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**A qualitative analysis of the contraceptive behavior patterns of
adolescent women**

Wilson, Patty J., Ph.D.

The University of North Carolina at Greensboro, 1990

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A QUALITATIVE ANALYSIS OF THE CONTRACEPTIVE
BEHAVIOR PATTERNS OF
ADOLESCENT WOMEN

by

Patty J. Wilson

A Dissertation Submitted to
the Faculty of the Graduate School at
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Approved by


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APPROVAL PAGE

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The purpose of this study was twofold. First, this study sought to explore, retrospectively, the development of contraceptive behavior patterns by college women during their adolescent years. The second purpose was to examine the role of self-efficacy in the development of effective contraceptive behavior. In-depth semi-structured interviews were conducted with 60 never married sexually active college females 18 to 22 years of age. During the course of the interview, subjects were guided through a description of relationships in which they were sexually active. This allowed the interviewer to elicit information regarding contraceptive behavior in each relationship and explanations for the behavior. In addition, each subject completed a contraceptive self-efficacy questionnaire for both her first and most recent sexual partner.

Qualitative analyses of the interviews revealed three distinct patterns of contraceptive behavior during adolescence and young adulthood: "Always Effective," "Ineffective/Effective," and "Effective/Ineffective/Effective." Each of these patterns of contraceptive behavior resulted, finally, in effective contraception. Characteristics found to influence group membership were: amount of communication with first sexual partner regarding contraception prior to intercourse, communication atmosphere with parents regarding sexuality

and contraception, age at first intercourse, and
contraceptive behavior. In addition, high self-efficacy,
however it became part of a young adult woman's repertoire,
was related to effective contraceptive behavior.

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CHAPTER I
INTRODUCTION AND REVIEW OF THE LITERATURE

Despite the availability and accessibility of reliable contraceptives, research findings indicate that a substantial number of sexually active women use an unreliable method of contraception (Zelnik & Kantner, 1980). Researchers and practitioners struggle to comprehend the complex health behavior of contraception (Sawyer & Beck, 1988).

It is estimated that, among unmarried adolescents, 70% of males and 50% of females are sexually active by the age of 18 (Faulkenberry, Vincent, James, & Johnson, 1987). Among college women, recent research indicates that between 50 and 65% are sexually active (Pope, Westerfield, & Walker, 1985; Winter, 1988). Sexually active college women are assumed to be motivated to use contraception, because an unplanned pregnancy could potentially threaten academic and occupational goals (Bachman, 1981). Yet research indicates that a substantial proportion of sexually active college women utilize ineffective contraceptive methods, use contraceptives only sporadically, or use no method at all (Bachman, 1981; Lowe & Radius, 1987; MacCorquodale, 1984; Pope et al., 1985; Rindskop, 1981; Sawyer & Beck, 1988;

Winter, 1988). Pregnancy rates of six to ten percent for sexually active college women are indicative of the contraceptive risk taking of this population (Dorman, 1981). More recent data on pregnancy rates among college women were not found. Sawyer and Beck (1988), however, noted that of the pregnancy tests performed during the academic year in which they collected their data, 28% were positive. These rates may be conservative due to difficulties in obtaining accurate data from women who seek pregnancy related services outside the student health center setting (Dorman, 1981; Rindskop, 1981). Given that approximately 90% of these unmarried pregnant college women chose to terminate their pregnancies (Dorman, 1981), it would appear that the majority of pregnancies in this population were unintentional.

Why do educated sexually active women not make use of accessible effective contraception? What is the course of events leading up to ineffective contraceptive behavior? The overriding intent of this study was to examine the progression of contraceptive behaviors of college women from the time of first intercourse to search for patterns which lead to effective or ineffective contraceptive behavior.

Review of Selected Variables Associated with Adolescent Contraceptive Behavior

A great deal of scholarly research has examined adolescent sexual behavior, including the issue of

contraceptive use or nonuse. That research has identified a number of factors which appear to be associated with adolescent contraceptive behavior. The interrelationship of these factors, however, remains unclear, leaving many unanswered questions about contraceptive behavior during the teen years.

Demographic Variables

Age is one of the demographic variables most consistently related to contraceptive use. The likelihood of contraceptive use was found to be inversely related to age, such that adolescents who are older at first intercourse would be more likely to contracept than adolescents who become sexually active at a younger age (Bachrach, 1984; Zelnik & Kantner, 1981; and Zelnik & Shah, 1983). Research shows that approximately one-third of women 15 or younger report using contraception at first intercourse, compared to one-half for those 16 to 18, and more than 60% for those over 18. Research findings on race and contraception are less clear. Findings of recent studies suggest that whites may be more likely than blacks to contracept at first intercourse, but when blacks do contracept they are more likely to use prescription methods of birth control (Zelnik & Kim, 1982; Zelnik & Shah, 1983). Morrison (1985), however, contended that race effects on contraceptive practices during adolescence are difficult to interpret and may be unimportant when socioeconomic status

is controlled. The relationship between religious affiliation and contraception has also been examined. Differences in contraceptive use among Protestants, Catholics and Jews are consistently found to be quite small (Geis & Gerrard, 1984).

Contraceptive Use

Less than half of sexually active college women always use contraception (MacCorquodale, 1984; Sawyer & Beck 1988), and only one in two of these women rely on the most effective methods (Trussell, 1988; Winter, 1988). Condoms have consistently been reported as the most frequently used method of birth control at first intercourse (Cvetkovich & Grote, 1983; Geis & Gerrard, 1984; Lowe & Radius, 1987; Winter, 1988; Zelnik & Kim, 1982; and Zelnik & Shah, 1983). Among those women who did not use contraception, the most common reason given, was failure to anticipate sexual intercourse (Pope et al., 1985; Trussell, 1988; Winter, 1988; Zelnik & Kantner, 1979; and Zelnik & Kim, 1982). Another commonly cited reason was believing that, for one reason or another, the risk of pregnancy was small (Zelnik & Kantner, 1979; Zelnik & Kim, 1982). In addition, Zelnik and Shah (1983) found that adolescents were more likely to use contraception if first intercourse was planned in advance.

Educational Aspirations

Another factor associated with contraceptive use during adolescence is educational aspirations. Women who had never used contraception have lower educational aspirations than those who used contraception at least occasionally. Those who reported higher educational goals and expectations were most likely to be consistently effective in their contraceptive behavior (Jones & Philliber, 1983).

Sources of Contraceptive Knowledge

Research has consistently reported that peers are the primary source of information about contraceptives for adolescents (DeLameter & MacCorquodale, 1979; Nadelson, Notman, & Gillon, 1980; Pope et al., 1985; and Thornburg, 1981). Books and other media also appear to be important sources (DeLameter & MacCorquodale, 1979; Nadelson et al., 1980; Pope et al., 1985; and Thornburg, 1981). One study noted that adolescent women considered medical professionals an important source of information about contraception (DeLameter & MacCorquodale, 1979). School-based sex education programs were mentioned infrequently and usually as a secondary source (Pope et al., 1985; Zelnik & Kim, 1982). Adolescent women usually reported that parents were their least important source of contraceptive information (DeLameter & MacCorquodale, 1979; Pope et al., 1985; Nadelson et al., 1980). In general, the source of an

adolescent's contraceptive information has been found to be of no significant importance in their contraceptive use.

Relationship with Partner

A number of studies have examined the role of the adolescent female's partner in her contraceptive behavior. One of the most frequently examined partner variables has been seriousness of relationship. The findings have been quite contradictory, with some reporting that the more serious the relationship the more likely that contraception will be used, and others reporting that contraception is more likely to be used in casual relationships (Morrison, 1985). Increased communication with sexual partner, however, has consistently been associated with more effective contraceptive behavior (Cvetkovich & Grote, 1981; Faulkenberry et al., 1987; Geis & Gerrard, 1984; Jorgensen, King, & Torrey, 1980; and Oskamp & Mindick 1983).

Relationship with Parents

Research findings regarding the influence of parental communication about sex have been less consistent. Fox and Inazu (1980) reported that adolescent women whose mothers discussed sex and contraception with them were more likely to use birth control. Morrison (1985), however, noted that the majority of research suggests that parental contraceptive discussions have little impact on adolescent contraceptive behavior.

The wide array of research projects on adolescent contraceptive behavior has produced a somewhat fragmented picture of the contraceptive practices of this population, rather than the cohesive one that is necessary for effective intervention. A theoretical framework which may provide a way to connect the available information on adolescent contraceptive behavior is self-efficacy theory.

Theoretical Framework

It has long been recognized that possessing factual information about detrimental effects of a particular course of action does not always deter such behavior (Lawrance & Rubinson, 1986). Sawyer and Beck (1988) noted that while factual information is important for any decision related to health behavior, knowledge alone does not appear to be a significant factor in the prediction of adolescent contraceptive use.

A mediator between knowledge and behavior may be self-referent thought, according to self-efficacy theory (Bandura, 1985). This theory proposes that successful behavior change and maintenance result from (a) expectations about successful outcomes will result from engaging in a specific behavior (outcome expectations), and (b) expectations that one has the ability to execute a specific behavior (efficacy expectations). This theoretical model further posits that it is these perceptions of success and ability that influence behavior, not necessarily actual

ability. The level of self-efficacy is the judgment one makes about his/her ability to perform a specific behavior in a specific situation (Bandura, 1977).

Efficacy information is derived from four major sources (Bandura, 1977, 1985). The first of these, which is seen as the most influential, is performance accomplishments. Information is gleaned from actually performing a task and adjusting self-efficacy based on degree of mastery of that task. Self-efficacy information is also influenced by observing events or people, and is referred to as vicarious experience. A third source of efficacy information is verbal persuasion. This technique is employed by trying to convince an individual they have the capabilities necessary to perform a desired behavior. The final source of self-efficacy information is one's physiological state. Individual awareness of physiological arousal levels plays a role in perceptions of capability to perform in a given situation. Research indicates that there are optimal levels of stress, and that awareness of personal levels affects self-efficacy perceptions.

The basic underlying assumption of self-efficacy theory is that there is a connection between self-efficacy perceptions and performance of a given behavior in a given situation. Behavior can be predicted if a person's self-efficacy perceptions regarding a given behavior in a specific situation are known. In a broad sense,

self-efficacy theory could facilitate an explanation of ineffective adolescent contraceptive utilization in two ways. Efficacy expectations would play an important role in this theoretical explanation of adolescent contraceptive use. A self-efficacy based explanation of ineffective contraceptive use would suggest that adolescents may not perceive themselves as capable of performing the specific behaviors necessary to engage in effective contraception. In addition, the theory would suggest that adolescents formulate inaccurate outcome expectations regarding sexual intercourse. Specifically, it would suggest that adolescents do not make accurate connections between participation in sexual intercourse, effectiveness of contraceptive behavior, and pregnancy.

In his delineation of self-efficacy theory, Bandura (1985) clearly indicates that self-efficacy is not a global personality trait, but rather, assessment of one's ability to perform a specific task in a specific situation. In examining self-efficacy, most behavior patterns need to be broken into subskills. Effective contraceptive behavior consists of a series of subskills. Byrne's (1983) research in the area of adolescent contraceptive behavior suggests five distinct behavioral steps for successful contraception: (a) acquiring the necessary factual information about pregnancy and its prevention to make an informed choice of contraceptive method, (b) acknowledging the likelihood of

engaging in sexual intercourse, (c) obtaining the chosen contraceptive method, (d) communicating with one's sexual partner about contraception, and (e) utilizing the chosen method effectively and consistently. Byrne's delineation of contraceptive subskill areas provides a framework around which to examine the influence of self-efficacy on contraceptive behavior. A thorough investigation of self-efficacy regarding contraceptive behavior would need to examine perceptions about self-efficacy as related to the subskill areas rather than examining contraceptive self-efficacy in general.

The concept of self-efficacy is receiving increasing recognition as a predictor of health behavior (Strecher, DeVillis, Becker, & Rosenstock, 1986). In particular, two studies have clearly indicated a connection between self-efficacy and contraceptive behavior during adolescence (Gilchrist and Schinke, 1983; Levinson, 1986).

Gilchrist and Schinke (1983) developed an intervention which presented factual information regarding reproduction and birth control combined with skills training and practice for 107 sexually active adolescents, both male and female. Skills training included participation in role playing situations where discussion of birth control was initiated and methods of contraception were acquired. The results of this cognitive-behavioral intervention were that participants demonstrated significant improvements in

efficacy ratings of their own abilities to use birth control, exhibited more effective contraceptive problem solving skills, and had greater intentions to use contraception at next intercourse than did subjects who had not received the intervention.

Levinson (1986) first used the construct of contraceptive self-efficacy (CSE) to explain why young women who say they do not want to become pregnant fail to effectively contracept. She found that adolescent females' confidence in their ability to use contraception was positively associated with contraceptive use. She hypothesized that adolescents with high (CSE) would use contraception more consistently and not have incidents of unprotected intercourse. Contraceptive self-efficacy was defined as the strength of a woman's conviction that she should and could exercise control in sexual and contraceptive situations to achieve effective contraception. Contraceptive behavior was determined based on combining the efficacy of the contraceptive method the young woman was using and the consistency with which she used it. Based on responses to questionnaires, the results of the study indicated that CSE was positively related to contraceptive behavior for her sample of 258 sexually active adolescent females attending a family planning clinic.

The work of Levinson (1986) and of Gilchrist and Schinke (1983) suggests the potential of self-efficacy

theory to explain the development of effective patterns of contraceptive behavior patterns. Neither study, however, employed a research methodology which facilitated the collection of information about influences on subjects' self-efficacy perceptions and contraceptive behavior over time. Such a study would provide evidence of a direct relationship between self-efficacy and contraceptive behavior.

Purpose

This research had two overall purposes. One purpose was to explore, retrospectively, the development of contraceptive behavior patterns by college women during their adolescent years. Specifically, this study sought to determine if patterns of effectiveness in contraceptive use could be identified during the early sexual activity of adolescent and young adult women. The second purpose was to examine the role of self-efficacy in the development of effective contraceptive behavior.

CHAPTER II
RESEARCH METHODOLOGY

The Research Plan

The major purpose of this exploratory retrospective study was to search for patterns of contraceptive behavior among adolescent and young adult women. These patterns were to be determined from retrospective information reported by subjects regarding the progression of their contraceptive-related behaviors. A second purpose was to examine the relationship between patterns of contraceptive behavior and self-efficacy.

A qualitative research methodology was utilized because of the paucity of information in the literature regarding contraceptive behavior patterns. Data were derived from indepth, semi-structured interviews, a method which allows the researcher more flexibility to guide the discussion across content areas and to follow up on any cues provided by the respondent (Wilson, 1985). In addition, a series of open-ended probes were employed. The interview format allows the investigator to probe subjects' responses to obtain richer data, while the use of specific probes is essential for collecting comparable data from each subject

so cross-case analyses can be conducted (Miles and Huberman, 1984).

Interview studies can produce indepth data not possible with a questionnaire alone (Gay, 1987). The interview format is most appropriate when questions of a more personal nature, such as those regarding contraceptive-related behavior, are being posed and can not easily be answered in a multiple-choice manner. This format also allows the researcher to follow up on incomplete or unclear responses by posing additional probes. The semi-structured nature of the interview for this study involved the posing of structured questions followed by unstructured probes. Responses to unstructured questions facilitated explanation and understanding of responses to the structured questions. Thus, according to Gay (1987), the researcher is combining objectivity and depth so that results may not only be tabulated, but also explained.

Sample

The majority of the subjects for this study were recruited from four large lecture classes with a total enrollment of approximately 330, at a medium-sized state university in the southeastern part of the United States. The classes from which subjects were recruited draw students from a variety of majors and include freshman, sophomore, junior, and senior students. Following an explanation of the nature of the study and participation requirements, the

researcher secured the permission of instructors to recruit subjects from their classes.

At the beginning of class time, the researcher introduced herself to the students and described the study. The researcher explained that the purpose of the study was to learn what adolescent and young adult women think about and consider as they make decisions about contraceptive-related issues. The description included information about the importance of the study, details about what participation in the study entailed, and assurances regarding confidentiality. The students were informed that participation was voluntary and would in no way influence the evaluation of their performance in the class from which they were being recruited. Great care was taken to insure that the young women were adequately informed about the nature and focus of the interview, since the interview dealt with sensitive issues.

Following the description of the study, the students were given an Invitation to Participate (see Appendix A) which provided a written description of the study. Each student was requested to respond by marking on the invitation either "Yes, I am interested in participating in this study," or "No, I am not interested in participating in this study." Those who checked yes were asked to write their telephone number and only a first name on the invitation. Students were assured that indicating interest

in the study was not considered consent to participate. Students were then asked to fold the invitations in half and turn them in. All students returned the invitation regardless of eligibility or willingness to participate. In this way, no student was singled out as sexually active simply because they returned the invitation. Criteria for inclusion in the study were as follows: (a) female, (b) aged 18 to 23, (c) sexually active, and (d) never married.

When the researcher contacted the prospective subjects by telephone, they were again given a brief description of the study and provided with an opportunity to ask questions. If the subjects were interested in participating, an appointment for an interview was made at that time. All subjects contacted made an appointment for an interview. Two of the women who made appointments, however, did not participate in the study. They both cancelled their appointments in advance of the scheduled meeting, citing conflicts with other demands on their time as their reason for not participating. To ensure that these young women had decided not to participate due to time concerns, the investigator asked further questions about why they were cancelling their appointments. The researcher was satisfied that time conflicts were the reason for non-participation, rather than concern about the content of the interview. It is not known why students in the lecture classes, who may

have been sexually active, chose not to accept the original invitation to participate.

Two of the subjects were recruited from the campus student health center. The health center requires that all female students requesting contraceptive services attend a contraceptive health education session. The researcher had been granted permission by the medical director of the center to recruit subjects from the education sessions. Although the setting was different, the recruitment process was the same as in the large lecture classes. The first education session from which the researcher recruited, resulted in two subjects. Due to the large number of subjects recruited from the lecture classes, a decision was made to end recruitment from the health center.

The subjects in the sample were 60 never-married, sexually active college women. Subjects ranged in age from 18 to 22 ($X = 19.5$). Approximately 82% ($n = 49$) of the sample was white and 17% ($n = 10$) was black. In addition, one of the subjects was Native American. Most of the women were Protestant, and their church attendance was about evenly spaced between "never attend church" and "attend less than once a month." The majority of the women had been raised by two parents, but 15% had been raised by a single parent. There was a great deal of variability in the educational levels of the subjects' parents. Both mothers' and fathers' educational levels ranged from less than a high

school diploma to having attained a professional degree (J.D., Ph.D, M.D.). Family incomes ranged from less than \$10,000 annually to more than \$80,000 (X = \$40,000 to \$49,999).

Instruments

Interview Guide

The interview guide (see Appendix B) developed for this study was constructed to facilitate the collection of comparable data across interviews, while providing subjects with enough flexibility to comfortably tell their story. The guide indicates both sequence of the interview and probes to be used. Sequence during the interview was crucial to obtaining information regarding the ordering of contraceptive events across time. Specific probes were necessary to assure that the study objectives were being met.

Background Information Questionnaire

The background information questionnaire (see Appendix C) was developed to gather information to describe the sample and examine potential influences of selected demographic variables (race, parental educational attainment, and religiosity) on contraceptive behavior.

Self-efficacy Questionnaire

The self-efficacy questionnaire (see Appendix D) was developed to assess subjects' efficacy expectations in relation to four contraceptive subskill areas identified by

Byrne (1983) (obtaining contraceptive information, obtaining birth control, communicating with partner regarding birth control, and actual use of specific method), and included 17 items. Subjects were instructed to respond to the questionnaire based on the relationship they had just finished discussing with the interviewer. In addition, they were instructed to answer all questions even though they may have never performed the behavior in question. It was recommended that they think about whether or not they could have actually executed the behavior in question, even if they had not done so in the past. Response categories ranged from one, "Never true of me" to four, "Always true of me." Due to their simplicity and specificity, Bandura (1978) contends that simple measures of task-specific efficacy perceptions usually do not require extensive validation.

Data Collection Procedures

Data were collected from each subject individually using semi-structured interviews and questionnaires for self-efficacy and demographic information. Interviews were audio-taped, averaged 40 minutes in length, and ranged between 30 minutes and one and three quarter hours in length. Since no similar study about patterns of contraceptive behavior was found in the literature no precedent for instrumentation was available. The data were, therefore, collected in three waves in order to assure that

the interview could elicit the data necessary for the purpose of the study. Each of the three waves of data collection involved interviews with 20 women, for a total of 60 subjects. Conducting the interviews in waves permitted the investigator to make any changes in the interview that were necessary in order to assure that the objectives of the study were being met. Once the data had been collected from the first 20 subjects, the audiorecordings were analyzed and the interview guide was altered as suggested by the findings of the first wave of data collection. Only one change in the interview format was made during the first wave of the study. At the end of the first interview, the investigator queried the subject about the difference in the way she responded to the Self-Efficacy Questionnaire after the second administration. This provided rich data regarding the subject's own perceptions of why her self-efficacy had changed. Because the question resulted in information that appeared important for describing the patterns, it was repeated in the remaining 59 interviews. No further changes were made in the interview format in the subsequent waves of data collection. The specific sequence of the entire data collection process is presented below.

Before beginning the interview, subjects were reminded of the nature of their involvement and reassured about the confidentiality of the information they would be sharing. After providing the women with an opportunity to ask

questions, they were asked to sign and date an informed consent letter (see Appendix E). The interviews were conducted either in the researcher's office or in a research lab room if the researcher's office was not available at the time of the interview.

Interviews were begun by discussing the subject's age at menarche, her feelings and preparation for menarche, age at first date, and types of dating activities. These questions provided an opportunity for the subject and interviewer to develop rapport. This process is necessary to create and maintain an atmosphere in which the subject fully and honestly replies to the questions (Kidder and Judd, 1986). The overall tone of the interview was friendly and conversational.

Once the subject appeared to be comfortable with the interviewer, she was asked how old she was the first time she had sexual intercourse. Then, specific probes were used (see Appendix B) to elicit a description of the young woman's first relationship in which she was sexually active, focusing on her contraceptive-related behavior and thoughts within the context of the relationship. After this first relationship had been discussed, the subject was asked to respond to the contraceptive self-efficacy questionnaire (see Appendix D). The subject was instructed to respond to the questionnaire based on her feelings and behaviors during

the time of her first relationship which she had just described to the researcher.

Following completion of the self-efficacy questionnaire, the subject was asked how many sexual partners she had had, including her first sexual partner. The probes used to elicit the description of the subject's contraceptive-related thoughts and behaviors in the first relationship were then repeated for each sexual partner. Thus, the young women were guided through a description of the sequence of their contraceptive-related behavior and thoughts by discussing each relationship in which they were sexually active, including a description of their current or most recent partner. Discussion of partners with whom the women had had intercourse only one time was also included.

For interviews in which the investigator had difficulty following the sequence of events, or in which the subject had difficulty remembering the sequence of events, a timeline was used (See Appendix F). The timeline was simply a line on a sheet of paper with the year of the interview printed at the end. The investigator introduced the timeline, when necessary, as a way to assist her in recording the sequence of events. With the assistance of the subject, the interviewer marked the line with years and events around which the subject could describe relationships and contraceptive-related events. Use of the timeline typically began by indicating the point and age of first

intercourse on the front end of the timeline. The length of that relationship was marked on the line, and subsequent relationships or partners were then indicated along the timeline. The timeline was expanded as the interview progressed through a description of each partner or relationship in which the subject was sexually involved. According to Kidder and Judd (1986), such research aids improve the subjects' ability to recall information requested by the interviewer. This process proved especially helpful for many of the women with multiple partners.

After discussion of the most recent partner, the women were again asked to respond to the contraceptive self-efficacy questionnaire. This time, they were instructed to answer the questions based on their beliefs regarding their abilities to perform the contraceptive-related subskills with their most recent partner. After responding to the self-efficacy questionnaire the second time, subjects were asked if there had been a difference in their responses. At that time, they were asked how they would explain the differences, if any, in their responses to the questionnaire from the first time to the second.

Subjects were then asked about the sources of their contraceptive information. In addition, they were asked to identify which, of the sources they had mentioned, had been

their primary source of information. At this point in the interview, the researcher reviewed types of contraception ever used, number of sexual partners, current form of contraception, and sources of contraceptives. Subjects were then asked if there was anything else they could add to their story that would help explain their contraceptive-related thoughts, feelings, and/or behavior. Finally, subjects were asked to respond to a demographic questionnaire (see Appendix C).

Data Analysis Procedures

Data reduction and analysis involved a series of steps that began during the actual data collection process. Immediately following each interview, a descriptive sequence statement was written that described the progression of contraceptive behavior of the subject from first intercourse to most recent partner. An example of a descriptive sequence statement would be as follows: Condom use at first intercourse - Sporadic condom use - No contraception used - Pregnancy - Pill to present. This was the first step in the identification of the contraceptive behavior patterns.

After all 60 interviews had been conducted, and descriptive sequence statements written for each, the sequence statements were examined for similarities. Using the descriptors "effective" and "ineffective," the tentative descriptive sequence statements were rewritten and collapsed into four patterns ("Always Effective",

"Effective/Ineffective/Effective", "Ineffective/Effective", and "Other"). The descriptor "effective" was used to replace segments in the sequence statements that described effective contraception (use of oral contraceptives, diaphragm and spermicide, or condom in the medically prescribed manner for prevention of pregnancy). The descriptor "ineffective" replaced segments in the sequence statements that described ineffective contraception (use of methods other than those noted above as effective, using an effective method inconsistently and/or incorrectly, or using no contraception at all). Thus, the sample descriptive sequence statement noted above became: Effective - Ineffective - Ineffective - Effective, and then shortened to become "Effective/Ineffective/Effective". This process of pattern coding, according to Miles and Huberman (1984), is a way of grouping summaries into a smaller number of overriding themes or constructs.

The next step in the analysis of these interviews was for the purpose of generating hypotheses. The interviews were divided into three sets of twenty each based on the order in which they had been conducted. The methodology used was tentative hypothesis generation. Hypotheses were generated based on the first 20 interviews, tested on the second 20 and revised, and then tested on the third 20.

Summary transcripts were written from the audiorecordings of the first 20 interviews. These summary

transcripts were a combination of recording responses to the simple questions and a verbatim reproduction of narrative responses to the open-ended questions. First, a content analysis of the summary transcripts was conducted. This step in the analysis involved a thorough examination of the data for coding categories, including: age at first intercourse, birth control method used at first intercourse, time period between first interaction with first partner and first intercourse, communication with first partner regarding contraception prior to first intercourse, communication with parents regarding sexuality and contraception, primary source of contraceptive information, and total number of sexual partners.

The cases within the first set of 20 were divided according to contraceptive behavior pattern, and then examined for similarities within the contraceptive behavior patterns and differences between patterns which could provide explanations for the patterns. Based on the within-pattern similarities and across-pattern differences, some tentative hypotheses were generated. The hypotheses generated based on content analysis of the first 20 interviews were: In contrast to the other patterns, women in the "Always Effective" pattern would:

1. be older at first intercourse;
2. wait longer between first interaction with first partner and first intercourse;
3. be more likely to have discussed contraception with first sexual partner prior to first intercourse;

4. be more likely to have had parents who discussed sexuality and contraception with them;
5. have fewer total sexual partners; and,
6. report different primary sources of contraceptive information.

Summary transcripts were then written for the second 20 interviews, and coded for the same coding categories as the first 20 interviews. The tentative hypotheses generated from the analysis of the first 20 interviews were then tested against this second wave of summary transcripts. The first five hypotheses were retained. The second wave of summary transcripts, however, did not support the sixth hypothesis, and it was discarded. To be assured that these hypotheses were sound, all 40 interviews were combined for analysis and the hypotheses were tested again.

Finally, summary transcripts were written for the last 20 interviews, and coded for the coding categories. The remaining hypotheses were tested against these last twenty interviews and all five were retained. During the data analysis process, qualifications for contraceptive behavior pattern membership became more specific. Miles and Huberman (1984) noted that analyzing pattern codes against subsequent waves of data typically results in further qualifications of conditions under which a pattern holds. Such was the case in this study. It became apparent that the subjects in the "Other" pattern could be subsumed into one of the other

patterns. Thus, there was a reduction from four contraceptive behavior patterns to three.

The next chapter will present the results, including a full description of each contraceptive behavior pattern identified. The manner in which demographic variables, relationship variables, and self-efficacy relate to these patterns is also discussed. Three reconstructed case studies are presented in Chapter IV in keeping with the tenets of qualitative methodology that require that patterns be described in context.

CHAPTER III

RESULTS AND DISCUSSION

By the time the interviews were conducted, all 60 of the women had achieved consistently effective contraceptive behavior. The path by which the subjects became effective contraceptors, however, varied. Three patterns of adolescent contraceptive behavior were identified. The first pattern, "Always Effective," was identified in 40% (n = 24) of the cases. A second pattern, "Effective/Ineffective/Effective," was identified in 27% (n = 16) of the interviews. A third pattern that emerged from the stories of these young women, "Ineffective/Effective," was found in 33% (n = 20) of the sample. In addition, it became clear that there was a relationship between self-efficacy and pattern of contraceptive behavior.

Results

Always Effective Group

The women in this group were effective in their contraceptive behavior at the time of first intercourse and with each subsequent act of intercourse. Table 1 provides information about age at first intercourse, number of sexual partners and other relevant variables. Age at first intercourse for these women ranged from 12 to 21

Table 1

Mean Scores of Variables Associated with Patterns of Contraceptive Behavior

	<u>Contraceptive Behavior Pattern</u>		
	<u>Always Effective</u>	<u>Effective/ Ineffective/ Effective</u>	<u>Ineffective/ Effective</u>
Age at menarche	12.3	11.9	12.6
Age at first intercourse	16.4	15.6	15.5
Weeks to first intercourse	31.0	15.0	20.0
Number of sexual partners	2.3	7.3	6.6
Age at time of interview	19.3	19.4	19.8

($X = 16.41$). None of the women had intercourse on the first meeting with their first sexual partner. There was, however, quite a range in the amount of time between first date and intercourse (range = 1 week to 2 1/2 years, $X = 31$ weeks). All but four of these 24 women used condoms at first intercourse. In all cases in which condoms were used at first intercourse, the males provided the condom. In almost all cases in this pattern, however, the women initiated use of birth control, including asking their partner to use a condom. One woman said,

When it came time to be together sexually, even though we had already talked about birth control, I point blank said that if we didn't use condoms we weren't going to be having sex.

Three of the young women who did not use condoms were using birth control pills at the time of first intercourse. In the other case, the young woman was purposely practicing natural family planning at the time of first intercourse. Because it may seem inappropriate to classify natural family planning as effective contraceptive behavior, a more indepth discussion of this case will be presented later. The total number of sexual partners ranged from one to eight ($X = 2.32$). Primary sources of contraceptive information identified by the women in this pattern included: health care providers, school, peers, magazines, and parents. Health care providers and school were the most frequently cited sources of contraceptive information, while parents were cited by only one subject in this pattern. In

addition, these women had two other characteristics in common, their ability to discuss contraception with their partners and an atmosphere of openness regarding the discussion of sexuality with their parents.

The ability to communicate openly and comfortably with their partners about sex and sexuality seems to have reinforced these young women's resolutions to be contraceptively responsible. A majority of the women (73%, n = 16) reported being comfortable when discussing sex and contraception with their partners prior to first intercourse. One of the women described how communication with her partner was related to the effectiveness of her contraceptive behavior.

I think if you're involved with somebody, if you can't talk about contraception, if you can't really talk about sex you shouldn't be having intercourse. I feel if you can't be open about it, then you have no business having intercourse with this person. I think communication is a real big thing.

Communication with their parents regarding sexuality, intercourse, and contraception also appears to have played a role in these women's contraceptive effectiveness. The majority of these young women (77%, n = 17) had parents who openly discussed sex with them and encouraged ongoing discussions on the topic. The following quotation illustrates how communication between these young women and their parents was linked to effectiveness.

She (mother) wanted me to know the information about sex and contraception that she hadn't. She spent a

lot of time talking to me about it. She made me feel comfortable talking about birth control or going on the Pill when I was ready.

While discussions of sexuality-related issues were encouraged, the young women also seemed sure that their parents were not encouraging early sexual activity, for example,

My mother didn't like the idea of premarital sex, but she said that if it ever came to be sure to use protection. She wanted me to wait, but she didn't know when nature would take its course so she wanted me to be prepared.

When questioned about why they were so effective in their contraceptive behavior the women expressed a common belief in the importance of avoiding pregnancy. One woman said, "I've always known what I wanted and what I expect of myself. I know what I don't want to happen. I don't want to be forced to make a decision about a pregnancy." Another woman said,

My mother always taught me that if you're not careful you're going to have a third person in your relationship. I don't want kids right now. I have tremendous plans for myself and a child would just hold me back.

As indicated in the previous examples, the women had a number of different reasons for wanting to avoid pregnancy, including, educational and career goals and not wanting to disappoint their parents. In addition to avoiding pregnancy, parental expectations, seriousness of

relationship and disease prevention were cited as reasons for effective contraception.

Effective contraceptive behavior appeared to be accepted as an integral part of a sexual relationship for the women in the "Always Effective" pattern, as evidenced in the following quotation: "I've always felt, ever since I can remember, that if I'm not married I should use contraception if I'm going to have sex." Another young woman commented,

Birth control was common sense to both of us. It was never a question of are we going to use it or not. We both knew we had to. We both knew that getting pregnant would ruin my life and his too.

Many of the women were able to identify specific factors that had positively influenced their desire to be effective contraceptors. Two influencing factors seemed to predominate, mothers' pregnancy prior to marriage and having a close friend become pregnant out of wedlock. How mothers' pregnancy prior to marriage influenced one young woman's contraceptive behavior was this,

She (mother) got pregnant with me at 18, so she was a mother fairly early. She got pregnant with me right after high school and then got married. She told me she never got the chance to do what she wanted with her life. She didn't want that to happen to me.

Comments about the influence of a friend's pregnancy were even more common. For example, one woman said,

Having my best friend get pregnant and have an abortion had a real effect on me. I decided I would never have sex without contraception. I saw

how it affected her and I didn't want to go through that.

High self-efficacy scores on all four of the contraceptive subscales were common among the women in the "Always Effective" pattern (see Table 2). Over half of the women in this group had high self-efficacy perceptions in each of the subskill areas. In fact, three quarters or more of the women had high self-efficacy scores on the "communication with partner" and "actual use of method" subscales. In addition, none of the women in this pattern had low self-efficacy perceptions regarding their ability to actually use birth control. On a four-point scale assessing contraceptive self-efficacy, group mean scores on the four subscales were as follows: (a) obtaining information regarding contraception ($X = 3.042$), (b) obtaining various methods of birth control ($X = 2.917$), (c) communicating with partner regarding contraception ($X = 3.347$), and (d) actually using various methods of birth control ($X = 2.83$).

The women in the "Always Effective" pattern felt highly capable of performing the vast majority of contraceptive-related behaviors described on the self-efficacy questionnaire. On 14 of the 17 items, 50% or more of the women in this group responded "Always True of Me," indicating highly self-efficacious perceptions of their ability to perform the specific behavior (see Table 3). The behavior which had the highest percentage (88%) of women responding with "Always true of me," was asking their

Table 2

Contraceptive Self-Efficacy Subscale Mean Scores by
Contraceptive Behavior Pattern

Subscale	<u>Contraceptive Behavior Pattern</u>					
	Always Effective		Effective/ Ineffective/ Effective		Ineffective/ Effective	
	Partner					
	First	Last	First	Last	First	Last
Acquiring information	3.04	4.00	2.22	4.00	2.96	3.97
Obtaining method	2.92	3.73	2.41	3.83	2.48	3.85
Communicating with partner	3.35	3.77	3.06	3.81	2.65	3.77
Using method	2.85	3.88	2.68	3.25	2.44	3.39

Table 3

Percentage of Women in Each Self-Efficacy Response Category by Subscale and Contraceptive Behavior Pattern: First Sexual Partner

Item	<u>Contraceptive Behavior Pattern</u>											
	Always Effective				Effective/ Ineffective/ Effective				Ineffective/ Effective			
	1	2	3	4	1	2	3	4	1	2	3	4
ACQUIRING INFORMATION												
Make appointment	17	17	17	50	31	38	31	0	30	5	20	45
Discuss contraception	17	13	13	58	19	31	38	13	25	5	15	55
OBTAINING METHOD												
Gynecological exam	21	8	13	58	19	31	31	19	20	0	35	45
Buy contraception	17	33	13	38	25	38	19	19	60	5	15	20
COMMUNICATING WITH PARTNER												
About sex	8	21	21	50	25	6	13	56	5	30	25	20
About contraception	4	8	17	71	25	6	6	63	15	25	25	35
About method	8	8	21	63	25	13	13	50	15	30	20	35
USING METHOD												
Foam	33	29	21	17	31	31	25	13	50	25	15	10
Diaphragm	46	29	13	13	50	25	19	6	70	20	10	10
No diaphragm, refrain	13	8	4	75	44	19	19	19	60	15	15	10
Pill	13	13	8	67	25	6	25	44	0	0	20	80
Backup pill	8	21	13	58	38	6	19	38	20	10	20	50
No pill, refrain	4	4	21	71	25	25	13	38	30	25	30	15
Request condom use	0	8	4	88	13	6	13	69	20	20	25	35
Condom	0	8	21	71	6	6	19	69	20	40	20	20
Partner refuse condom	4	0	17	79	19	19	38	25	35	40	10	15
No condom, refrain	4	0	21	75	19	25	25	31	30	45	15	10

Response scale: 1 = Never true of me, 4 = Always true of me

partner to use a condom. The behavior which the lowest percentage (13%) of women felt highly capable of performing was inserting a diaphragm. Many of the women indicated that their responses to the question about diaphragms were strongly influenced by the fact that they had never used one.

Though this group of women had contraceptive self-efficacy scores that were high at the time of their first sexual relationship, they reported a strengthening of their beliefs in their abilities to contracept between the time of first intercourse and intercourse with their most recent partner (see Table 4). Explanations for the greater contraceptive efficacy were increased knowledge and differences in relationship with partner. One woman's response about differences in how she answered the self-efficacy questionnaire the second time included both factors. She said,

Now I know more than I knew then. Now, its more than just getting pregnant, its diseases, a lot of diseases. That's something I didn't really know about back then. I know more about contraception and sex too. I guess back then I didn't have somebody who cared about me for real. Now that I've been in a relationship where the guy really cares about me and about us, I look at things differently.

As noted earlier, one of the women categorized as "Always Effective" used natural family planning (rhythm method). Though this method of birth control is typically considered ineffective, it can be and has been used effectively. This particular young woman's use of the

Table 4

Percentage of Women in Each Self-Efficacy Response Category by Subscale and Contraceptive Behavior Pattern: Most Recent Sexual Partner

Item	Contraceptive Behavior Pattern											
	Always Effective				Effective/ Ineffective/ Effective				Ineffective/ Effective			
	1	2	3	4	1	2	3	4	1	2	3	4
ACQUIRING INFORMATION												
Make appointment	0	0	0	100	0	0	0	100	0	0	6	94
Discuss contraception	0	0	0	100	0	0	0	100	0	0	0	100
OBTAINING METHOD												
Gynecological exam	8	0	0	92	0	0	8	92	0	0	0	100
Buy contraception	0	15	0	85	0	0	17	83	0	6	18	76
COMMUNICATING WITH PARTNER												
About sex	5	0	15	77	0	0	17	83	0	0	18	82
About contraception	8	0	0	92	0	8	8	83	0	6	12	82
About method	0	0	15	85	0	8	0	92	0	6	12	82
USING METHOD												
Foam	15	8	0	77	17	25	17	42	0	12	24	65
Diaphragm	15	8	15	62	17	17	25	42	24	18	12	47
No diaphragm, refrain	8	8	23	62	25	8	33	33	35	6	18	41
Pill	0	8	0	92	0	0	8	92	0	0	0	100
Backup pill	0	15	23	62	8	0	33	58	0	12	29	59
No pill, refrain	0	15	23	62	8	0	33	58	0	12	29	59
Request condom	0	8	15	77	0	17	17	67	0	18	6	76
Condom	0	0	15	85	8	17	17	58	0	6	24	71
Partner refuse condom	8	15	15	62	8	17	17	58	6	18	29	47
No condom, refrain	0	15	23	62	8	17	42	33	0	24	29	47

Response scale: 1 = Never true of me, 4 = Always true of me

rhythm method was characteristic of people in control of self, a characteristic common among the other women in this group. Of her first experience with intercourse the woman commented,

It wasn't just a spur of the moment decision. When I figured out I was going to do this (have intercourse) I started reading everything I could get my hands on about birth control. I knew from all this reading I'd been doing that there were certain days you could get pregnant and certain days you couldn't.

This woman had calculated the days during each cycle that she could become pregnant and then added a few days before and after for extra protection. She never had intercourse on the days she had determined she was fertile. She was categorized as "Always Effective" because she consistently applied her natural family planning method and never experienced a pregnancy in the four years since she had become sexually active. In fact, she was adamant with her sexual partners about not having intercourse on the days she had calculated that she was fertile. Her high self-efficacy scores for the time period of her first relationship were further support that she should be categorized as "Always Effective."

Effective/Ineffective/Effective Group

The second pattern of contraceptive behavior that emerged from the interviews began in a similar way to the "Always Effective" pattern. That is, this second group of women (n = 16) also contracepted effectively at the time of first intercourse. After that, however, women in this

pattern reported a time period in which they were sometimes effective and sometimes ineffective. Following this period of sporadic contraceptive behavior, the women became effective contraceptors, usually following a turning point event, thus becoming "Effective/Ineffective/Effective."

Age at first intercourse for these women ranged from 13 to 19 ($X = 15.75$), almost a year younger than the "Always Effective" group (see Table 1). The women reported an average time to first intercourse ($X = 15$ weeks, range = first date to 32 weeks), which was approximately half the mean time to first intercourse for the "Always Effective" group. All of these women used condoms at first intercourse. The male provided the condom at first intercourse in all cases for this group of women. For this group of women, initiation of condom use was about evenly split between the women and their partners. The mean number of total partners for this group was 7.25 (range = 1 to 40), a far greater number than those in the "Always Effective" group ($X = 2.32$). Primary sources of contraceptive knowledge cited by the women in this group included: school, peers, health care provider, magazines, and parents. School was the most commonly cited primary source of information, and parents the least often cited source. Five of the women in this group reported experiencing a pregnancy prior to becoming effective in their contraceptive behavior. All of the pregnancies were voluntarily terminated.

Communication appears to have played a role in the behavior of the women in this pattern, but in a different manner from the "Always Effective" women. These young women were much less likely to report that they were able to discuss sexuality-related issues with their partner or their parents. Open communication about sex and contraception with first sexual partner was reported by only 38% (n = 6) of the women in this group. Most of the women in this group commented on the negativity of the communication with their partner, for example, "He said he was concerned (about pregnancy), but after that first time he wasn't concerned enough to do anything about it. I just got the feeling he didn't want to hear about birth control."

The presence of an open atmosphere regarding the discussion of sexuality with parents also differed widely from the "Always Effective" group. Only two of the women in this contraceptive behavior pattern reported a positive communication experience with their parents regarding sex and contraception. An example of the more typical negative atmosphere regarding discussion of sexuality with parents for this group of women is this,

She never talked to me about contraception or anything like that. They (parents) were so mad at the time (of her pregnancy) and so disappointed, they weren't

thinking that maybe they should have talked to me about it (contraception).

Similar to the women in the "Always Effective" group, these young women discussed their initial effective contraceptive behavior in terms of avoiding pregnancy because of educational and occupational goals and parental expectations. When questioned about times when they went without contraception, the most common response was that nothing was available at the time of intercourse. Two other common reasons given for not using contraception were wanting to know what intercourse would feel like without a condom and that one or both of the members of the couple were intoxicated at the time of intercourse. One other explanation of why these women may have been engaging in intercourse without contraception emerged from the interviews. Almost one third (31%, n = 5) of the women indicated that they continued having intercourse without contraception because they had gained increasing trust in their luck at avoiding pregnancy with each time they menstruated after unprotected acts of intercourse. One woman said, "The first time we went without a condom I was so scared, and then my period came. It kind of gives you more confidence each month after your period comes when you're not using anything."

Although these women were effective contraceptors during the early part of their sexual activity, they all reported a period of ineffective behavior characterized by

use of withdrawal, sporadic use of effective methods, or using no method of birth control. However, it became apparent that many of them experienced a turning point in their thinking which affected their behavior, the result of which was consistently effective contraceptive behavior. Experiences which resulted in a shift from sporadic contraceptive use to consistently effective contraceptive behavior were all related to pregnancy: a pregnancy scare or pregnancy of their own, finding out that their parents had been pregnant premaritally, or having a friend become pregnant. In response to a question about why she became effective in her contraceptive behavior, one woman said,

It was the pregnancy. Before it was a gamble. It might happen. It could happen. The pregnancy just made me realize it could happen. People think that bad things can happen, but not to them. I had myself convinced of that. When I got slapped in the face with reality, it definitely changed my attitude, and my behavior.

Compared to the "Always Effective" group, these young women had less strong beliefs in their ability to engage in the behaviors necessary for effective contraception, as evidenced by their sporadic contraceptive behavior. On three of the subscales (obtaining information, obtaining the birth control method, and using the method), only approximately one third of the women had high self-efficacy scores. On the "communicating with partner" subscale, however, about two thirds of the women had high self-efficacy scores (see Table 2). Group mean scores on

the four contraceptive self-efficacy subscales were as follows: acquiring information about birth control ($X = 2.217$), obtaining method ($X = 2.406$), communicating with partner about contraception ($X = 3.063$), and using specific methods ($X = 2.681$).

Responses to the individual items on the self-efficacy questionnaire varied greatly from those of the women in the "Always Effective" pattern (see Table 3). On item number one (making an appointment to go to a health care setting to obtain birth control), none of the women responded "always true of me." Almost three fourths of the women, however, felt highly capable of asking their partner to use a condom and conveniently putting a condom on during sexual activity.

This group of women also reported an increase in contraceptive self-efficacy scores between first intercourse and most recent sexual partner (see Table 4). Reasons given for these increases in self-efficacy were similar to the "Always Effective" group, increased knowledge and relationship differences, but these women also discussed self-growth. An example of such growth is illustrated in the following quotation, "I know myself better. I don't let my hormones dictate the moment. I've had more experiences. I've had the exam (pelvic exam)."

Ineffective/Effective Group

The third group of women in the study began their sexual activity as ineffective contraceptors. All of the subjects in this group (n = 20) reported a time period of sexual activity in which they either used no contraception or used an ineffective method, prior to becoming consistently effective in their contraceptive behavior. Two reasons were given. The most common reason the women gave for not contracepting was that nothing was available at the time of intercourse. The second reason given for not contracepting was not heard in the interviews with the "Effective/Ineffective/Effective" group. More than one third (35%, n = 7) of the women in this group reported not even thinking about contraception.

Age at first intercourse for this group of women ranged from 14 to 18 ($X = 15.5$), a younger age than either of the other two groups (see Table 1). The mean time from first date to first intercourse was 20 weeks (range = first date to two years). The average number of total partners was 6.6 (range = 1 to 18), as compared to 2.32 in the "Always Effective" group. Primary sources of contraceptive knowledge cited by the women in this group included: school, peers, health care providers, and parents. All were reported about equally. None of the women in this group cited magazines as a source of contraceptive knowledge. Two

of the women in this group reported having a pregnancy, both were voluntarily terminated.

Communication, or lack of it, again appeared to play a role in contraceptive effectiveness. This group of women were least likely to report being able to communicate with their first sexual partner about contraception. Only three of them indicated such an ability, as illustrated in the following comment, "The only time we talked about birth control was when we were waiting for my period to come." In contrast, almost half (45%, n = 9) of this group of women reported open communication with their parents regarding sexuality. The following quotation illustrates the atmosphere surrounding communication about sex and contraception with parents for the other women in this group,

Sex was a taboo topic at my house. When she (mother) found out I was on the Pill she flipped. She didn't take the side that I took the responsible attitude and went and got on the Pill knowing that I was sexually active.

This group of women reported turning point experiences similar to the women in the "Effective/Ineffective/Effective" group. Many of these young women reported turning points related to pregnancy, either a pregnancy or pregnancy scare of their own or having a girlfriend experience a pregnancy. Two additional factors contributed to positive changes in contraceptive behavior for this group of women, contracting a sexually transmitted

disease (STD) and changes in self-esteem. Two of the women in this group reported becoming effective contraceptors after contracting an STD. One of them commented,

When I found out I had gonorrhoea I kind of got a grip on myself. It showed me, I guess, to just get out of that wild streak, cause it didn't make any sense to be doing that and not protecting myself from disease.

Two other women discussed how increases in their self-esteem influenced them to become more effective in their contraceptive behavior, for example,

I was feeling really crappy about myself and finally I said, 'I'm better than that.' It was feeling better about myself that made me realize I had to change my behavior and start doing something to prevent a pregnancy."

Once these women became effective contraceptors, the most commonly cited reasons for remaining effective were the same as the "Always Effective" group, avoiding pregnancy due to educational and occupational goals and parental expectations. Two additional explanations of effective contraceptive behavior were reported by women in this group, disease prevention and claiming control of their lives. Disease prevention was a clear concern of a woman who commented, "Contraception for me is about disease prevention, pregnancy is not my issue, that's the easy thing to avoid." An illustration of how effective contraceptive behavior became a way for some of the women to gain control of their own lives is found in the following quotation,

I had decided that I was going to be prepared for myself in case no one else was. I decided that I would take charge of the contraception. I would decide when and if I wanted to have sex. I decided it was time I made the decisions instead of letting my partners make them for me.

Self-efficacy scores for the women in the "Ineffective/Effective" contraceptive behavior group varied from both of the other patterns. High self-efficacy scores were found in two-thirds of the cases on the "obtaining contraceptive information" subscale. In addition, nearly one-half of the women had high scores on the "obtaining the method" and "communication with partner" subscales (see Table 2). On the "actual use of birth control method" subscale, however, only one fourth of the women had high self-efficacy scores. Group mean self-efficacy scores at the time of their first sexual relationship were as follows: obtaining information ($X = 2.975$), obtaining method ($X = 2.475$), communicating with partner ($X = 2.650$), and using method ($X = 2.440$) (see Table 2).

Responses to individual items on the self-efficacy questionnaire, again, showed differences from the other patterns (see Table 3). Ability to take a birth control pill everyday was a behavior that a majority of the women in this pattern (80%) felt highly able to perform at the time of first sexual relationship. Inserting a diaphragm, similar to the "Always Effective" group, was the behavior the lowest percentage (0%) of women in this group felt highly capable of executing.

The women in this group also reported an increase in self-efficacy in regard to their most recent sexual partner (see Table 4). The women explained the change in self-efficacy in a variety of ways, including increased knowledge and differences in relationship as cited in the other two contraceptive behavior patterns. Like the women in the "Effective/Ineffective/Effective" group, these women discussed how self-growth had contributed to their increased self-efficacy. In addition, women in this group cited fear of sexually transmitted disease as a reason for their more positive responses to the self-efficacy questionnaire. One woman explained the change in her beliefs this way,

Before, I wouldn't refrain from sex. Now I would because of AIDS. I wouldn't hesitate to ask a guy to use a condom now. If he wouldn't, I wouldn't hesitate to refrain from sex. Back before, in high school, AIDS wasn't around much. STD's didn't scare me. Nothing scared me. I didn't care. Now, I do care!

Discussion

This study sought to investigate the development of contraceptive behavior patterns during adolescence, and the role of self-efficacy in the development of those patterns. Three distinct patterns of contraceptive behavior were identified, each resulting in effective contraception. Results indicate that adolescent females who are consistently effective contraceptors can be distinguished from those who are not on the basis of: amount of communication with first sexual partner regarding

contraception prior to intercourse, communication atmosphere with parents regarding sexuality and contraception, age at first intercourse, and contraceptive behavior. In addition, the relationship between self-efficacy and contraceptive behavior appears to have influenced membership in the contraceptive behavior patterns. That is, women reporting higher self-efficacy at the time of the first relationship in which they had intercourse were more likely to be categorized as "Always Effective." All the women in the study reported high contraceptive self-efficacy regarding their most recent sexual partner, and all of the women had become effective contraceptors by the time of the interviews.

Comparison of Contraceptive Behavior Patterns

While all of the women in the study were consistently effective in their contraceptive behavior at the time of the interview, they reached that end point in three different ways. One of the first differences which can be noted between the women in the three groups is the age at which they became sexually active. The "Ineffective/Effective" women, as a group, were the youngest at the time of first intercourse, and the "Always Effective" women were the oldest. It may be that the "Always Effective" group members were older at the time of first intercourse because they waited a longer period of time between first interaction

with partner and first intercourse. The women in the "Effective/Ineffective/Effective" group waited the shortest length of time between first date and intercourse with their first partner. An additional difference between the three patterns is found in the average number of partners. Women in the "Effective/Ineffective/Effective" group had more than three times the number of partners than the "Always Effective" group. There were no notable differences between the groups on primary sources of contraceptive information.

Communication with first sexual partner, however, was quite different between the women in the three contraceptive behavior patterns. Women in the "Always Effective" pattern were most likely to have reported discussing contraception with their first partner, while those in the "Ineffective/Effective" were least likely to have reported communication with partner regarding this topic. Parental communication about sexuality and contraception also differed among the three patterns. Women in the "Always Effective" pattern were most likely to have experienced this apparent benefit. The parents of the "Effective/Ineffective/Effective" women were least likely to be open about discussing contraception with their daughters.

Self-Efficacy and Contraceptive Behavior Patterns

The results of this research support a self-efficacy perspective for explaining the contraceptive behavior of

females during adolescence and young adulthood. Three patterns of contraceptive behavior could be distinguished according to levels of self-efficacy. Over one-half of the women in the "Always Effective" pattern had high self-efficacy scores for their first relationship on all four of the subscales. In contrast, the only subscale on which more than half of the women in the "Effective/Ineffective/Effective" pattern had high scores was "communication with partner," and "obtaining contraceptive information" for the "Ineffective/Effective" women. Group mean scores on the contraceptive behavior subscales were highest for the "Always Effective" group, while women in the "Ineffective/Effective" group had the lowest group mean scores on the "communication with partner" and "use of method" subscale. A majority of the women reported high self-efficacy on all of the items for their most recent sexual relationship. There were similarities as well as differences across patterns in response to specific items on the self-efficacy questionnaire. Women in both the "Always Effective" and "Effective/Ineffective/Effective" patterns were most likely to respond "always true of me" to the question regarding asking a partner to use a condom. In contrast, the women in the "Ineffective/Effective" pattern were most likely to respond "always true of me" to the question about taking a birth control pill everyday. The

women in the "Always Effective" and "Ineffective/Effective" group shared their negative perceptions about their abilities to insert a diaphragm conveniently during intercourse.

The finding that self-efficacy scores for first sexual partner differed between the three contraceptive behavior patterns supports self-efficacy theory. Previous studies examining self-efficacy and adolescent contraceptive behavior had similar findings. Levinson (1986) found that female adolescents who had confidence in their ability to contracept were more likely to actually use contraception. In this study, a higher proportion of the women who had confidence in their abilities to perform the various contraceptive subskills were categorized as "Always Effective," indicating effective contraceptive behavior at first intercourse.

Demographic Variables

Demographic variables examined in this study varied in their relationship to contraceptive behavior pattern. Race appeared to be unrelated to membership in the patterns. As Morrison (1985) noted in her review of the research on adolescent contraceptive behavior, the effects of race on contraceptive behavior are difficult to determine, and any differences found may be more closely related to socioeconomic differences. Religious preference also

appeared to be unrelated to membership in the contraceptive behavior patterns. This is supportive of a recent study (Geis & Gerrard, 1984) indicating that differences in contraceptive use between Protestants, Catholics, and Jews are small.

Sources of Contraceptive Knowledge

Another area of influence on adolescent contraceptive behavior that was examined in this study was source(s) of contraceptive knowledge. The women were asked where they got their information about contraception, and which of their sources they would identify as the most important or primary source. Prior research has consistently found peers to be the primary source of contraceptive information (Pope et al., 1985; Nadelson et al., 1980; and Thornburg, 1981). In this study, however, peers were not identified as a primary source of contraceptive information by a majority of the women. While some of the women cited peers as their primary source, it was more likely that peers were simply listed as one of many sources or discounted as a source of reliable information. One woman said of her peers,

Sure, we talked about sex and contraception and stuff. But we all knew that none of us really had any conclusive evidence or any knowledgeable information about contraception.

Similar to past research (DeLameter & MacCorquodale, 1979; Nadelson et al., 1980; Pope et al., 1985; Zelnik & Kim, 1982), the women cited a variety of sources of

contraceptive knowledge, including: parents, magazines, peers, and school education programs. Another source of contraceptive information that the women in this study identified was health care providers. Many of the women spoke of the information they received from pediatricians, family physicians, gynecologists, and health care practitioners at family planning clinics. Only one other study has found health care practitioners to be a source of information for adolescent women (DeLameter & MacCorquodale, 1979). None of the sources of contraceptive information reported by the young women was more common than any other. Similar to other studies (DeLameter & MacCorquodale, 1979; Nadelson et al., 1980; and Thornburg, 1981), there was not a difference in the type of sources cited across patterns.

Communication

The finding that the ability to comfortably communicate with one's partner about contraception appears to positively influence contraceptive behavior supports earlier research (Cvetkovich & Grote, 1981; Faulkenberry et al., 1987; Geis & Gerrard, 1984; Jorgensen et al., 1980; and Oskamp & Mindick, 1983). A higher proportion of the women in this study who were able to discuss contraception with their first partner prior to intercourse were in the "Always Effective" group, than in the other two groups.

An open atmosphere regarding the discussion of sexuality and contraception with parents was more common

among the women who were categorized as "Always Effective" than in the other two patterns. This finding replicates those of Fox and Inazu (1984), who found that birth control use was greatest among daughters who discussed sex and contraception with their mothers. Morrison (1985) noted, however, that the majority of research indicates that parental discussion of contraception has little impact on adolescent contraceptive behavior.

Educational Aspirations

Higher educational goals and expectations of adolescent women have consistently been found to be associated with more effective contraceptive behavior (Chilman, 1983 and Jones & Philliber, 1983). The findings of this study support those findings. Regardless of the pattern in which the women were categorized, when asked why contracepting was important to them, educational aspirations was one of the most commonly cited reasons. These goals and expectations, whether formulated early in life or realized during adolescence, seemed to be central to effective contraceptive behavior. In fact, it was becoming aware of their educational aspirations that influenced many of the women in the second two patterns to change from ineffective to effective contraceptive behavior.

In order to understand how these variables operate in context, three cases were reconstructed. These cases are

presented in the next chapter, each representing one of the contraceptive behavior patterns.

CHAPTER IV
DEVELOPMENT OF EFFECTIVE CONTRACEPTIVE BEHAVIOR:
CASE STUDIES OF THE THREE PATTERNS

All 60 of the women interviewed for this study were effective contraceptors at the time of the interview. The path to effective contraception, however, was not the same for all of these young women. What is the story of how adolescent women become effective contraceptors?

Content analysis of the interviews resulted in the identification of three distinct patterns leading to effective contraceptive behavior during adolescence and young adulthood. Although the behavior of the women in each of the three patterns was described as a whole in the previous chapter, a case study of one person from each group is being presented here for a more thorough description of how the patterns developed. The case study of "Amy" will be used to illustrate the "Always Effective" pattern, the story of "Jennifer" the "Effective/Ineffective/Effective" pattern, and the "Ineffective/Effective" pattern will be described based on the interview with "Katie" (the names used for each case are fictitious to protect the anonymity of the subjects).

The "Always Effective" Pattern: Amy

Amy was 18 years old at the time of the interview. She had her first date at 16, the age at which her parents had told her she would be permitted to begin car dating. She had intercourse for the first time at the age of 17 with a person she had been dating for about one year. At the time of first intercourse, Amy was taking oral contraceptives. She and her boyfriend had been discussing intercourse for a few months prior to the first time they actually had intercourse. They had decided together that the best way for them to avoid pregnancy would be if Amy went on the Pill. She and her partner were able to freely discuss contraception in the context of their relationship, and make a decision to act effectively.

When asked why she had been so effective in her contraceptive behavior, she replied,

My mother always taught me that if you're not careful you're going to have a third person in your relationship. I don't want kids right now. I have tremendous plans for myself and a child would just hold me back.

Throughout the interview Amy discussed the closeness of her relationship with her mother. She indicated that she could not remember a time when her mother had not discussed sex and contraception with her.

This first relationship lasted approximately five months. Amy stopped taking the Pill when the

relationship ended because, "It was inconvenient to take it when I didn't have a partner."

Amy had intercourse with her second sexual partner on their second date. Both she and her partner had brought condoms, but he actually initiated discussion of birth control by making a joke about how strange condoms smell. Amy reported that both she and her partner were comfortable discussing contraception and using condoms. She and this partner used condoms with every act of intercourse until she was back on the Pill for one complete cycle. After she and her partner had been sexually active for two weeks they had decided together that it would be a good idea for her to go back on the Pill. Amy described a very open atmosphere regarding the discussion of contraception with this partner. In fact, she said, "We're really open with each other. I'm blunt, and he's blunter." At the time of the interview, Amy was still in the relationship with her second partner and was still on the Pill.

Though Amy's self-efficacy scores were relatively high during the time of her first sexual relationship, they were even higher at the time of her second and most recent relationship. In response to the question about how she would explain the difference, she replied:

There is a difference in the personalities of the two partners. Also, I've grown. I can talk about things now. There is more communication now. I mean, this is the real world. When I was going out with the first one, contraceptives were used, but they were just there. Now, there is communication and

compromise. This second relationship is more intimate. We're companions, we're not just going out.

Amy saw the major difference in the way she responded to the self-efficacy questions as a result of the difference in her relationship with her current partner.

Amy's story is similar to the majority of the women in the "Always Effective" group. She had many of the characteristics common among the "Always Effective" women. She had parents who were able to comfortably communicate with her regarding sexuality and contraception. In addition, she was able to communicate with her first sexual partner about contraception. Amy's self-efficacy scores had increased with her most recent sexual partner. She attributed the increase in self-efficacy to increased knowledge and differences between partners.

The "Effective/Ineffective/Effective" Pattern: Jennifer

The case study for this pattern is that of a young woman who was 18 at the time of the interview. Jennifer went on her first date at 14, even though her parents had set 15 as the age at which she could start dating. She indicated that her parents had allowed her to start dating earlier because they knew the boy she would be dating. Jennifer had intercourse for the first time at the age of 15 with this young man, after dating for about three months. At the time of first intercourse, Jennifer and her partner used a condom at her insistence. Her initial concerns about

contraception were based on a fear of pregnancy, as indicated in the following quotation.

At first I was afraid I would get pregnant so I made him use a condom. He didn't like it (intercourse) as much with it (condom) because he thought it felt better without. I did too, once he got me to try it without.

Jennifer and her partner used condoms the first two times they had intercourse, but no reliable contraceptive after that time. Jennifer said that they "tried to use withdrawal," even though she was aware of the pregnancy risk involved as illustrated in the following quotation. "Can you believe we used withdrawal? I was so lucky! My gynecologist about killed me when she found out what we were doing (not using contraception while sexually active)." Like many of the women in this pattern, Jennifer had gained a false sense of security about her contraceptive risk taking. She said,

We just decided that since we'd been lucky (avoiding pregnancy) we were going to keep doing it that way (intercourse without contraception). I look now, and I feel so dumb. Then, it seemed like a good idea. The first time we went without a condom I was so scared, and then my period came. It kind of gives you more confidence each month after your period comes when you're not using anything.

Similar to other women in this group, Jennifer and her parents did not openly discuss sexuality. This lack of communication regarding sexuality appears to have influenced her contraceptive behavior. Jennifer's boyfriend had strongly encouraged her to go on the Pill, but she did not feel comfortable doing so, because she was afraid her mother

would find out and be upset with her. After her relationship with her first partner ended, however, Jennnifer reported a change in her mother's behavior. She said,

My mom was concerned because I was so upset after we (she and her boyfriend) broke up. She figured that we were sexually active or I wouldn't have been so attached. So she took me to the gynecologist and wanted her to put me on the Pill.

Jennifer has had a total of six sexual partners. Like many of the women in this pattern, her self-image appears to have been shaken by the breakup of the relationship with her first sexual partner. She attributed some of her behavior to the break up of this first relationship, as illustrated in the following quotation:

I went through that rebound stage right after I broke up with my boyfriend. Nobody is ever going to want me again. Nobody is going to think I'm pretty or anything. The first guy I went out with after, I made the mistake of sleeping with. Than, I slept with an old boyfriend, and I slept with with him just to hurt the guy I'd just broken up with.

Even though her mother had taken her to the gynecologist for contraceptive purposes, Jennifer had not gone on the Pill. She erroneously believed it would not be necessary because she and her boyfriend had ended their relationship. Intercourse with the two partners referred to in the quotation above, was without any form of contraception. She never discussed contraception with either of these partners, and both were one time occurences. After intercourse with the third partner, Jennifer's period

was late and she thought she was pregnant. During the time while waiting for her period she decided that in the future she would use contraception.

When Jennifer began dating her next partner and began feeling sexually attracted to him, she went to the gynecologist and got on the Pill. She indicated that she had decided that she wanted to be prepared, because she believed she and her current boyfriend would eventually have intercourse. Since going on the Pill, Jennifer has had three additional partners, including her current partner, who she has been dating for two years. She has remained on the Pill continuously since that time.

Jennifer's responses to the self-efficacy questionnaire were similar to those of other women in the "Effective/Ineffective/Effective" pattern, low scores for the time period of her first sexual relationship, but they had risen to high by the time of her most recent sexual partner. Jennifer attributed the change in her responses to increased knowledge and the different partner. She said,

When I first started having sex, I felt comfortable, but it wasn't anything like the relationship I'm in now. It's so different now. I know a lot more about my body. I know a lot more about his body. I know a lot more about contraception. I know a lot more about everything, including sex. I could do anything comfortably with this guy. The degree that you feel comfortable with someone matters a lot, and I do feel really comfortable with him.

The case study of Jennifer illustrates some of the commonalities among the women in the "Effective/Ineffective/Effective" pattern. While Jennifer began sexual activity as an effective contraceptive, she did not remain consistently effective. She reported a time period in which she did not contracept, prior to becoming consistently effective. In addition, Jennifer did not experience an open atmosphere regarding the discussion of sexuality with her parents. Nor was she able to discuss sexuality and contraception with her first sexual partner. Like many of the women categorized as "Effective/Ineffective/Effective, Jennifer reported a turning point experience related to pregnancy that positively influenced her contraceptive behavior. Her self-efficacy scores for the time period of her first relationship, however, are probably a better indicator that she was not going to be "Always Effective." Her departure from effective contraceptive behavior supports this conclusion. The high self-efficacy scores for the relationship with her most recent partner are the result of her resolve to be effective following her pregnancy scare. Her effectiveness at the beginning of her sexual activity was apparently different from the preplanning characteristic of many of the "Always Effective" women. Low self-efficacy early in her sexual activity may explain her inability to remain an ineffective contraceptive. The increase in

self-efficacy may well be an indicator of her movement to consistently effective contraceptive behavior.

The "Ineffective/Effective" Pattern: Katie

Katie was 19 at the time of the interview. She began dating when she was 14 even though her parents had set 16 as the age at which she could start dating. She was able to date prior to age 16, because she would leave her home without telling her parents or not indicate that she was going to be on a date while she was out. Katie had intercourse for the first time at the age of 14 with a guy she had been seeing only a very short time. She said of their relationship,

He was just a real big talker and I was real naive. He would tell me ways to sneak out (of her parents house), and than I'd go over to his house. One night we were sitting around his room talking, and it just happened (intercourse).

Katie had intercourse with her first partner twice in one week, after which they did not see each other any more. They never discussed contraception or used any form of contraception.

Katie had a total of eight sexual partners. It was not until the relationship with her sixth partner that she began to use contraception. Katie had asked her second sexual partner to use a condom, but he had refused. They had intercourse only once, and she felt uncomfortable asking her next few partners to use condoms because of the experience with the second partner. None of her partners brought up

the issue of contraception. Up to this point, Katie had been in a series of short term relationships (less than three months) or one time occurrences.

Not long after breaking up with her fifth partner (a relationship that had lasted two months), Katie learned that she was pregnant. When she informed her former boyfriend of the pregnancy, he left the decision regarding what to do about the pregnancy up to her (as long as it did not involve him). Katie said of her pregnancy experience,

You know you hear people say it can't happen to me. That was kind of saying it can happen. After I had the abortion I just changed totally. It was like, it's time for me to take charge. I've known a lot of girls who've had abortions. Now I knew, too, that it was really scary. I mean, just look. All this time I hadn't been thinking. It really was scary.

When Katie and her sixth sexual partner were at the point of intercourse, she asked him to use a condom. She said, "He said that he would but he didn't have a condom with him, but it would be O.K. to have intercourse once without contraception." Katie handed him the condoms and said, "Got ya!" She and this sixth partner always used condoms. This relationship lasted approximately five months.

In the relationship with her seventh partner, Katie made another change in her contraceptive behavior. In this relationship, she and her partner always used condoms. On one occasion, the condom broke. At that point, Katie decided to go on the Pill. She said, "No more chances.

This is never going to happen again!" Since that time, Katie has remained on the Pill.

As with the other women in the "Ineffective/Effective" group, Katie had lower self-efficacy scores at the time of her first sexual relationship than at the time of the relationship with her most recent sexual partner. She explained the difference in the way she answered the questionnaire in regard to the two different times in her life, as follows:

The first time I was shy and it would be too bold of me to ask questions about birth control. Now, I've asked these questions. Maybe I care a little bit more about myself than I did before. It's not worth it to me to put myself through another unwanted pregnancy. I just can't. Pregnancy for a woman is supposed to be such a wonderful time. It was so horrible with the abortion and everything. I decided that the next time I was pregnant it would be because I had wanted it. It would be one of those wonderful times.

This description of Katie's contraceptive behavior was presented to illustrate the commonalities among the women categorized as "Ineffective/Effective." Like the other women in this group, she described a period of not using contraceptives followed by consistently effective contraceptive behavior. Katie was raised by parents who did not discuss sexuality and contraception, and she was unable to discuss contraception with her first sexual partner. She, like other women in this pattern, experienced a turning point. Her pregnancy was an event that made her reevaluate her contraceptive behavior and make positive changes. Her

self-efficacy scores, also, were representative of the other women in this group. She reported low self-efficacy at first intercourse and high self-efficacy by the time of her most recent partner.

CHAPTER V
SUMMARY AND RECOMMENDATIONS

Adolescent contraceptive behavior has been the object of a great deal of scholarly research, yet the question about patterns of effective contraceptive behavior remained unanswered. From the present study, rich data demonstrated the influence of contraceptive self-efficacy on the effectiveness of contraceptive behavior patterns, and how those efficacy expectations changed from first sexual partner to most recent partner. Such information is necessary to meet the family planning needs of adolescent and young adult women.

Indepth interviews were conducted with 60 sexually active college women between the ages of 18 and 22. A qualitative research methodology enabled the researcher to understand the factors that adolescent and young adult women think about as they make contraceptive-related decisions. In addition, the qualitative methodology provided specific information about how self-efficacy and contraceptive behavior related.

In this retrospective examination of adolescent contraceptive behavior, three patterns of contraceptive

behavior were identified. One pattern, the "Always Effective" group (n = 24), were effective at the time of first intercourse and with every act of intercourse thereafter. A second pattern, the "Effective/Ineffective/Effective" group (n = 16), began their sexual activity as effective contraceptors, but for a variety of reasons experienced a time period in which they were ineffective in their contraceptive behavior. Following this period of ineffective behavior, the women who took this second path became effective contraceptors. The third pattern identified, the "Ineffective/Effective" group (n = 20), was ineffective at the onset of sexual activity, but eventually became effective contraceptors. In addition, it became clear that self-efficacy plays a role in adolescent contraceptive behavior.

High self-efficacy, however it became part of a young adult woman's repertoire, was related to effective contraception. Women reporting high self-efficacy at the time of their first sexual relationship were more likely to be effective contraceptors than those reporting lower self-efficacy. When self-efficacy scores increased from the time of first sexual intercourse to the time of the interview, it was predictable that the women would become effective in their contraceptive behavior. It was not possible to determine from the available data how an increase in self-efficacy and effectiveness of contraceptive

behavior influenced each other. Is there a temporal ordering of these two variables? The present study could not answer this question. All the women in this study, however, reported high contraceptive self-efficacy in relation to their most recent sexual partner, and all the women in the study had attained effective contraceptive behavior by the time of the interview.

In addition to self-efficacy differences between the women in the three contraceptive behavior patterns, there were other notable contrasts. Women in the "Always Effective" pattern were slightly older than women in the other patterns at the time of first intercourse. In addition, they had fewer partners than the women in the other patterns. Communication, both with partner and parents, appears to have played an important role in the contraceptive behavior patterns. Women in the "Ineffective/Effective" pattern were least likely to report discussing contraception with their partners prior to first intercourse, while those in the "Always Effective" pattern were most likely to report contraceptive communication with their partners. Similarly, women in the "Always Effective" pattern were most likely to have parents who openly discussed sexuality and contraception. It may be that the open atmosphere at home regarding discussion of contraception is related to these women's ability to communicate with sexual partners. In addition, educational

aspirations appear to have influenced these young women's behavior. One of the most frequently cited reasons for contracepting was educational goals.

Neither race nor religiosity appears to have influenced the contraceptive behavior of this nonrandom sample of college women. In addition, primary sources of contraceptive information did not vary between the patterns.

The results of this study suggest, and it is supported by the few other studies that have examined this issue (Gilchrist & Schinke, 1983 and Levinson, 1986), that there is a link between self-efficacy and contraceptive behavior during adolescence. It also seems clear that women reach contraceptive effectiveness via a variety of paths and experiences.

Limitations

Given the self-selecting nature of this sample, the findings of this study must be interpreted with caution. Because potential subjects were informed that this was a study of the contraceptive practices of sexually active young women, people who would prefer not to reveal their sexual activity and contraceptive practices were not represented. Therefore, important information about contraceptive behavior patterns may be absent from these findings. In addition, because all of the women had become effective contraceptors by the time of the interview, information about contraceptive behavior patterns of

currently ineffective contraceptors was not examined in this study. How such limitations could be addressed is presented in the recommendations.

Implications

The results of this exploratory study have implications in a variety of areas. Perhaps most importantly, the results indicate that educational energies may need to be focused on increasing contraceptive self-efficacy rather than simply on sexuality and contraception. It appears from this study that young women are able to obtain correct information about contraception. Using it effectively, however, seems to be more closely related to the young women's beliefs about their abilities to engage in the subskill areas of contraceptive behavior.

Lawrance and McLeroy (1986) noted that the primary utility of research based in a self-efficacy framework is that the findings point to specific target groups and the skills that should be included in health education programs. The goal of educational efforts aimed at increasing contraceptive self-efficacy would be to facilitate the development of specific contraceptive subskill behaviors.

While many people are uncomfortable with the notion of sex education, particularly educational programs that would encourage responsible contraceptive behavior, the positive influences of sex education are often overlooked. Available research on sex education has demonstrated that young people

exposed to such programming have more factual knowledge than those not exposed to it, and that sexually active adolescents who have received sex education may be more likely to use contraception. In addition, sex education does not seem to encourage the initiation of sexual activity (Rosoff, 1989).

The findings of the present study suggest that teaching effective contraceptive skills, in conjunction with contraceptive information, needs to begin early in adolescence. In addition, there is a need to target those young people who report not feeling able to perform the necessary skills to be effective in their contraceptive behavior. Based on responses to the self-efficacy questionnaire, it would appear that skills training related to obtaining birth control and use of barrier methods (especially restraint when they are unavailable) would assist young women in their efforts to be effective contraceptors.

The fact that a young woman may currently be effective in her contraceptive behavior, is not evidence that she needs no further assistance. This was indicated by the behavior of the women in the "Effective/Ineffective/Effective" group. One indicator that the women in this pattern were not yet fully effective in their contraceptive behavior, was their relatively low self-efficacy scores at the time of first intercourse even

though they used an effective contraceptive method. Young adolescent women may be an especially important group to target for intervention in the area of partner communication. Though the women in this group reported high self-efficacy in partner communication at the time of first intercourse on the questionnaire, during the interview very few of them reported being able to discuss contraception with their first sexual partner.

The turning point experiences described by women in the "Effective/Ineffective/Effective" and "Ineffective/Effective" patterns provide suggestion for intervention. Efficacy information is derived from four major sources, one of which is vicarious experience (Bandura, 1977, 1985). As indicated in the interviews, many of the women became effective contraceptors after hearing how someone they knew, whether it be mother, sister, or friend, deal with an unplanned pregnancy. This finding would suggest that programming in which adolescent women who have become pregnant and resolved the pregnancy in a variety of ways discuss their experiences with young adolescents could be quite effective in influencing their behavior.

Recommendations for Future Research

The findings of this study led to several recommendations for future research. First, it would be essential to test and refine the self-efficacy questionnaire for validity and reliability. A closer examination of the

entire instrument as well as comparison of the subscales is in order. One item, in particular, presented some confusion for a small portion of the subjects. Item number four questioned the respondents' efficacy expectations regarding their ability to "ask for condoms and foam, a prescription for the Pill, or a prescription for a diaphragm at the drugstore." Some of the women indicated that they would respond differently if the three methods were presented in separate questions. They reported feeling more comfortable asking for the prescription methods than condoms. Further testing of the questionnaire would facilitate the refinement of other items.

Repeating this study with a more representative sample would be essential to verify the findings. Another qualitative study with a larger sample would help to clarify and refine the patterns described in this study. In fact, if effectiveness in contraceptive behavior were operationally defined as both high self-efficacy and effective contraceptive use, than the three patterns identified in this study would become two. Women in the "Effective/Ineffective/Effective" pattern would be reclassified as "Ineffective/Effective." While some of the data obtained during this study could be gathered by large scale surveys, the rich information regarding self-efficacy provided during the interviews would be missing. An alternative methodology would involve conducting a large

scale survey and selectively interviewing subjects to verify their responses to the questions.

Another important extension of this research would be to study women in the 18 to 22 age bracket who are not college students to determine if they are different from college women. Research which indicates that higher educational aspirations positively influence contraceptive behavior would suggest that the non-college population may in fact be very different.

Because partners appeared to play an important role in the contraceptive behavior of many of the women in this study, future research needs to examine the male role in the development of contraceptive behavior patterns and contraceptive self-efficacy. It may be that intervention with the males would not only influence their behavior, but also the young women's behavior. Until our society holds men equally responsible for contraception, too much of the responsibility for contraception will continue to be placed on women. Since women are not the only victims when responsible contraception is not practiced, men would also benefit from being effective contraceptors.

An important next step in research on self-efficacy and contraceptive behavior patterns would be to examine women who have not yet become effective contraceptors. It would be important to determine if they have simply not completed one of the phases of the patterns described in this study,

or if there are contraceptive behavior patterns peculiar to long-term ineffective contraceptors.

What we do not know, and can not predict from this research, is whether future effective contraceptive behavior can be predicted if a sexually inactive adolescent female already has open communication with her parents about sexuality and contraception, the ability to discuss contraception with males, high educational aspirations, and high contraceptive self-efficacy. A large sample and greater precision in measurement might facilitate the refinement of the patterns in this study to the degree that effective contraceptive behavior could be predicted from a path analysis.

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APPENDIX A
Invitation to Participate

INVITATION TO PARTICIPATE

What is the purpose of this study?

Young women today are faced with a variety of decisions regarding contraception. The more that is known about the factors involved when young women are making decisions about birth control, the better we will be able to assist them in making decisions that are right for them personally. The purpose of this study is to describe how adolescent women go about making decisions about contraception. What young women think about and consider as they make birth control decisions has not adequately been studied.

If I agree to participate, what will I have to do?

Participation in the study will include both an interview and completion of a questionnaire. The interview will last approximately one hour and will be audio-taped. During the interview, you will be answering questions about your contraceptive behaviors when you were an adolescent. Following the interview, you will be asked to respond to a questionnaire that will take about 15 minutes to complete.

What about confidentiality?

Everything that you say during the interview will be completely confidential. You may refuse to answer any of the questions, and can withdraw from the study at any time.

To volunteer to participate:

If you are interested in participating in the study, please check YES below and provide your first name and a phone number where you can be reached. Return this letter to the researcher as you leave. I will call you to answer any further questions you may have, and to set up an appointment for the interview. If you are not interested in participating in the study, please check NO below and return the letter as you leave.

_____ YES, I am interested in participating in
this study.

(first name only)

(phone number)

_____ NO, I am not interested in participating in
this study.

THANK YOU!

APPENDIX B
Sequence of Interview

Sequence of Interview

Informed Consent

Rapport Building

- Age at menarche
- Preparation for and attitudes toward menstruation
- Age at first date
- Types of dating activities

Age at first intercourse

First Sexual Partner:

Think about the first partner you had sexual intercourse with. I'd like to talk with you about that relationship for the next few questions.

- Length of relationship
- Frequency of intercourse
- Discussion of contraceptive use with partner, who initiated discussions, and types of things discussed
- Subject's perception of her role in contraception, how she got her concerns and needs across to her partner, and what she did if her partner disagreed
- Use of contraception, frequency of use, methods used, difficulties with any methods

Administration of Self-efficacy questionnaire (instruct women to respond based only on their first sexual partner)

Total number of sexual partners

Relationship History:

Now let's discuss your relationship with the next person you were sexually involved with.

- Repeat relationship questions above until interview has progressed through each of the subject's relationships in which she was sexually involved, up to her current or most recent partner.

Administration of Self-efficacy questionnaire (most recent partner)

Following the second administration of the Self-efficacy questionnaire:

- Was there a difference between the way you answered the questionnaire this time and the first time?
- If yes: How would you explain the differences?

Knowledge Source(s):

- Sources of contraceptive knowledge (peers, parents, school, media)
- Primary source

Review:

- Total number of sexual partners
- Types of contraception ever used
- Current form of contraception
- Sources of contraceptives (private physician, clinic, etc.)

Is there anything else you would like to tell me about your feelings and behaviors related to contraception during your teen years?

Administration of Background Information Questionnaire

Thank you for your time and assistance.

APPENDIX C
Background Information Questionnaire

Background Information

1. How old are you? _____
2. What is your race? (CIRCLE THE NUMBER)
 - 1 White
 - 2 Black
 - 3 Other (Specify _____)
3. What class are you in? (CIRCLE THE NUMBER)
 - 1 Freshman
 - 2 Sophomore
 - 3 Junior
 - 4 Senior
4. What is your major? _____
5. What is your approximate grade point average (GPA)? _____
6. What is the highest level of education you would like to complete? (CIRCLE THE NUMBER)
 - 1 Graduate from college (Bachelor's degree)
 - 2 Masters, Doctorate or Professional degree
 - 3 Other (Specify _____)

Please circle the highest number of years of education completed by each of your parents (the parent or parents you spent the majority of your growing up years with).

7. Father's education: (CIRCLE THE NUMBER)

High School				College				Graduate			
9	10	11	12	13	14	15	16	17	18	19	20
8. Mother's education: (CIRCLE THE NUMBER)

High School				College				Graduate			
9	10	11	12	13	14	15	16	17	18	19	20
9. In what state did you spend most of your growing up years?

10. In what size community did you spend most of your growing up years? (CIRCLE THE NUMBER)
- 1 Large city
 - 2 Suburb of a large city
 - 3 Town
 - 4 Rural non-farm
 - 5 Farm
11. Where is your current residence? (CIRCLE THE NUMBER)
- 1 On campus
 - 2 Off campus
12. Please circle the number beside the range that best describes your parent's average yearly income.
- 1 Less than \$10,000
 - 2 \$10,000 - \$19,999
 - 3 \$20,000 - \$29,999
 - 4 \$30,000 - \$39,999
 - 5 \$40,000 - \$49,999
 - 6 \$50,000 - \$59,999
 - 7 \$60,000 - \$69,999
 - 8 \$70,000 - \$79,999
 - 9 \$80,000 or over
13. Did you spend the majority of your growing up years with one or two parents? (CIRCLE THE NUMBER)
- 1 One parent
 - 2 Two parents
14. How often have you attended church during the past year? (CIRCLE THE NUMBER)
- 1 Never
 - 2 Less than once a month
 - 3 About once a month
 - 4 Once a week
 - 5 More than once a week
15. What is your religious preference? (CIRCLE THE NUMBER)
- 1 Roman Catholic
 - 2 Jewish
 - 3 Protestant
 - 4 Other (Specify _____)
 - 5 None

APPENDIX D
Self-Efficacy Questionnaire

THE QUESTIONS ON THIS PAGE REFER TO THE RELATIONSHIP YOU ARE CURRENTLY DISCUSSING WITH THE INTERVIEWER. ANSWER EACH QUESTION AS IT APPLIES TO THIS RELATIONSHIP. USING THE SCALE BELOW, CIRCLE ONE NUMBER WHICH BEST REPRESENTS YOUR RESPONSE TO THE QUESTION:

- 1 = Never true of me
- 2 = Occasionally true of me
- 3 = Often true of me
- 4 = Always true of me

1. 1 2 3 4 Did you believe you could make an appointment to go to a health care setting (Family Planning, Planned Parenthood, or a private physician) for birth control?
2. 1 2 3 4 Did you believe you could discuss birth control with a health care professional during your appointment?
3. 1 2 3 4 Did you believe you could allow the health care professional to conduct the physical exam necessary to get fitted for a diaphragm or get a prescription for the Pill?
4. 1 2 3 4 Did you believe you could ask for condoms and foam, a prescription for the Pill, or a prescription for a diaphragm at the drugstore?
5. 1 2 3 4 Did you believe you could talk to your partner about the sexual behaviors that were occurring in your relationship?
6. 1 2 3 4 Did you believe you could talk to your partner about using birth control in this relationship?
7. 1 2 3 4 Did you believe you could talk to your partner about the birth control method you wanted to use in this relationship?
8. 1 2 3 4 Did you believe you could insert a contraceptive sponge, suppositories, foam or jelly conveniently during sexual activity in this relationship?

1 = Never true of me
2 = Occasionally true of me
3 = Often true of me
4 = Always true of me

9. 1 2 3 4 Did you believe you could insert a diaphragm conveniently during sexual activity in this relationship?
10. 1 2 3 4 Did you believe you could refrain from intercourse if you did not have your diaphragm inserted?
11. 1 2 3 4 Did you believe you could take a birth control pill everyday?
12. 1 2 3 4 Did you believe you could use a backup method of birth control if you had missed pills or had experienced diarrhea or vomiting?
13. 1 2 3 4 Did you believe you could refrain from intercourse if a backup method was necessary (because of one of the reasons listed above), but was not available?
14. 1 2 3 4 Did you believe you could ask your partner to use a condom?
15. 1 2 3 4 Did you believe you or your partner could conveniently put on a condom during sexual activity in this relationship?
16. 1 2 3 4 Did you believe you could refrain from intercourse if your partner would not use a condom?
17. 1 2 3 4 Did you believe you could refrain from intercourse if you or your partner did not have condoms and foam with you?

APPENDIX E
Informed Consent

APPENDIX F

Timeline

Timeline

1990

