterns of use or non-use of contraception. Respondents are classified into subgroups according to whether or not they are currently and regularly using an effective method of contraception. Some
of these subjects have undoubtedly practiced contraception in the past, but are not now users. Many others who are regularly practicing some method of contraception now were non-users in the past. There are many other styles of birth control use over time and these patterns relate variously with knowledge and behavior. This variable is not considered in the analysis of these data.
Chapter 2

REVIEW OF THE LITERATURE

There has been considerable research done in recent years on the sexual attitudes and behavior of teenagers in the United States. It is clear that for young women sexual activity is increasing and occurring at earlier ages. There is also clear evidence that a large majority of sexually active teenagers fail to use contraception.

In a nationwide survey undertaken in 1971, it was found that four-fifths of the sexually experienced, never married young women aged 15 to 19 had engaged in sexual intercourse without using contraception (Kantner and Zelnik, 1973). About 3 in 10 of this group became pregnant. The overwhelming majority indicated that the pregnancy had been unintended but only 13% indicated that they had done anything to prevent it (Kantner and Zelnik, 1974).

Sexual Knowledge and Contraceptive Use

Many studies have been done seeking to assess the levels of knowledge of adolescents regarding reproduction and contraception. Almost every piece of research shows little or no relationship between general sexual knowledge and contraceptive behavior (Miller, 1976; Monsour and
Stewart, 1973; Cvetkovich and Grote, 1975; Grinder and Schmitt, 1966; Goldsmith et al., 1972). Monsour and Stewart conclude that "factual data and knowledge seems useless in the face of their lack of psychological knowing." These findings do not necessarily imply that sex and contraceptive education is useless but rather that sex education as it is currently being carried out is having little impact on related behaviors.

Knowledge of Pregnancy Risk During the Menstrual Cycle

Although general sexual knowledge does not seem to be correlated with effective contraceptive use, there is some indication that knowledge of pregnancy risk during the menstrual cycle is related to contraception. Harriet Presser (1977) conducted a longitudinal study of women age 15 to 29 at the time of their first birth and one year later. Those women who were using methods other than the pill or IUD were about twice as likely to be knowledgeable about pregnancy risk as women using the two medical methods or no method. These findings suggest that knowledge of time of risk is influenced by the need to know. Unfortunately there is no data on levels of knowledge previous to pregnancy. The longitudinal nature of the data revealed that many women guessed the answer correctly but did not know when they were asked a year later.
Evans et al. (1976) questioned 333 adolescents, who were seeking pregnancy-related assistance, concerning time of greatest risk during the menstrual cycle. Between one-third and one-half said they didn't know. Those seeking abortions, however, were significantly more likely to know the correct answer as compared with women who had received negative pregnancy tests or who were carrying their pregnancies to term.

Kantner and Zelnik (1979) in their national survey on adolescent non-use of contraception dealt with this question of risk and time of the month. All of the groups considered in their analysis included some women who cited as the reason for their last non-use of contraception the belief that they could not become pregnant because of the time of the month in which they had intercourse. Although some of those relying on the time of the month to prevent pregnancy have an incorrect notion of the period of greatest risk, 64% correctly perceived the time of greatest pregnancy risk. Among the contraceptors, only those who specified use of rhythm as a contraceptive were as knowledgeable about the period of risk during the cycle. These results, like those of Harriet Presser (1977) seem to indicate that this knowledge is related to the practical need to know.
Reasons for Non-Use Which Discount Pregnancy Risk

The factors which contribute to the decision-making process concerning contraceptive use are complex and numerous. There has been considerable research done in recent years to determine the reasons for non-use of contraception. For the purposes of this study, the literature presented here is that research which concerns itself more precisely with reasons for non-use of contraception which relate in some way with the discounting of pregnancy risk or misconceptions concerning pregnancy probability.

Warren Miller of Stanford University, who has done some significant research in this area, has developed The Contraceptive and Sexual Attitude Questionnaire which includes 53 items describing attitudes and beliefs relevant to contraceptive behavior of women. This was administered to 642 women seeking induced abortions for an unwanted pregnancy to determine the factors which led each woman to risk pregnancy. The most frequently checked item by respondents was that they felt they were having intercourse during a non-fertile period in the menstrual cycle. On the basis of interviews, it was found that only a small minority of these women knew the facts of ovulation. (This is in contrast to the results of the Kantner and Zelnik study, 1979.) It appeared to the researchers that the respondents were
using the idea of the safe period as a way of rationalizing the safety of a particular act of intercourse. This consistent finding led the research assistants to coin the term "retrospective rhythm." (Miller, 1975).

Twenty-seven percent of the respondents indicated that they thought "pregnancy couldn't happen to me," and 14% felt they had intercourse too infrequently to get pregnant. Both of these items indicate poor comprehension of the actual risks of pregnancy. Fourteen percent also indicated that they didn't use contraception because they "had never gotten pregnant before." The author notes that this last reason is associated with the belief that the individual is subfecund and is a common occurrence among adolescents.

It is important to note that this study included women of all ages and had a very small proportion of 13 to 17 year olds. In addition, all the subjects were pregnant and seeking abortions. It has, therefore, limited applicability to the research being discussed here.

One of the few studies aimed at the 13 to 17 age range and which includes teens who are not pregnant is the research conducted by Goldsmith et al. (1972) at the Planned Parenthood Teen Centers at San Francisco and Oakland. Three groups were identified: contraceptors acting realistically to prevent unwanted pregnancy, young women
seeking abortion referral, and those continuing out-of-wedlock pregnancies to term. An anonymous questionnaire was administered to gather information on the girl's background characteristics, sexual knowledge and attitudes and contraceptive use.

Eight reasons why a girl might not use birth control were listed and the respondents were asked to check those which they felt applied to them. Thirty-four percent of the girls checked the item, "I'd feel like pregnancy would never happen to me."

In a study reported by Shah, Zelnik and Kantner (1975), 70% of a large national sample, age 15 to 19, stated that they did not use contraception because they thought they could not get pregnant. The following reasons were given: they were too young, they had sexual intercourse infrequently, or they had sexual intercourse at a time of the month when they couldn't get pregnant. The authors suggest that among those who cited low risk as their reason for non-use, some were probably subfecund because of their young age and others understood the timing of ovulation. The majority, however, were undoubtedly misinformed about the probable risk connected with unprotected intercourse.

Kantner and Zelnik (1979) elicited information on the last reported unprotected intercourse or, in the case of the premaritally pregnant, the time at which the conception
occurred. The major reason given for non-use by the unintentionally pregnant adolescents was that they had not expected to have intercourse.

Because contraceptive use and the reasons for non-use often change as sexual experience increases, the researchers examined the reasons for non-use separately for those who had premarital intercourse only once and those who had had more extensive sexual experience. Ninety-four percent of those who had intercourse only once but did not use contraception were not trying to become pregnant. Thirty-seven percent of this group cited as their reason for non-use the belief that they could not become pregnant because either they "had intercourse at a time of the month when pregnancy could not occur," or "were too young to become pregnant," or "had intercourse too infrequently to become pregnant." An additional 28% believed they could not become pregnant but could not specify why they thought this.

Among the group who had intercourse more than once, 80% were not pregnant or seeking pregnancy, but did not use a method. A higher percentage of this group thought they might become pregnant and fewer did not expect to have intercourse. In addition, fewer of this group felt that their young age would protect them. Experience and age
are undoubtedly responsible for these differences.

Despite these differences, the overall picture looks the same for those who had intercourse once and for the more experienced. The researchers conclude: "It (the data) projects a picture of impulsive behavior possibly combined with misinformation about pregnancy risk that together can and often do lead to an unintended and undesired consequence - pregnancy" (Kantner and Zelnik, 1979).

Determining Pregnancy Probability

One of the important aspects involved in the decision of whether or not to contracept is how the individual perceives the probability that she may become pregnant. Cvetkovich (1975) stresses the role of cognitive development in his theory of non-use of birth control and sees the notion that one cannot become pregnant as an adolescent phenomenon. A teenager has what he calls a "personal fable" which sets her apart from others and endows her with a uniqueness. Just as many adolescents believe they are immune to death, many believe that pregnancy only happens to others. The author further suggests that young adolescents have difficulty thinking in probabilistic terms and thus cannot realistically compute the probability of pregnancy following intercourse. Thus, Cvetkovich feels
that adolescents are being required to make a decision about contraceptive use at a period when they are developmentally unprepared for thinking analytically.

Christine Luker has carried on some important research on contraceptive risk taking among women. Reported in her book, *Taking Chances* (1975), Luker conducted indepth interviews of over 500 women who were applying for abortions and who had been contraceptive risk takers. Luker's major thesis is that the risk-taking behavior of these women was essentially rational and that they had reasons for their decision not to use contraception. According to Luker, the women in her study used a cost/benefit decision-making approach, weighing the costs and benefits of effective contraception use against the cost and benefits of a possible pregnancy. This reasoning may be seen as rational in the personal and emotional sense although perhaps not in the intellectual sense. These women, having identified their major desires, operated in such a way as to enhance the probability of achieving them. The basic thinking was as follows: I actually have a high chance of not getting pregnant at any one intercourse. Pregnancy might not be so bad and I probably won't get pregnant anyway.

Thus, one of the important steps which potential risk takers must take is to determine the subjective probability of pregnancy. According to Luker, if a women thinks that
it is relatively likely that she will become pregnant, she is much less likely to continue moving through the decision process toward risk taking than women who think that pregnancy is an unlikely event. Risk takers, then, are seen as discounting the possibility of pregnancy and assigning low probabilities to the act of getting pregnant.

When prior non-risk-taking contraceptive histories are examined, it becomes clear that risk taking, for some women, hinges on the assigning of subjective probabilities to pregnancy. Even with a cost-benefit "set" favorable to risk taking, their assumption that pregnancy was a likely occurrence was enough to stop the risk-taking decision making (Luker, 1975, p. 88).

It is important to note that from the standpoint of understanding contraceptive decision making among young teenage women, that only 9% of Luker's sample was 17 years of age or younger. Undoubtedly most of the same factors operate in the decision-making process for teenagers as for older women. However, it can be safely assumed that since sexual knowledge has been found to be directly related to age (Goldsmith et al., 1972) that a young woman's situation is further complicated by the lack of adequate information.

Warren Miller (1973) conducted some research with a co-educational sample of high school students to gather some information concerning sexual attitudes and practices. Because the questionnaires were administered in the public
schools, parental consent was necessary and there was a small rate of nonparticipation. The results of the questionnaire were broken down by sex and social class.

Five psychological deterrents to intercourse were important to the respondents: feeling intercourse was wrong, fear of pregnancy, fear of social disapproval, dislike of the person, and fear of disease. Overall, the most significant deterrent was fear of pregnancy (chi square significant \( \chi^2 \) significant \( < .001 \)). The authors point out that there was close parallel between the data concerning knowledge and deterrents to intercourse. They conclude that their data suggests that among the sexually active, belief that pregnancy will occur provides one of the motivational links between exposure to sexual and contraceptive information and the acquisition of knowledge.

In another study Miller conducted indepth interviews with two predominantly white, matched groups of sexually active young women (age 17 to 30). One group used contraceptives and had never been pregnant and the other group was seeking abortions. Miller observed a circular effect of the subjects' assessments of pregnancy probability. When they saw this probability as high, they became anxious and tended to use contraceptives. When pregnancy anxiety was low, many did not use them. There was additional anxiety about their own sexuality and contraceptives. As
others have found in studies of anxiety, when it was moderate, most of the subjects took action (that is, used contraception). When it was too high they tended to be immobilized and did not use a method (Miller, 1976).

Kantner and Zelnik (1979) asked all respondents in their sample who had had intercourse at least once without contraception the following question, "Did you think there was a good chance you might become pregnant?" Approximately 65% thought they could not become pregnant.

Current users and non-users of a contraceptive method were compared. These findings indicate that users are more likely than non-users to think they could become pregnant.

The authors state that the responses of some young women suggest that they did not consciously consider whether they were or were not likely to become pregnant. There are many variables which affect whether or not a woman believes she has a good chance of becoming pregnant. Kantner and Zelnik note that three of the more salient factors involved in this belief are: timing of the unprotected intercourse relative to prior or subsequent contraceptive use, previous pregnancy history, and age at first intercourse. It is interesting to note that those who discontinued use of contraception were the most likely to discount their chances of becoming pregnant at the time of their last unprotected intercourse.
Chapter 3

RESEARCH PROCEDURES

The Sample

The study sample consisted of all unmarried female clients age 13 to 17 who came to Planned Parenthood of Santa Barbara County for services during the period of January through March of 1980. The group included those who came to the facility for a birth control discussion group, gynecological care, contraception and pregnancy testing. Young women coming for abortion services were not included. A total of 70 adolescents participated.

The family planning agency at which this study was conducted is an affiliate of Planned Parenthood Federation of America. It is one of the many similar agencies across the country that provide family planning services. This agency had over 11,000 patient visits in 1979, not including the abortion and vasectomy clinics. Nine hundred twenty visits were made by women 17 years or under. Approximately 15% of the clientele is chicana (Affiliate Annual Report, 1979). The clinic is situated in a city of over 75,000 but serves a county which numbers 294,000 in population. Over 72% of the population is white, 21% is chicano, and 3% is black. The work force is employed by scientific and engineering firms, a large university, and by tourism.
Nearly one-third of the population is not in the labor force. The median income per household in July, 1979, was $17,113 and 27% had incomes of $25,000 or more. The standard of living is comparable to affluent Los Angeles suburbs (Santa Barbara Chamber of Commerce, 1979).

The age and ethnic background of the respondents are shown for the two groups in Table 1 (see p. 25 for group definitions). The mean ages of the girls in the two groups are comparable, ranging from 13 to 17 years of age. Both groups contain girls of diverse ethnic background but are predominately Caucasian.

Socioeconomic status was computed using the methods developed by Green (1970). Mother's education and father's or mother's occupation (whichever is the principal wage earner) was used to provide a meaningful socioeconomic status assignment.¹ This information is found in Table 2. The possible score range is from 0 to 55. The groups appear to be comparable with most girls coming from lower and middle status families. The figures indicate considerable difference between the average S.E.S. scores of the

¹ This method has been validated specifically for health behavior. It has been found that family health decisions and actions are closely correlated with education of the female head of household rather than the educational level of the male head of household, which is commonly used in S.E.S. measures.
<table>
<thead>
<tr>
<th>GROUP</th>
<th>MEAN AGE</th>
<th>ETHNICITY (PERCENT)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contraceptors</td>
<td>16.0</td>
<td>80</td>
<td>4</td>
</tr>
<tr>
<td>Non-contraceptors</td>
<td>16.0</td>
<td>78</td>
<td>4</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TABLE 2

SOCIOECONOMIC STATUS
(Mean Score)

<table>
<thead>
<tr>
<th>GROUP</th>
<th>White</th>
<th>Black</th>
<th>Chicano</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contraceptors</td>
<td>36</td>
<td>28</td>
<td>22.5</td>
<td>0</td>
<td>33.5</td>
</tr>
<tr>
<td>Non-contraceptors</td>
<td>34.7</td>
<td>28</td>
<td>21</td>
<td>33.5</td>
<td>32.5</td>
</tr>
</tbody>
</table>
### TABLE 3

**RELIGIOUS PREFERENCE**  
(Percent)

<table>
<thead>
<tr>
<th>GROUP</th>
<th>Protestant</th>
<th>Catholic</th>
<th>Other</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contraceptors</td>
<td>44</td>
<td>24</td>
<td>8</td>
<td>24</td>
</tr>
<tr>
<td>Non-Contraceptors</td>
<td>42</td>
<td>20</td>
<td>0</td>
<td>38</td>
</tr>
</tbody>
</table>
various racial groups.

The data on religious preference is shown in Table 3. A majority of respondents indicated a religious preference with a larger proportion of non-contraceptors showing no preference. Besides this difference, the groups seem comparable on this variable.

The Questionnaire

The questionnaire (see Appendix A) was developed especially for this research project although only a portion of the data is actually dealt with in this report. The questions were formulated after carefully reviewing questionnaires previously used by researchers in the field of adolescent sexuality.

The items were selected using information from many interviews with adolescent women who have come to the clinic. The items were worded to conform as closely as possible to the way the young women might express themselves concerning pregnancy and contraception. The questionnaire was pretested and some changes in the wording of questions were made before the study began. Two items were abandoned as they proved too ambiguous to be useful. In the absence of any reliability and validity data, it is this researcher's hope that the present data may provide this information in the case that these questions might be
used profitably in future research.

Questions relevant to contraceptive use were included and on the basis of the respondent's self-report, the questionnaires were divided into two groups: regular users of an effective method of contraception and non-users (see p. 3 for criteria). Most of the data is considered on the basis of these groupings.

Questions #12 and #16 in the questionnaire (see Appendix) are used to test hypothesis #1. These questions were designed to elicit the beliefs of the respondents concerning the pregnancy probability with unprotected intercourse of teenage women in general (as opposed to the respondent's perception of herself personally). They are as follows:

#12. If a teenage women has intercourse regularly for a year without birth control, what do you think are the chances she will get pregnant?

___a. 10%  ___b. 25%  ___c. 80%  ___d. 100%

#16. Please indicate your opinion.
Most teenage women who are having sex without birth control:

___a. Can get pregnant very easily.
___b. Are just as likely to get pregnant as older women.
___c. Are not very likely to get pregnant.
___d. Won't get pregnant.

Two other questions were included to test hypothesis #2. Questions #13 and #15 were designed to find out the
level of expectancy of pregnancy the respondent felt concerning herself personally. Question #15 was discarded when it became clear that the question was ambiguous (see section on research procedures). Question #13 is as follows:

**#13.** Some women are more fertile than others; that is, they get pregnant more easily. How do you think of yourself right now?

- a. I could get pregnant very easily.
- b. I could get pregnant fairly easily.
- c. I could not get pregnant very easily.
- d. I couldn't get pregnant.

**The Procedure**

The data was collected by handing out questionnaires to the young women who came in to the agency for services. They were asked if they would fill out the questionnaires usually while they were waiting for their appointments and often in conjunction with other paperwork which needed to be completed. The circumstances under which the subjects completed the questionnaires were quite variable depending upon the service the individual was seeking. Participation was voluntary and although there were no known refusals, 5% of the questionnaires were not fully completed.

Some interviews were conducted with individual respondents after the questionnaire was completed. This provided some valuable information concerning how the questions were understood by the subjects. There was some
evidence that question #15 was unclear to some of the respondents and that this question was not a valid indicator of the information being sought. The intent of the question was to find out whether the individual was worried about becoming pregnant when she has intercourse. The question does not mention birth control use, however, and some regular contraceptors answered this question on the basis of feeling they were protected and thus "not worried about becoming pregnant." These respondents would have perhaps answered the question differently if it had been qualified by the words "without birth control." Thus, the data generated by this question was not considered in the results.

There is a possibility that the understanding of question #13 was also affected by the absence of the words "without birth control." There was no evidence of this during the interviews, however, and so the data from question #13 is retained in the study.

This research employs a causal-comparative design. This method lends itself to the basic purpose of this investigation which is to discover possible causes of contraceptive use by comparing subjects in whom this behavior is present with similar subjects in whom it is absent. If the stated hypotheses are proved correct, then it can be concluded that there is a relationship between
contraceptive use and beliefs concerning unprotected intercourse and pregnancy probability.
Chapter 4

RESEARCH FINDINGS

The chi-square test of significance was calculated for the data associated with the stated hypotheses. The results of a one-tailed test indicate that hypotheses I was supported at the .05 level of probability. The results of the test on the data concerning hypotheses II were not found to be significant.

Hypothesis I

Hypothesis I was stated as follows: adolescent women who regularly use an effective method of contraception will believe in a higher probability of pregnancy among women engaging in unprotected intercourse than will adolescent women who do not regularly use an effective method of contraception (see p. 3 for definition of terms).

The data generated from question #12 (see p. 25) are found in Table 4, $\chi^2 = 8.63$, df = 3, $p < .05$.  

---

2. Categories A and B were combined for the purpose of computing $\chi^2$ in order to eliminate expected frequencies of less than 5.0.
TABLE 4
QUESTION #12
Options Chosen (Percentage)

<table>
<thead>
<tr>
<th>Probability Level</th>
<th>Low</th>
<th>High</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Options A B</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contraceptors</td>
<td>4</td>
<td>20</td>
<td>24</td>
</tr>
<tr>
<td>Non-contraceptors</td>
<td>4</td>
<td>11</td>
<td>60</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The contraception group show belief in a significantly higher probability of pregnancy than the non-contracepting group. It is important to note, however, that eighty-four percent of the non-contraceptors indicated a high probability answer (options C and D). A large majority of both groups indicated a relatively high probability belief in pregnancy with unprotected intercourse.

Table 5 shows the distribution of answers to question #16. Option D was not chosen by any respondent and thus was omitted in calculating the results. These results are also significant, \( \chi^2 = 5.018, \ df = 2, \ p < .05. \)
TABLE 5
QUESTION #16
Options Chosen (Percentage)

<table>
<thead>
<tr>
<th>Probability Level</th>
<th>High</th>
<th>Low</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Options</td>
<td>A</td>
<td>B</td>
<td>C</td>
</tr>
<tr>
<td>Contraceptors</td>
<td>56</td>
<td>40</td>
<td>4</td>
</tr>
<tr>
<td>Non-contraceptors</td>
<td>38</td>
<td>60</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As with question #12, both groups see a strong possibility of pregnancy without contraception, but more contraceptors chose the strongest option (option A).

Hypothesis II

The statement of hypothesis II is as follows: adolescent women who regularly use an effective method of contraception will believe subjectively that they have, as sexually active individuals, a higher probability of pregnancy with unprotected intercourse than will adolescent women who do not regularly use an effective method of contraception (see p. 3 for definition of terms).

The data tabulated for question #13 are found in
Table 6. It was not found to be significant.³

**TABLE 6**

**QUESTION #13**
Option Chosen (Percentage)

<table>
<thead>
<tr>
<th>Probability Level</th>
<th>High</th>
<th>Low</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Options</td>
<td>A</td>
<td>B</td>
<td>C</td>
</tr>
<tr>
<td>Contraceptors</td>
<td>20</td>
<td>48</td>
<td>24</td>
</tr>
<tr>
<td>Non-contraceptors</td>
<td>16</td>
<td>40</td>
<td>44</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The figures in Table 6 indicate that the contraceptors saw themselves as more fertile in general than the non-contraceptors, although not to a significant degree. Sixty-eight percent of the contraceptors chose options indicating high fertility as opposed to fifty-six percent of the non-contraceptors.

**Interpretation of Findings**

The results of this study indicate a significant difference between contraceptors and non-contraceptors in their

³ Categories C and D were combined for the purpose of computing $\chi^2$ in order to eliminate expected frequencies of less than 1.0.
understanding of pregnancy probability among teenagers in
general but not a significant difference between these two
groups in reference to themselves. These findings indicate
that contraceptors do not perceive personal risk more
strongly than non-contraceptors. This lack of difference
may partially reflect a weakness in the stating of the
question associated with hypothesis II (see p.27 in
research procedure). It may indicate that they are very
aware of pregnancy risk on a more general level but do not
experience the risk in a personal way.

The fact that these contraceptors have a higher
perception of risk in general suggests that this under­
standing is one of the factors that contributes to their
contraceptive behavior. This finding supports Miller's
suggestion that, among the girls he studied, fear of preg­
nancy is one of the motivational links between exposure to
contraceptive knowledge and acquisition of knowledge
(Miller, 1973). These findings further suggest that fear
of pregnancy is also a link between acquisition of know­
ledge and behavior.

It is notable that such a high percentage of girls
from both groups understand pregnancy risk to be high when
compared with the results of the Kantner and Zelnik study
(Kantner and Zelnik, 1975). Seven out of 10 of this
national sample felt they could not become pregnant,
whereas only three out of 10 of these respondents indicated a low probability of pregnancy. This finding reflects the bias of the particular group included in this study, in that they are subjects who came to a family planning clinic and thus have a higher level of awareness of the risks associated with unprotected intercourse as compared to the level of awareness of the teenage population in general.

A comparison done with the Goldsmith study (1972), which also used a clinic population, shows positive agreement with the results of this study. Twenty-eight percent of the contraception group indicated "pregnancy can't happen to me." Forty-two percent of the other group, consisting of girls seeking maternity and abortion services, felt that "pregnancy can't happen to me" (Goldsmith et al., 1972, p. 35). This is very close to the percentage of contraceptors and non-contraceptors in this study who indicated a belief in low pregnancy probability (see Table 6).

It is also interesting to note that when the sample is taken as a whole and compared on their perception of personal risk with their perception of the risk level of others, they see themselves significantly less at risk, $\chi^2 = 29.135$, df = 1, p. < .001. Table 7 compares all responses to question #13 (concerning risk to self) to all responses to question #16 (concerning risk to others).
TABLE 7

COMPARISON OF RESPONSES (PERCENTAGE)
Questions #13 and #16

<table>
<thead>
<tr>
<th>Probability Level</th>
<th>High</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question #13 (Self)</td>
<td>70</td>
<td>30</td>
</tr>
<tr>
<td>Question #16 (Other)</td>
<td>97</td>
<td>3</td>
</tr>
</tbody>
</table>

These findings support those of Cvetkovich et al. (1975) who have discussed the idea of the personal fable of immunity held by adolescents.

The results of this study indicate that there is a tendency for the individual woman to take her knowledge of pregnancy probability in general and then qualify it by any number of factors in applying it to herself. Such factors might include: a notion that she is too young to be fertile, that she has never gotten pregnant before, that her boyfriend has indicated he is sterile, that a doctor told her she might have difficulty conceiving, that she doesn't have sex very often, and a host of other factors which may or may not be valid. In this way, her expectation of pregnancy personally might be lower than her expectation for women in general. Of course, she could qualify the probability upward with respect to herself, but this seems to happen less often.
Chapter 5

SUMMARY AND CONCLUSION

Literature concerning teenage sexuality indicates that there is a widespread belief among adolescent women that they personally cannot become pregnant (Kantner and Zelnik, 1975). The purpose of this research was to investigate adolescent women's perception of pregnancy probability associated with unprotected intercourse.

A questionnaire was administered to seventy adolescent women age 13 to 17, who came in for services at a family planning agency. The questions were designed to elicit the beliefs of the respondent concerning: (1) pregnancy probability with unprotected intercourse associated with teenage women in general, and (2) pregnancy probability with unprotected intercourse in reference to herself.

Questions relevant to contraceptive use were included and on the basis of the respondent's self-report two groups were compared: regular users of an effective method of contraception and non-users. The data were primarily analyzed on the basis of these groupings.

The findings of this research are as follows:

1. Within this sample, there is a significant difference between contraceptors and non-contraceptors in
their understanding of pregnancy probability among teens in general, with contraceptors indicating a higher probability.

2. Within this sample, there is not a significant difference between contraceptors and non-contraceptors in their understanding of pregnancy probability in reference to themselves.

3. The sample as a whole, when compared on their perception of personal risk of pregnancy with their perception of the risk of others, saw themselves significantly less at risk.

Implications

If, indeed, the expectation of high pregnancy probability is associated positively with contraceptive use, as these findings indicate, then what practical steps might be suggested to reduce unintended premarital pregnancies? Obviously, better information concerning pregnancy risk must be communicated, in a form that teenagers can absorb and will believe. Information offered to young women concerning contraception will only be acquired if the individual feels a need to know. An understanding of pregnancy risk may be the link between the exposure to information and the acquisition of knowledge. Second, misinformation and myths about pregnancy risk must be dealt with at the level of the peer groups, since a great deal of incorrect information is traded there (Zelnik, 1979).
Third, the adolescent must be given the opportunity to perceive herself to be personally subject to the laws of probability and pregnancy risk which she understands affect her peers.

Two possible suggestions may be relevant to sex educators and counselors. First, group discussion gives teenage women the opportunity to compare their attitudes and feelings with others. There is perhaps less chance for her to see herself as "different" from others. Cvetkovich et al. (1975) suggest that this process allows "students... (to) lay bare their egocentrism to themselves. Once a concept has been stated, it can be examined by the adolescent and by others."

The second suggestion is an extension of the first. Older adolescents who have recently mastered these concepts can be trained as tutors and counselors to younger girls. Instead of getting information from their peers who are perhaps misinformed, they have a source of guidance which is both comfortable and credible.

If a societal goal is to reduce unintended premarital pregnancy among adolescents, it will be necessary to increase the proportion who use contraception consistently. This will undoubtedly require increased availability of contraceptive services and a more determined and
innovative program of education. One of the many tasks which must be undertaken toward this end will be to help teenage women gain a subjective understanding of pregnancy risk.

Suggestions for Further Research

Better and more refined research in the area of adolescent sexuality is seriously needed. Information obtained in this area will be eminently useful to young people, to their families, and to the society at large. The greatest barrier to this type of research has been in reaching adequate probability samples. Schools have historically been closed to research concerning sexual issues. As a result, most studies, including the one presented here, have dealt with special populations, such as those found at family planning clinics or homes for unwed mothers. Adequate probability samples are essential if more understanding is to be gained. The research presented in this report could profitably be replicated in a non-clinic setting.

Most research in this field has been concerned with a point-in-time analysis of adolescent's attitudes. Given the apparent episodic nature of teenage sexual activity (Kantner and Zelnik, 1973) and the rapid physical and emotional growth which the adolescent experiences,
longitudinal studies are greatly needed. Research aimed at understanding the process by which a young woman comes to recognize herself as a fecund individual would be an important contribution.

It appears that research about adolescent sexuality has just begun and that there is a great deal of work to be done in this area. Now that the topic is more open than it has been in the past, there will be progress in terms of theoretical conceptualization, sample selection, testing, questionnaire construction, and analysis of data. Because sexual development deeply affects the adult life, the need for research in this area has implications far beyond the adolescent years.
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QUESTIONNAIRE FOR TEENAGE WOMEN

The questions on these pages are about the feelings and activities of women your age. By answering them you will help us understand what teenagers feel about sex and birth control. This is not a test. Just answer the questions in a way that is most true for you. This information is completely confidential. Do not put your name on these pages. Thank you for your valuable help.
Your Age_____

PLEASE CHECK

1. What is your marital status?
   ___a. Single
   ___b. Married
   ___c. Divorced
   ___d. Separated

2. What racial group do you belong to?
   ___a. American Indian
   ___b. Black
   ___c. Chicano
   ___d. Caucasian (white)
   ___e. Other (please name)__________________________

3. What kind of work does your father do? If you are living
   with your stepfather, answer for him instead of your
   father. If your father is not living and you do not have
   a stepfather, write the kind of work your father used
   to do.

   My father(stepfather) is a__________________________
   His job is______________________
   (Describe what he actually does at his job)

4. What kind of work does your mother do? If you are living
   with a stepmother, answer for her instead of your mother.
   If your mother is not living and you do not have a step-
   mother, write down the kind of work your mother used to
   do.

   My mother(stepmother) does not work outside the home____
   Her job is______________________
   (Describe what she actually does at her job)
5. How far did your parents go in school? If you are living with a stepparent, check for stepparent.

<table>
<thead>
<tr>
<th>Father or stepfather</th>
<th>Mother or stepmother</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Grade school</td>
<td>a. Grade School</td>
</tr>
<tr>
<td>b. Junior high school</td>
<td>b. Junior high school</td>
</tr>
<tr>
<td>c. Some high school</td>
<td>c. Some high school</td>
</tr>
<tr>
<td>d. Completed high school</td>
<td>d. Completed high school</td>
</tr>
<tr>
<td>e. Some college</td>
<td>e. Some college</td>
</tr>
<tr>
<td>f. Completed college</td>
<td>f. Completed college</td>
</tr>
<tr>
<td>g. Graduate school</td>
<td>g. Graduate school</td>
</tr>
</tbody>
</table>

6. What is your present religion?

| a. Catholic           |
| b. Jewish            |
| c. Muslim            |
| d. Protestant        |
| e. Other (please name) |
| f. No religion       |

7. Have you attended a birth control discussion group at Planned Parenthood?

| a. I have attended previously |
| b. I am attending today |
| c. I have not attended |

8. I am now using the following birth control method on a regular basis:

| a. Condom (rubber)     |
| b. Foam                |
| c. Rhythm              |
| d. Diaphragm           |
| e. IUD                 |
| f. Withdrawal          |
| g. Douche              |
| h. Pill                |
| i. FAM (mucus and basal temperature) |
| j. Other               |
| k. Nothing regularly   |

9. Over the last year, I have been using birth control:

| a. Always |
| b. Sometimes |
| c. Seldom |
| d. Never |
10. Have you ever been pregnant?  ___Yes  ___No

If yes, what was the result of your pregnancy (or pregnancies)?

___a. Birth
___b. Miscarriage
___c. Abortion
___d. Adoption

11. The following are some reasons for not using birth control. Check the ones that apply to you.

___a. I was afraid that someone would find out I was having sex.
___b. I'm too young to become pregnant.
___c. Using contraception seems unnatural.
___d. I didn't have intercourse often enough to become pregnant.
___e. If I used contraception all the time, it would seem like I was looking for sex.
___f. It was a time of the month when I couldn't become pregnant.
___g. It's a hassle to come to the clinic.
___h. I shouldn't be having sex anyway.
___i. My partner doesn't want me to use contraception.
___j. Sometimes I think I might like to get pregnant.
___k. Pregnancy won't happen to me anyway.
___l. Effective birth control has too many side effects.

12. If a teenage woman has intercourse regularly for a year without birth control, what do you think are the chances she will get pregnant?

___a. 10%  ___b. 25%  ___c. 80%  ___d. 100%

13. Some women are more fertile than others; that is, they get pregnant more easily. How do you think of yourself right now?

___a. I could get pregnant very easily.
___b. I could get pregnant fairly easily.
___c. I could not get pregnant very easily.
___d. I couldn't get pregnant.
14. The time in a woman's cycle when she is most likely to get pregnant is:
   ___a. Just before her period.
   ___b. Just after her period.
   ___c. In the middle of her cycle.
   ___d. At any time.
   ___e. Don't know.

15. When you have sex, do you worry about becoming pregnant?
   ___a. Not at all.
   ___b. A little.
   ___c. Quite a bit.
   ___d. Very much.

16. (Please indicate your opinion)
    Most teenage women who are having sex without birth control:
   ___a. Can get pregnant very easily.
   ___b. Are just as likely to get pregnant as older women.
   ___c. Are not very likely to get pregnant.
   ___d. Won't get pregnant.

17. (Which statement is closest to the way you feel)
    I think pregnancy is:
   ___a. Like a miracle.
   ___b. An unusual occurrence.
   ___c. Will very likely happen if you have sex.
   ___d. Will always happen if you have sex.

CIRCLE T OR F TO SHOW WHETHER YOU THINK THE FOLLOWING STATEMENTS ARE MOSTLY TRUE OR MOSTLY FALSE.

18. T  F  A woman can become pregnant the first time she has intercourse.

19. T  F  If a women doesn't come (have an orgasm or climax) during intercourse, she is less likely to get pregnant.

20. T  F  Douching after intercourse will usually keep a girl from getting pregnant.

21. T  F  When foam and condoms are used together, they are a good form of birth control.
22. T F If a woman has intercourse for a month or two without getting pregnant, this probably means that it is unlikely that she will get pregnant for a while.

23. T F A condom (rubber) will usually keep a woman from getting pregnant.