Adolescent Contraceptive Use:

An Ecological Perspective

by

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(ABSTRACT)

The purpose of this study was to discriminate between adolescent contraceptive users and nonusers on the basis of five variables; sexual self-concept, family life education, father communication, mother communication, and years of fathers' education. Included in the sample were 116 college freshmen men and women. The results revealed four out of the five variables were able to predict group membership. Adolescent contraceptive users had scores indicating higher sexual self-concepts and more open communication with their fathers, while noncontraceptive users had more months of family life education and had more open communication with their mothers.

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I dedicate all this hard work to my two children, Christian and Morgan. In their own way, they were the greatest motivators of all.

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CHAPTER ONE

INTRODUCTION

According to National Statistics, 3,000 teenagers become pregnant each day (Stout & Rivara, 1989). In the state of Virginia alone, every day 53 teenagers become pregnant (Virginia Center for Health Statistics, 1987). A preponderance of evidence suggests that these mothers face health, educational, social and economic costs (Virginia Department for Children, 1990), hence the multiple consequences of adolescent sexuality have become an increased public concern. Greater awareness of the negative implications of pregnancy, as well as the possibility of contracting sexually transmitted diseases (STDs) and AIDs have contributed to efforts promoting abstinence and responsible sexual behavior (Trussell, 1988). Never-the-less it appears that only a small minority of sexually active adolescents use contraceptives effectively.

There are a variety of reasons why adolescents tend to be ineffective contraceptive users. Many adolescents claim they do not expect to have sex. Consequently, they are "unprepared" when they do engage in sexual behavior. This is reflected by Kisker's (1988) findings in which adolescents reported that using contraceptives indicated that intercourse was "planned". Planned intercourse was viewed as unromantic,

thus preparing for intercourse was "wrong". Sex was acceptable, according to the teens participating in the study, if the members were swept away in passion. Based on her findings reflecting teens beliefs about planned intimacy, Kisker (1988) believes the failure to protect oneself sexually by using contraceptives stems in part from broader social values which view "preparedness" negatively and idealize spontaneity, romance, and passion.

Similarly, adolescents' lack of contraceptive use may reflect societal ambivalence about sexuality in general which encourages a form of "denial" on the adolescents' part regarding their own sexual behavior. Adolescents do not use contraceptives effectively in part because they are a product of a sexually conservative society. Trussell (1988) acknowledged that the western culture's discomfort with sexual issues and contraception has filtered through to adolescents and has influenced their behavior with regard to contraceptive use.

In the area of sex education, the conservative push to change adolescents' sexual behavior by promoting abstinence and the negative aspects of sexuality needs to be critically examined. To those teens who are not sexually active, this point of view glorifies marriage, romanticizes the first encounter of sexual intercourse, and makes sexual activities outside of marriage appear dirty and wrong. To those teens

who are sexually active, the conservatism may influence them to "tune out" education, deny their sexual activity, and/or feel guilty about their sexual relations. All of these consequences can inhibit contraceptive use. Sex becomes an underground activity and contraception remains a clandestine issue (Furstenberg, 1991).

For adolescents to be prepared and to use contraceptives, they first and foremost must accept themselves as sexual beings (Fox, & Inazu, 1980; Kastner, 1984). Sexual behavior will not be altered unless adolescents acknowledge their sexuality and feel comfortable about taking responsibility for themselves sexually. For this to be accomplished, teens need to be not only educated about sexual issues but they need to be able to communicate their feelings about sexual matters as well. Research has examined family life education programs and parent-adolescent sexual communication aiming to discover any influence they may have on adolescents' contraceptive behavior. However, there is a dearth of research which examines adolescents' evaluations regarding their own sexuality.

Past literature pertaining to teen contraception has been descriptive in examining demographic factors such as class, socio-economic status, age, and geographics. A minority of the studies have been theoretically based. Of the empirical studies available, statistical analysis tends to be largely

descriptive. Few have used inferential or multivariate statistics which would allow for a more complete understanding of the context of adolescent contraceptive use. Adolescent contraceptive use is a complex issue involving many factors. Multivariate analyses allow research to investigate a multitude of hypothesized variables.

Purpose

The purpose of this study was to examine the relationship family life education, family communication, and sexual self-concept have with the use of contraceptives. The study was unique for two reasons. First, a sexual self-concept scale was used to address adolescents' own feelings regarding their sexuality. Second, the research examines the level of general family communication whereas past research on adolescent contraceptive use has mostly explored parent-adolescent sexual communication (Fisher, 1987). A principle objective of the study was to examine the issue of adolescent contraceptive use on multiple interdependent levels: the individual, familial, and societal.

Research Question

The central research question guiding the study was how do family life education, parent-adolescent communication, and sexual self-concept relate to adolescent contraceptive use.

Operational Definitions

Sexuality is defined as a component of the total

personality, how we grow and develop, our body image, how we relate to each other, how we reproduce, what we say and do to communicate our femaleness and maleness (Cassell & Wilson, 1989). Defining sexuality in this manner shows the importance of adolescents learning, developing, and expressing a healthy sexuality. Trussell (1988) emphasizes that promoting a healthy sexuality is the best vehicle to decrease adolescent pregnancy. Healthy sexuality has been defined as both women and men accepting responsibility for consequences of their behavior, being able to say "no" and respecting a "no", and to use contraceptives effectively (Trussell, 1988). Sexual self concept is an individual's evaluation of her or his own sexual feelings and actions (Winter, 1988). Winter indicates that one's sexual self concept develops throughout adolescence and can be influenced by experience.

Sexual self-acceptance is defined as the acceptance of one's own sexuality (Whitley & Schofield, 1985). Sexual self-acceptance is a prerequisite for a high sexual self-concept. Adolescents must be able to accept their sexuality before it can be evaluated.

Level of parent-adolescent communication is defined by the extent of freedom to exchange ideas, information and concerns, trust and honesty experienced and tone of interactions (Barnes & Olsen, 1982).

Family Life Education (FLE) is defined as a curriculum or

a course dealing with family, relationships, and sexual issues in an attempt to educate, help examine and clarify values regarding the self, roles, and the family.

Theoretical Framework

An ecological perspective supported and guided the research. The study of ecology is the study of person and environment and the interactions between them (Bronfenbrenner, 1986). Bronfenbrenner (1986) argues human development is the product of a person interacting with the environment. He proposes four systems of study, microsystems, mesosystems, exosystems, and the macrosystem. For purposes of this research, the microsystem and mesosystem were empirically investigated. The macrosystem was examined due to it being the larger system which imposes cultural attitudes and influences the smaller subsystems.

Microsystem. The microsystem involves the study of person and the immediate setting the person is in. Two examples would be an adolescent's sexual self concept or an adolescent's perception of communication with a parent.

Mesosystem. The mesosystem is the study of the interrelationship among settings and their effects on a person. For example, parent-adolescent communication and a FLE course and the cumulative influence they have on an adolescent is a mesosystem issue.

Macrosystem. The macrosystem is the study of the larger

societal system. The macrosystem includes the belief systems, attitudes, and ideology held by the culture.

An ecological perspective guided the research studying the adolescent (sexual self-concept), the family (family communication levels), and the school (Family Life Education programs). The macrosystem was involved as a major factor influencing adolescent contraceptive use. The macrosystem entails the societal attitudes and beliefs which filter into and are found in all but not limited to, government policies, school systems, and family institutions which send messages to adolescents about sexuality and their sexual behavior.

CHAPTER TWO

REVIEW OF LITERATURE

Research has examined the effects of many antecedents of adolescent contraception. For example, age, level of sexual experience, education, career aspirations, parental support, parental communication, peer support and exposure to FLE, have all been examined to find the relationship each variable has with adolescent contraceptive use (Miller, & Moore, 1991).

The following discussion will focus on the three areas of interest, sexual self-concept, parent-adolescent communication, and family life education. These three variables represent the individual, the home, and the school. Combined they create a profile which will begin to shed some light on what may influence or inhibit adolescent contraceptive use.

Sexual Self-Concept

Miller and Moore (1991) state, in their review of the 1980's literature regarding adolescent sexual behavior, "the most crucial predictor of contraceptive use may be the ability to recognize one's self as sexual without guilt" (p. 313). Yet, empirical studies examining adolescents' views of their own sexuality have been scarce in comparison to studies which have focused on other factors relating to contraceptive use. Winter (1988) explains that guilt and other negative feelings about sexual activity can create psychological barriers to

obtaining birth control. She developed the term "sexual self-concept" and a sexual self-concept scale to measure and describe one's feelings regarding their personal sexuality. One's sexual self-concept is an evaluation of one's own sexuality, instead of one's feelings about sexuality in general (Winter, 1988).

To develop the scale, Winter met with 15 high school juniors and seniors from inner city and suburban school districts. She discussed the problems of teenage pregnancy and the nonusage of contraception with those adolescents. From that discussion, Winter (1988) pooled 36 items to make up a preliminary scale. Winter also had 19 college students, enrolled in an introductory psychology course, contribute information. The preliminary scale was given to 53 college men and women who volunteered for the research. From the results, an item analysis was conducted to select items on the basis of their correlational strength which would be included in the final scale.

After the measure was developed, Winter studied 149 unmarried college undergraduates to determine the correlation between contraceptive use and sexual self-concept. Winter's research sample consisted of women (60%) and men (40%) from age 17 to 23. Winter found sexual self-concept to be highly correlated to the use of contraception, in other words, the higher one's sexual self-concept the more likely

contraceptives will be used.

Bryne and Fisher (1983) discuss Reiss's (1975) research which lends support to Winter's conclusions that adolescents' with a higher sexual self-concept were more likely to use contraception. Reiss focused on the congruence between one's premarital standard and one's behavior. He hypothesized the level of congruency between one's sexual behavior and one's premarital belief was associated with contraceptive use. In short, if an adolescent was sexually active and believed premarital sex was acceptable, then the adolescent would be more likely to use contraceptives. On the other hand, if adolescents viewed premarital sex as wrong and yet were sexually active, then psychological barriers may block their ability to see themselves as sexual hence the use of contraceptives may be minimal.

Kastner (1984) also explored issues related to sexual identity by examining the use of contraception by 130 female adolescents aged 15-19. Her sample was drawn from members of a comprehensive health program in a small east coast city. An ecological perspective was used to explore whether contraceptive use among female adolescents could be predicted from individual, family , peer, and community variables. A "sexuality acceptance" scale was used to correlate with the adolescents' regularity of contraceptive use. Kastner found a correlation between contraceptive regularity and the

acceptance of one's sexuality. She concluded by emphasizing an adolescent must come to terms with her sexual identity before contraception will be used. In summary, Winter (1988), Reiss (1975), and Kastner (1984) have all provided evidence of the importance of adolescents' acknowledging and accepting their own sexuality so they are able to plan and use contraception.

Several studies provide evidence that age appears to be an important covariate of sexual self concept. Winter (1988) collected sexual self-concept data from 50 males and 50 females ranging in age from 14 to 19 from a high school in central Pennsylvania, in order to examine age group differences with regards to sexual self-concept. The results showed older adolescents had significantly higher sexual self-concept scores than younger teens. Winter concluded that sexual self-concept may develop as one matures. Another example is Whitley and Schofield's (1985) meta-analysis of 134 independent studies which examined factors associated with contraceptive use. This study revealed that older women and men use contraceptives more effectively than younger adolescents. However, it is not clear from the data how much more effectively and why. Simply stated, there seems to be a consensus that the more positive one feels towards one's sexuality, the more likely one will use contraceptives and it appears older adolescents have more positive evaluations of their sexuality than younger teens.

The sexually conservative society we live in has been blamed for interfering with adolescents' evaluations of their sexuality. Trussell (1988) emphasizes young men and women who deny their sexual behaviors or do not have the ability to accept themselves as sexual are a product of a western culture ignoring sexual issues. This is especially true during the time of adolescence. By not acknowledging this time of development, our culture may be hindering the development of a positive sexual self-concept, and inhibiting the use of contraceptives.

Parent Adolescent Communication

Parental communication has been a variable of interest in the research regarding adolescent contraceptive use. Most of the research has focused on the outcomes of parent-adolescent sexual communication (Fisher, 1987), such as the relationship between parent-adolescent sexual communication and age of sexual initiation, number of partners, or contraceptive behavior. Recently, there has been an interest to examine the effects of general family communication on adolescents' contraceptive use. Researchers (Fox & Inazu, 1980; Fisher, 1987) have begun to differentiate between sexual communication and patterns of general family communication and the influence each has on adolescent sexual behavior.

Relationship of family and sexual communication . Fox and Inazu (1980) argue that communication about sexual matters is

less difficult if it follows and builds upon a more general pattern of open communication. Fox and Inazu studied the outcomes of frequent sexual communication of 449 mothers and their 14 or 15 year old daughters. The sample included girls that were both sexually active or virgins. Each duo was interviewed separately and asked questions regarding the topics they had discussed; whether contraception had been discussed, and how frequent those discussions were. The daughters were also asked how they would handle certain hypothetical situations. The results showed that the more birth control discussions that had taken place, the more responsible the daughters answers were. The results also showed a relationship between frequent sexual communication and a pattern of early communication (Fox & Inazu, 1980). They concluded by suggesting that a pattern of early communication may contribute to frequent sexual communication in later years. Early communication serves as a foundation on which to build further communication skills necessary to discuss sexual matters.

Fisher's (1987) correlational study comparing sexual communication and family communication revealed the quality of general family communication was related to sexual behavior, especially for young men. However, contraceptive use for females was more related to the extent of sexual communication rather than on general family communication. She invited

researchers to examine more closely the quality of family communication and the relationship it has with adolescents' contraceptive use.

Open family communication may be foundational to open sexual communication which has been shown to have a positive impact on contraceptive behavior. The influence of family communication on adolescents' contraceptive use has been understudied compared to research concerning the influence of sexual communication.

Benefits of sexual communication. Studies have shown that there are a variety of benefits from sexual conversations with parents (usually mother). Adolescents had an increased use of contraceptives (Fisher, 1987; Fox & Inazu, 1980; Kastner, 1984; Miller & Moore, 1991), had fewer sexual partners (Fisher, 1986), used a wider range of contraceptive methods (Fox & Inazu, 1980), and may prolong the onset of sexual activity (Fox & Inazu, 1980). Interesting results were found in Newcomer and Udry's (1985) research which studied mother's and daughter's reports of sexual communication and the daughter's sexual behavior. Adolescent girls who report their mothers had discussed contraceptives with them were more likely to use contraceptives, but the same was not true when it was the mothers who had reported that birth control had been discussed. Only the adolescent girls who reported contraceptive discussions had occurred used contraceptives

more frequently. The adolescent girls whose mothers' had reported birth control communication had occurred were not using contraception as frequently. In fact, the daughters who reported contraceptive conversations had taken place were three times more likely to use contraceptives. Mothers and daughters do not always agree on whether a contraceptive discussion has occurred. Based on the above research, it would seem more important that the daughters' report such conversations have taken place. Females who remember, realize and report contraceptive conversations with their mother not only benefit from increased use of contraceptives but may have developed the communication skills necessary to discuss contraception with their partner (Cvetkovich & Grote, 1981).

Less researched are the effects of parental communication on sons. Brooks-Gunn and Furstenberg (1989) found mother/son and mother/daughter sexual communication was associated with delayed intercourse, or if already sexually active, the use of birth control. In contrast to mothers influence, father/son sexual conversations was related to earlier onset of sexual activity. In Juhasz, Kaufman, and Meyer's (1986) sexual survey of 451 adolescents ages 15 to 18, results showed 46% mother and daughters discussed sexual issues, while only 21% father and sons had sexual discussions. The outcomes of those father and son conversations were not explored.

Barriers to sexual communication. One reason why teens may

have trouble talking with their parents is because they assume their behavior will not be approved, and the fear of being discovered becomes a barrier to communication and subsequently to contraceptive use (Furstenberg, Herceg-Baron, & Webb, 1984). A second barrier to communication could be that parents may feel inadequate themselves regarding sexual matters and may choose to ignore the need for sexual conversations. Fox and Inazu (1980) reported only one-third of their respondents had conversations with their mother on the issues of sexual intercourse and birth control. Among the six topics - dating, sexual morality, birth control, pregnancy, menstruation, and sexual intercourse- contraception and intercourse were the least likely discussed. Even among the teens who actually do speak with their parents regarding sexual issues, only a small portion of those conversations included coitus and contraception.

Family Life Education

A decision to use contraceptives requires a good base of information (Whitley & Schofield, 1985). Adolescents may feel comfortable with their sexuality, but without the information on where to obtain contraception, how to use contraception, and which methods are most effective they are still inadequately prepared to protect themselves. Consistent contraceptive use involves a combination of knowledge and skills (Gruber & Chambers, 1987). Given the barriers to

communication that exist between parents and children, family life education programs have the potential to teach adolescents both the information and skills they need to become sexually responsible.

There are only a few studies which examine the relationship between exposure to family life education and contraceptive use and it has been difficult for those studies to control for the content, length, and quality of the family life education programs (Stout & Rivara, 1989). Dawson (1986) sampled females 15 to 19 years of age to examine the relationship between exposure to a family life course and contraceptive use. He found that 70% of those who had not received any formal sex education had used contraceptives at one time or another. Of those young women who only received pregnancy education, 80% had used contraceptives. Those who had received both pregnancy and contraceptive education, 86% had used contraception at some time. However, the relationship between contraception and education becomes weak when the sample was asked about their current use of contraception. The percentage only ranges from 58 to 62% across the three formal education categories (Dawson, 1986). Marsiglio and Mott (1986) examined 12,069 14 to 22 year old adolescents using data from the National Longitudinal Survey of Work Experience of Youth. Their objective was to explore whether adolescents who take a sex education course are more

or less likely to become sexually active, use effective contraception, or experience a premarital pregnancy. Significant differences was found for white females only. White females were more likely to use contraception if they had been exposed to a sex education course, however, whites were also more likely to have received a sex education course, whereas blacks and hispanics were not. It is difficult to interpret what kind of education the adolescents have received due to the variation of sex education/family life education courses.

Despite the variations, all family life education programs are composed of two factors, the content and the presentation (Sollie & Kaetz, 1992). The content is defined as the presented topics or subjects which are deemed important by the educators and administrators, and are the components of the FLE curriculum. The presentation is the teaching technique used to present the information which can promote active student involvement in the learning process (Sollie & Kaetz, 1991). Both factors play an important part in a successful Family Life Education programs.

The length of the family life education program has bearing on the content. The amount of time allotted for instruction of these courses will affect the amount and depth of each subject matter. Some schools may choose to have a limited amount of subjects and expand the time for each

subject. Other schools may have a multitude of subjects, but shorten the duration of time for each subject, Cassell and Wilson (1989) found FLE courses to vary between 6 to 20 hours per semester. Most of the FLE courses are squeezed into preestablished curricula and are not separate courses (Cassell, & Wilson, 1989). Obviously, it has been very difficult to study the impact of FLE due to the tremendous number of variables and variations.

If FLE programs are to an extent a reflection of the cultural attitudes and beliefs of our society, then it appears that our culture does not encourage contraception (Trussell, 1988). As a result, FLE programs may not include pertinent sexuality information that the adolescents need or the educators may present topics in a negative manner. There is a tendency for programs to reflect concerns of adults rather than those of the target group, the adolescents (Campbell & Campbell, 1990). While most of the existing research concludes that FLE has not had a significant impact on adolescents contraceptive use (Dawson, 1986; Marsiglio, & Mott, 1986; Muraskin, 1986) the lack of a relationship however may be due to other factors and does not necessarily reflect the "failure" of Family Life Education. For example, are the courses being taught reflecting the needs of the adolescents? Is research overlooking other factors which may influence the progress of FLE courses such as the teaching methods of the

subject matter? Moreover, is there enough exposure of sex education to have an influence on adolescent contraceptive behavior?

Summary

Contraceptive use is an important, albeit, underused means of preventing teenage pregnancy. Researchers have explored a number of factors to identify reasons for adolescents' nonusage of contraception. Winter (1988) has empirically revealed adolescents' sexual self-concept is a major variable influencing contraceptive use. Whitley and Schofield (1985) and Kastner (1984) support this argument by emphasizing sexual self acceptance is an important influence on the usage of contraception as well. Another factor which may facilitate adolescents' contraceptive use is the communication between themselves and their parents. General family communication and sexual communication between a parent and adolescent have been argued to be important factors of an adolescents contraceptive use. Specifically, discussions about sex and birth control may also enable the adolescent to accept their sexuality by deterring the feelings of denial and guilt which block adolescents ability to use contraception. (Fox and Inazu, 1980; Kastner, 1984). Fox and Inazu (1980) propose the sexual discussions may serve as rehearsals. The communication can equip the adolescent with knowledge and confidence to deal with later situations while also

facilitating acknowledgment of their emerging sexuality (Fox & Inazu, 1980). Parental supportive communication at home and creative teaching methods at school can provide a safe, supportive environment where feelings and ideas are exchanged and clarified (Sollie & Kaetz, 1992).

On the macro level, open and supportive communication, at home and at school, is necessary to break the cycle of sexual conservativeness. It is important for teens to be able to express their ideas freely in a supportive atmosphere. Guilt and other negative feeling about sexual issues delays contraceptive use but in most cases it does not delay sexual activity (Kastner, 1984).

The present study sought to determine the ability of three main factors: (1) individual's evaluations of their own sexuality; (2) degree of openness in parent-adolescent communication; (3) exposure to FLE programs, to discriminate between contraceptive and noncontraceptive using older adolescents. Using an ecological perspective to guide the study, data will be collected regarding the person, family and school which will result in a more comprehensive picture of the context of adolescent contraceptive use. This study extended past research in three ways. First, it focused on **general** patterns of parent-adolescent communication with regards to contraceptive use instead of the frequency of **sexual** communication. Previous research shows sexual

communication between parents and adolescents positively effects contraceptive behavior. This research examined general patterns of communication, which may serve as a base for sexual communication, to discover what influence it may have to contraceptive behavior. Second, the study gathered information regarding the adolescents' own evaluations of their sexuality which is predicted to influence the use of contraception. Third, previous literature has suggested that family life education and parent-adolescent communication may be important contributors to adolescent contraceptive use, and the current study uses a multivariate analysis with the power to predict group membership, so these variables can be considered comprehensively.

CHAPTER THREE

METHOD

Sample and Data Collection

The sample (n=116) was drawn from a population of 162 freshmen students enrolled in 10 sections of an English course subtitled Male/Female Relationships. There were 48 men and 114 women enrolled. The students in the classes were between 18 and 24 years of age, the average age was 18. The sample was predominantly female, white middle class, and from suburban high schools. A detailed description of the sample appears in Table 1.

A letter was sent to all instructors of the Male/Female Relationships English course describing the purpose and significance of the study (Appendix A). The questionnaire was given to those instructors willing to participate prior to administration (Appendix B).

Before distributing the questionnaire, the respondents were read a general statement about the research and only students 18 years of age and older were eligible to participate. A packet containing the purpose of the study, the procedure, the risks and benefits of the project, issues pertaining to anonymity and confidentiality, and the participants' rights, along with an informed consent form was distributed for the participants' information, approval, and signature (Appendix C).

Table 1

Description of Sample

Descriptor	Contraceptive Users (n=70)	Noncontraceptive Users (n=46)
Gender		
Males	23	16
Females	47	30
Race		
Black	6	5
White	58	39
Asian	3	1
Hispanic	1	1
Other	2	0
Area of School		
Urban	10	4
Suburban	49	32
Rural	8	8
Other	3	1
Age		
M	18.44	18.41
SD	.63	.62
Months of FLE		
M	3.34	5.13
SD	2.88	5.97
Education of Father		
M	3.11	2.91
SD	1.06	1.06

** p<.01; ***p<.001.

see Appendix D for coding schemes

The respondents' rights were also verbally explained and stated as such, "they are not required to participate in the research, they may stop at any time during the questionnaire and they may refuse to answer any of the questions".

Respondents had the opportunity to receive a pooled summary of the results by filling out a separate index card, with their names and addresses, and turning it in at the time they complete the questionnaire.

Measurements

The questionnaire consisted, in part, of two scales which assessed two variables of interest: 1) sexual self-concept, and 2) family communication level.

Sexual self-concept scale. The scale was developed by Winter (1988) to assess adolescents' evaluations regarding their own sexuality. It was developed using adolescents in grades 9-12 and has an internal consistency reliability, using Cronbach's alpha, of .90. The scale has 14 items and the responses are on a five point Likert-type scale.

Family communication scale. The scale was developed by Barnes and Olsen (1985) to assess adolescents' and parents' perceptions of their level of communication. It was derived based on a sample of adolescents ages 15 to 19. The scale has an internal consistency reliability of .88, using Cronbach's alpha. The scale has 20 items and the responses were on a five point Likert-type scale.

In addition to the above scales, two checklists were included in the questionnaire. One checklist gathered information about the participants' family life education experience, and the second checklist collected data about the participants' contraceptive use.

The family life education checklist was developed through collaboration with two faculty members from a Family and Child Development Department with expertise in issues pertaining to FLE. The checklist gathered information regarding the types of topics covered during the FLE program, the presentation of those topics, and the number of months the education was received.

The checklist collecting contraceptive use information was derived through consultation with Staff at the Student Health Center. The checklist collected data regarding the participants' contraceptive behavior during the first and most recent experience of sexual intercourse and includes questions regarding the use of specific methods.

Social and demographic questions which pertain to various background characteristics were included in the questionnaire as well. For example, the years of fathers' education was sought to capture the participants' socio-economic status. Generally, the more years of fathers' education, the higher the family's socioeconomic status. Fathers' education was also included in the analysis. See Appendix D for the coding

scheme.

Data Analysis

The questionnaire was printed on opscan sheets so the participants themselves coded in the data while responding to the questions. After the data were collected and entered, a discriminant analysis was conducted to assess the ability of the independent variables to differentiate between contraceptive users and noncontraceptive users. A discriminant function is a multivariate analysis which allows for a multitude of variables to be included. The analysis considers the effects of all the variables taken together while accounting for the correlations between variables. The discriminant function analysis also has the power to predict group membership based on the independent variables' contributions (Tabachnick & Fidel, 1983).

CHAPTER FOUR

RESULTS

A stepwise discriminant function analysis was performed to assess the ability of five independent variables to differentiate between contraceptive users and noncontraceptive users. Of the original 116 cases that were identified as sexually active, three had at least one missing discriminating variable and were excluded from the analysis. During classification, means were substituted for missing values and cases containing missing values were also classified. Of the 113 in the sample, 68 had used contraceptives during their first sexual intercourse experience and/or during their most recent experience. The number of adolescents who did not use contraception the first or most recent experience totaled 45.

The correlation matrix of the five predictor variables are shown in Table 2. The means, standard deviations, and univariate F ratios for the five discriminating variables are shown in Table 3. Univariate F ratios explain whether the discriminating variables independently differentiate between groups (Tabachnik & Fidel, 1983). The one predictor variable which showed enough strength to independently discriminate between groups was the number of months an adolescent was involved in family life education.

Table 2

Correlation Matrix

	Mother Comm.	Father Comm.	Sexual S-C	FLE	Father Education
Mother Comm.	1.000				
Father Comm.	0.263	1.000			
Sexual S-C	0.243	0.023	1.000		
FLE	-0.026	0.026	-0.015	1.000	
Father Ed.	-0.067	0.161	0.147	0.159	1.000

Table 3

Analysis of Discriminating Variables

Variable	M (SD) Users	M (SD) Nonusers	Univariate Fraction	Structure Coefficient
Mother Communication	45.63 (11.30)	47.56 (13.56)	.42	.52
Father Communication	45.44 (13.77)	40.33 (15.40)	.07	-.69
Sexual Self Concept	42.06 (6.54)	41.07 (6.66)	.43	-.33
Months of FLE	3.34 (2.88)	5.13 (5.97)	.03*	.66
Fathers' Education	3.11 (1.06)	2.91 (1.06)	.31	NS

* p<.05; ** p<.01; *** p<.001.

The main concern of the study was to assess the multivariate contributions of the variables and their grouping properties. A discriminant function analysis shows the best combination of predictor variables which will maximize the difference between groups (Tabachnik & Fidel, 1983). The five predictor variables assessed were: family life education, indicated by the number of months an adolescent spent in a family life education course during grades 9-12; mother communication; father communication; sexual self-concept; and number of years of fathers' education. A discriminant analysis is interpreted by examining the structure coefficients which represent correlations between predictor variables and the discriminant function, while accounting for correlations with all other variables. Coefficients above .30 represent significant variables (Tabachnik & Fidel, 1983). Table 3 shows the structure coefficients in the last column.

Four variables contributed to the discrimination of contraceptive users and noncontraceptive users. The strongest predictor of contraceptive use was the number of months of family life education (.66) an adolescent had experienced in grades 9-12. Two other significant predictor variables were the amount of open communication adolescents' perceive with their fathers (-.69), and the amount of open communication adolescents' perceive with their mothers (.52). Higher levels of father communication were associated with contraceptive

use, while higher levels of mother communication were related to noncontraceptive use. Explanations and conclusions are made regarding this unexpected finding in the discussion. The final significant predictor variable was an adolescents' sexual self-concept (-.33). The negative value reveals adolescents who use contraception have a higher sexual self-concept. In summary, the results suggest that adolescents who use contraception had experienced less family life education, communicated better with their fathers, and had a higher sexual self-concept.

One discriminant function was calculated resulting in significant multivariate separation between those who used contraception and those who did not: Wilks=.907; F=.433* $p<.05$. The canonical correlation (.31) indicates the strength of the relationship between the discriminant function and group membership. Table 4 summarizes the results of the stepwise discriminant analysis.

The classification results show that 59.48% of the cases were classified correctly using the above four variables as predictors. Contraceptive users were correctly classified 68.6% of the time while noncontraceptive users were classified correctly 45.7%. The difference in the success rate between the two groups probably owes to the smaller sample size of noncontraceptive users.

Table 4

Summary of Stepwise Discriminant Function Analysis

Variable	Wilks	p
Months in FLE	.96	.000
Father Communication	.93	.000
Mother Communication	.92	.000
Sexual Self Concept	.91	.000

Wilks=.907; x^2=10.642 ($p < .05$); Canonical R = .305

CHAPTER FIVE

DISCUSSION

The purpose of the study was to examine adolescent contraceptive use from an ecological perspective. The influence of the school, in terms of family life education, the home, represented by mother and father communication, and the self, represented by one's sexual self concept were sought to be relevant factors for adolescents to use contraception. Using a discriminant function analysis, family life education, mother communication, father communication, sexual self-concept, and years of fathers' education were tested to see whether they were able to significantly discriminate between contraceptive users and noncontraceptive users.

The results revealed four out of the five variables were significant predictors of contraceptive group membership. The number of months of family life education and father communication emerged as the strongest predictor variables, while mother communication and sexual self concept followed respectively. These results should be considered with caution, however, due to some limitations in the sample. The sample was derived from a college English class and was predominantly white and middle class. The majority of the adolescents were from intact nuclear families. There also was a greater number of women than men in the sample which could bias the results. A relatively small number of males (n=39)

precluded separate multivariate analysis. Another limitation which must be acknowledged is the sensitivity of the subject of contraceptive use. The students may have answered the questions in a way deemed socially desirable and not in a way which reflects their own thoughts and behaviors. These limitations can be found in other research concerning adolescent contraceptive use and must be considered before generalizations can be made.

The profile which develops from this study partially supports the initial hypothesis. Two of the significant variables, sexual self-concept and father communication, coincide with previous research while the two other significant variables, mother communication and family life education, yield unexpected findings.

Sexual Self-Concept

The results revealed an adolescents' sexual self-concept is an important predictor of group membership. As expected this finding is consistent with previous research in regard to one's sexual self-concept. The higher one's sexual self-concept, the more likely one is to use contraception. Recall that Winter (1988) found a positive correlation between a young person's sexual self-concept and their use of contraception. However, in this research sexual self-concept has shown even greater strength by demonstrating it has the power to predict group membership even while controlling for

other sources of influence. Based on an adolescents' sexual self-concept, a strong prediction can be made whether the adolescent is a contraceptive user or a noncontraceptive user. This finding should generate more research in the area of how adolescents feel about their sexuality. Research needs to focus more on adolescents' own evaluations of themselves and how this influences contraceptive use. Clearly feelings regarding one's own sexual actions and thoughts must be considered.

This research only tested sexually active adolescents. Can nonsexually active adolescents future contraceptive behavior be predicted by the present degree of their sexual self concept? This would be an interesting question for future research. Furthermore, like Winter's (1988) research, this study examined older adolescents and young adults in their early 20s. Further investigation may want to include other ages. The term sexual self-concept is relatively new and unexplored which leaves ample room for further speculation and research.

Parent-Adolescent Communication

The second consistent finding is the relationship between communication with one's father and the use of contraception. The results showed adolescents who had better communication with their fathers were more likely to use contraception. Fox and Inazu (1980) have speculated that open parent-adolescent

communication is an important vehicle for sexual discussions which in turn may increase the adolescents' use of contraceptives. The parent-adolescent communication scale questioned the amount of trust, openness, and frequency of positive communication perceived by the adolescent. It is apparent from this research that general open communication with one's father may be a deterrent to irresponsible contraceptive behavior.

The fact that fathers seem to have a role in enhancing adolescents' contraceptive use is noteworthy. Past literature (Fox & Inazu, 1980; Newcomer & Udry, 1985) has recognized the importance of communication as a factor of adolescent contraceptive use, but has primarily focused on the mother's role. Research has assumed mothers facilitate communication and are the primary sex educators of the family. Based on this current research, it is evident fathers also play an important role. A high level of father/adolescent communication is a strong factor of whether the adolescent will use contraception. However, these conclusions were drawn from a sample comprised of mainly females. This finding may reflect the importance of positive father/daughter communication patterns.

Mother communication emerged as a significant discriminating variable, albeit in an unanticipated direction. The better communication adolescents' perceived with their

mothers, the less likely they were to use contraception. The direction of effect that mother communication had on adolescents' contraceptive use was in contrast to what was found for the father communication variable. Better communication with fathers was associated with contraceptive use. It is not entirely clear why mothers' communication had an unanticipated direction of effect. As stated before, most of the participants in the study were female, and this finding may indicate the need for more research pertaining to the mother's role in the sexual socialization of their daughters and the impact it has on their contraceptive use. It may be that mothers may be more influential with respect to son's behavior or that mothers' influence is overshadowed by either the fathers' influence or some other unmeasured factor such as peers' influence. The difference in the direction of effect for mothers and fathers could reflect something about differential socialization patterns and/or the differing implications that similar socialization processes may have on male and female children (Arditti, Godwin, & Scanzoni, 1991). For example, there is some evidence that differing socialization styles between mothers and fathers may lead to different socialization outcomes with regard to childrens' gender role development (Arditti, et al., 1991; Block, 1984). It is plausible that parental communication may have different implications for adolescent contraceptive use as well. Future

research may want to specifically consider the role of gender of parent and child with respect to socialization and communication, and the effects it may have on adolescent contraceptive use.

One final important factor to consider is an adolescent's feelings of guilt about becoming sexually active which invariably can be a deterrent to contraceptive use. Adolescents who feel they have open communication with their mothers may be fearful of disappointing her if discovered. This fear of being discovered may contribute to them hiding or denying their sexual activity which causes irresponsible contraceptive behavior (Furstenberg et al., 1984).

Family Life Education

The family life education variable was indicated by the number of months an adolescent had received the course during grades 9-12. Contrary to expectations, the results revealed the less family life education an adolescent received the more likely they were to use contraception. In other words, noncontraceptive users had more family life education. It is not entirely clear as to why the relationship emerged in this direction. Perhaps adolescent contraceptive use has less to do with the length of time they are exposed to FLE and is more related to the content of FLE.

The negative association between contraceptive use and the number of months of FLE in the present study may reflect

a heavy emphasis on abstinence, which in turn may have induced feelings of guilt thus making the students less likely to use birth control in the event that they have sex. This explanation receives support from Kenney, Guardado and Brown (1989) who argue that many FLE programs are focusing on the negative aspects of sexual activity. Out of 23 states which included abstinence in the curriculum, Virginia was found to have the highest rate of promoting abstinence as the only 100% most "effective" contraceptive method while other methods were briefly discussed.

The content of FLE varies among states, between school districts, and within school districts and it is often difficult to draw firm conclusions. The state of Virginia establishes guidelines which the individual school districts make use of according to what the administrators, teachers, and community assess is needed. In addition to differences between states, lack of continuity in terms of who teaches FLE contributes to variability in content. Instructors can be physical education, biology, health, home economics teachers, or in some cases it could be the school nurse, and these different teaching positions may affect the content. For instance, a biology teacher may have more knowledge about the biological and reproductive systems, while a health teacher may be more knowledgeable about nutrition and sexually transmitted diseases.

Several studies have attempted to document the types of information taught in FLE classes. Researchers (Rosoff, 1988; Orr, 1982; Kenney, Guardado, & Brown, 1989) have found that AIDs, STDs, and pregnancy were taught 97% of the time. An essential topic in any FLE course is contraception. Orr (1982) found 3/4 of all programs included contraceptive methods. Forrest and Silverman (1989) found only 50% of the teachers surveyed discussed suppliers of birth control and how to communicate with your partner regarding contraception. Juhasz et al. (1986) also found FLE courses to only describe contraceptive methods, information on where to obtain contraceptives was rarely discussed. So the majority of schools cover contraceptive methods, by way of description only, and the suppliers as well as contraceptive communication skills are scarcely discussed.

There is an absence of research which considers how presentation of the information may have an impact upon subsequent adolescent sexual behavior (Rosoff, 1988). Sollie and Kaetz (1992) argue a teacher's approach to sexual issues is crucial because it allows comprehension of the information to increase. Creating a supportive atmosphere can facilitate the student to be active in their learning through discussing experiences and personal perspectives. Students can be encouraged to open up to themselves and each other. This may be one important determinant of why FLE courses fail to

achieve their goals.

Sollie and Kaetz emphasize that a balance of information and activities can help adolescents to clarify their attitudes and values regarding certain topics. Byrne and Fisher (1983) support this idea by pointing out information cannot do it alone, discussions are needed to encourage adolescents to examine their ideas. Attitudes can be examined through circle discussions, debates, guest speakers, journals and role playing (Sollie & Kaetz, 1992). Problem-solving, decision-making, and communication skills can also be learned through role playing. The method teachers use to extend information is relevant and needs considerable more attention.

Methodologically, the number of months of family life may not be an adequate indicator of family life education. We know most students are exposed to a small amount of family life education, albeit length of time may not be a relevant factor. Future research needs to consider multiple or more complex indicators of family life education.

Implications for Practitioners

The family practitioners who work with children and/or adolescents or who are concerned with the teen pregnancy rate need to be aware fathers may have more influence on their teenagers' contraceptive use than once thought. The role fathers play in the sexual development and behavior in adolescents needs to be included in counseling sessions,

workshops, or education programs.

Patterns of family communication begin to be established as a family is forming. Family practitioners could provide workshops or seminars for parents with children of all ages to provide them with the information and skills to communicate effectively with their children. These workshops could also educate parents on sexual issues and how to discuss sexual matters with their children. Parents are primary sex educators of their children even if they do not speak directly about sex with them. Through multiple ways of communicating, i.e. values, beliefs, nonverbal cues, messages are received by the children on many different issues including sex. Fathers have been known to extend their feelings regarding sex through their comments and beliefs about sexual issues, i.e. abortion, premarital pregnancy, instead of actually having discussions with their children.

In-school clinics could empower adolescents by providing information regarding outside resources and programs for those teens in need of additional or professional assistance. Out-of-school clinics, such as Planned Parenthood, could provide additional education programs for those teens who wish to become peer leaders and educators themselves of sexual issues. Family practitioners must work with both parents and adolescents. Educating parents and empowering teens through education, knowledge, and leadership will give adolescents the

information they need to make informed choices about their sexual and contraceptive behavior.

There is a need for a better link between research and practice. Administrators and educators are in need of information regarding the attributes of a quality family life education program, such as, teaching methods which will get the best response, how much time needs to be devoted to subjects, and topics which need more attention. Researchers need to make relevant studies available to educators, and educators need to voice what research is needed.

Clinics and programs which work with teens also need access to the research which is relevant to them. Evaluative research of existing programs could be very helpful in providing information pertaining to adolescent sexual behavior. Collaboration between applied practitioners and researchers would combine methodological, theoretical, and statistical expertise as well.

Future Research Implications

Although survey methods have certain advantages, questionnaires limit the kinds of information one can collect about contraceptive use. However, many adolescents will feel uncomfortable talking with a researcher about their sexual and contraceptive behavior, so direct interviews may be difficult to conduct and to collect information reflecting actual behavior. Yet open-ended questions along with scales may be

able to collect more in depth information. Thoughts and feelings regarding one's sexuality may not be captured in a predetermined scale, whereas writing short answers may provide a better portrait of the individual's feelings. Greater use of qualitative data can give more in depth information as well as identify participants actual experiences. For example, parent-adolescent communication may be complicated and a scale may not reflect the complexity of a family's communication patterns. Kisker (1985) found focus group discussions to be quite helpful in highlighting important obstacles to adolescent contraceptive use.

Other sources of information must also be considered. For example direct information from the adolescents' partners have not been examined. Previous research has not considered the partners influence or behavior. It is unknown how the partner felt, behaved, or what the partner said. This may have been an important determinant of effective contraceptive use.

The present research examined one aspect of the individual, the adolescents' sexual self-concept. Emotionality is another aspect of an adolescent which may be important to include. Do emotions such as love fear, excitement or embarrassment contribute or interfere with the decision to use contraception. Another factor of importance is the influence of friends. It is known peers have influence

on behavior, but how related is it to contraceptive behavior? Is it "cool" to be prepared for and responsible about sex, or will one be ridiculed for it?

Longitudinal studies would also allow for a developmental profile of teen contraceptive use. Developmentally, the research would look across time to describe the process of making the decision to use contraception consistently. Research could identify factors which act as barriers to contraception throughout adolescence, and highlight variables which may motivate or encourage responsible sexual behavior. Currently, most studies have not used a longitudinal design probably because of the expense and the difficulty in maintaining subjects and obtaining parental permission.

Conclusions

The results showed some expected and unexpected findings. Contraceptive users have a higher sexual self-concept, speak more openly with their fathers, less openly with their mothers, and had received less family life education than noncontraceptive users. This study's findings highlight the importance of these variables while also pointing to the complexity of predicting adolescent contraceptive use. Clearly other sources of influence, not accounted for in this analysis, probably have bearing on adolescent contraceptive use. Such factors may include outside institutions such as the church, school, and media. Peers, friends, family, and

community are also significant determinants of behavior. Other sources of influence may be adolescents' past experiences, commitment to their partner, emotions, and curiosity, which all add in to the decision making process. Clearly there are no single causal indicator as to why some adolescents decide to use contraception. However, this study contributes to existing efforts to identify various predictors of adolescent contraceptive use.

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Appendix A

To: Freshmen English Instructors of Male/Female Relationships Courses

From: Melinda Conklin, FCD Graduate Student

Re: Participation of freshmen students in Thesis research project

I am a Master's student in FCD and would like to collect data this spring from freshmen for my thesis. I am interested in adolescent sexuality and contraceptive use. More specifically, my research will examine the influence one's sexual self-concept, family communication and experience with a Family Life/Sex Education program has on one's contraceptive use.

One unique aspect of the project includes using the sexual self-concept scale to examine adolescents' own views of their sexuality. A second important feature involves examining the teaching methods of the Family Life/Sex Education courses as well as the topics that were taught.

With your help, this research project can be a contribution to the area of adolescent sexuality and Family Life/Education programs. I will be contacting you soon to discuss the possibility of your class participating in the project. It should take approximately 15 minutes of class time for students to fill out the survey. I have already talked with Bob Siegal who has indicated his support for the project.

I would be glad to furnish you with a copy of the questionnaire or answer any questions that you may have. No student is required to participate and may refuse to answer any of the questions. All information is confidential and anonymous! Feel free to call me, Melinda Conklin at 552-5302 or my chair, Dr. Joyce Arditti at 231-5758.

Thank you for your time and cooperation.

Appendix B

1) Gender: 1. Male 2. Female

2) Please write in your age (in years)_____

3) Race/Ethnicity: 1. Asian 2. Black 3. White
4. Hispanic 5. other

4) School area where Family Life Education/Sex education was experienced:

1. urban 2. suburban 3. rural

5) What was the highest level of school or college completed by your father?
1. 1-8th
2. 9-12th
3. vocational/some college
4. college graduate
5. graduate or professional

6) What was the highest level of school or college completed by your mother?
1. 1-8th
2. 9-12th
3. vocational/some college
4. college graduate
5. graduate or professional

The following statements reflect different types of families. Please mark yes to statements that apply to you and no to the statements that do not apply.

1 = yes 2= no

7) my parents are currently married
8) my parents are divorced
9) my mother remarried
10) my father remarried
11) I lived in a single household with my mother
12) I lived in a single household with my father
13) I lived with my mother and stepfather
14) I lived with my father and stepmother

The following statements are about your experience with Family Life/Sex Education programs.

15) Please think back to the years of 9th through 12th grade. Calculate how many total months, throughout those four years, you experienced a formal Family Life/Sex Education program and write in that number. _____(in months)

16) Was the program taught at your school titled?
1. Family Life Education
2. Sex Education
3. Both 1 and 2
4. Do not know

There is great variation among the subjects taught in Family Life/Sex Education programs. Please use the following coding:

1 = Yes, this subject was covered in **9th-12th grade** during a Family Life/ Sex Education program.
2 = No, this subject was not covered.

30) family relationships
31) love
32) dating
33) gender roles
34) changes at puberty
35) anatomy
36) conception
37) reproduction
38) pregnancy
39) child birth
40) methods of contraception
41) suppliers of contraception
42) STDs
43) AIDs
44) communication skills
45) decision-making skills
46) abstinence
47) sexual orientation
48) assertiveness
49) self-esteem

There is also great variation in the presentation of the various subjects. Please use the following coding:

1 = Yes, this teaching technique was used during a **9th-12th** grade Family Life/Sex Education program.
2 = No, this teaching technique was not used.

50) lectures
51) group discussions
52) debates
53) guest speakers
54) student presentations
55) role playing
56) question box
57) journal writing
58) videos
59) films

The following set of questions can be obtained from: Barnes, H.L., & Olsen, D.H. (1982). Family Inventories. University of Minnesota, Family Social Science.

Next, I would like to ask you some questions about communication with your mother. Please code the degree in which you agree or disagree with the statements. (If questions 1-20 do not apply to you, please turn the page over and begin with question 30.)

1	2	3	4	5
strongly agree	agree	not sure	disagree	strongly disagree

1. I can discuss my beliefs with my mother without feeling restrained or embarrassed.

2. I have trouble believing everything my mother tells me.

3. My mother is always a good listener.

4. I am sometimes afraid to ask my mother for what I want.

5. My mother has a tendency to say things to me which would be better left unsaid.

6. My mother can tell how I'm feeling without asking.

7. I am very satisfied with how my mother and I talk.

8. If I were in trouble, I could tell my mother.

9. I openly show affection to my mother.

10. When we are having a problem, I often give my mother the silent treatment.

11. I am careful about what I say to my mother.

12. When talking to my mother, I have a tendency to say things that would be better left unsaid.

13. When I ask questions, I get honest answers from my mother.

14. My mother tries to understand my point of view.

15. There are topics I avoid discussing with my mother.

16. I find it easy to discuss problems with my mother.

17. It is easy for me to express my true feelings to my mother.

18. My mother nags/bothers me.

19. My mother insults me when she or he is angry with me.

20. I don't think I can tell my mother how I really feel about some things.

Now, I would like to ask some questions about communication with your father. Please code the degree in which you agree or disagree with the statements. (If questions 30-49 do not apply to you, please go to Part III and begin with question 1.)

1	2	3	4	5
strongly agree	agree	not sure	disagree	strongly disagree

30. I can discuss my beliefs with my father without feeling restrained or embarrassed.

31. I have trouble believing everything my father tells me.

32. My father is always a good listener.

33. I am sometimes afraid to ask my father for what I want.

34. My father has a tendency to say things to me which would be better left unsaid.

35. My father can tell how I'm feeling without asking.

36. I am very satisfied with how my father and I talk.

37. If I were in trouble, I could tell my father.

38. I openly show affection to my father.

39. When we are having a problem, I often give my father the silent treatment.

40. I am careful about what I say to my father.

41. When talking to my father, I have a tendency to say things that would be better left unsaid.

42. When I ask questions, I get honest answers from my father.

43. My father tries to understand my point of view.

44. There are topics I avoid discussing with my father.

45. I find it easy to discuss problems with my father.

46. It is easy for me to express my true feelings to my father.

47. My father nags/bothers me.

48. My father insults me when she or he is angry with me.

49. I don't think I can tell my father how I really feel about some things.

The following set of questions can be obtained from: Winter, L. (1988). The role of sexual self-concept in the use of contraception. Family Planning Perspectives, 20, 123-127.

The following statements reflect peoples attitudes regarding sexuality and birth control. Please code the extent in which you agree or disagree with each statement. If a statement does not apply to your sexual practice, please code in circle 6, meaning not applicable.

1	2	3	4	5
strongly agree	agree	not sure	disagree	strongly disagree

1. I consider myself physically mature.

2. I consider myself emotionally ready for a sexual relationship.

3. I would (or do) feel guilty about having sex.

4. I would be (or am) embarrassed to go into a drug store to buy a birth control method.

5. I feel it's OK for me to have sex.

6. I believe that members of the opposite sex generally consider me attractive.

7. I would feel insulted if my partner brought up the subject of using birth control.

8. I would (or do) feel embarrassed about using birth control (pill, diaphragm, condoms) because it would imply that I'm promiscuous or sexually loose.

9. I feel comfortable discussing sex with my parents.

10. My friends and I seldom if ever talk about sex or birth control.

11. I sometimes worry that my feelings about sex are not normal.

12. I couldn't discuss birth control with my partner without feeling terribly uncomfortable.

13. I consider my sexual feelings typical of people my age.

14. I feel it's wrong for me to have sex.

The last set of questions pertain to your own sexual behavior. Please answer the remaining questions to the best of your ability, using the coding of:

1 = yes 2= no

30. Have you had vaginal/penile intercourse? If your response is no, please turn in the questionnaire at this time.

31. Was a method of contraception used by you or your partner the **first time** you had vaginal/penile intercourse?

If your response is yes, please mark each method:

1 = yes 2 = no

32. birth control pill
33. IUD
34. diaphragm
35. foam/suppository
36. condom
37. foam with condom
38. Norplant
39. other _____ (specify)

40. Was a method of contraception used by you or your partner the **most recent time** you had vaginal/penile intercourse?

If your response is yes, please mark each method:

1 = yes 2 = no

41. birth control pill
42. IUD
43. diaphragm
44. foam/suppository
45. condom
46. foam with condom
47. Norplant
48. other _____ (specify)

Appendix C

Virginia Polytechnic Institute and State University

Informed Consent for Participants of
Investigative Projects

Title of Project Contraceptive Use: An Ecological Perspective
Principle Investigator Melinda M. Conklin

I. Purpose of This Research

You are invited to participate in a study about sexual behavior and contraceptive use. This study involves completing a questionnaire which assesses factors that may have important empirical and theoretical significance with regard to contraceptive use.

II. Procedures

You will be asked to complete a short survey instrument, printed on opscan sheets. The time required for you to complete this survey is roughly 20 minutes.

The questions are personal in nature and pertain to sexual behavior, attitudes, and contraceptive use.

You can be assured that your participation is completely anonymous, and your responses are confidential. You have the right to not answer any question in the survey or stop at anytime during your participation in this project.

III. Benefits of This Project

Your participation in the project will provide the following information that may be helpful. Your responses will provide researchers with students own feelings regarding their sexuality, the students' voice has often been ignored, and how those feelings aid or inhibit one's contraceptive use. The responses will also allow researchers to examine how adolescents' experience with a Family Life Education course has influenced the use of contraception.

No guarantee of benefits has been made to encourage you to participate.

You may receive a synopsis or summary of this research when completed. Please fill out a separate index card with your name and address and turn it in at the time you complete the questionnaire.

IV. Extent of Anonymity and Confidentiality

The results of this study will be kept strictly confidential. At no time will the researchers release the results of the study to anyone other than individuals working on the project without your written consent. The information you provide will only have a subject number to identify you during analyses and any written reports of the research.

V. Freedom to Withdraw

You are free to withdraw from this study at any time without penalty. The investigator may determine that you should not continue as a subject of the project if you have never been sexually active.

VI. Approval of Research

This research project has been approved, as required, by the Institutional Review Board for projects involving human subjects at Virginia Polytechnic Institute and State University, by the Department of Family and Child Development.

VII. Subject's Responsibilities

I know of no reason I cannot participate in this study. I understand I have the following responsibility of completing the questionnaire as appropriate and to the best of my knowledge.

_____

Signature

VIII. Subject's Permission

I have read and understand the informed consent and conditions of this project. I have had all my questions answered. I hereby acknowledge the above and give my voluntary consent for participation in this project.

I also understand that if I participate, I may withdraw at any time without penalty. I agree to abide by the rules of this project.

I understand that should I have nay questions about this research and its conduct, I should contact: Melinda Conklin or Dr. Joyce Arditti.

Investigator	Phone
Faculty Advisor	Phone
Chair, IRB	Phone

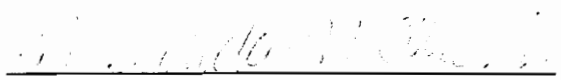
Appendix D

Variable	Sample Questions	Coding
Family Life Education	Calculation of total months a FLE course taken in grades 9-12	actual number
Sexual Self-Concept	I feel guilty about having sex.	strongly agree=0 agree=1 not sure=2 disagree=3 strongly disagree=4
Mother Communication	My mother is a good listener.	strongly agree=0 agree=1 not sure=2 disagree=3 strongly disagree=4
Father Communication	I could go to my father if I were in trouble.	strongly agree=0 agree=1 not sure=2 disagree=3 strongly disagree=4
Education of Father	Highest level of school or college completed by your father.	1-8th=0 9-12th=1 some college=2 college graduate=3 graduate school=4

Vita

Melinda May Conklin received a Bachelor of Science degree in Family Child Development and a minor in Psychology from Virginia Tech in 1990. She began her graduate work at Virginia Tech the Fall of 1991. During her graduate training she received two graduate assistantships, one as a substitute teacher in the Child Development Laboratory, the other working in the newly developed Adult Day Care Center.

Melinda is an alumni member of Kappa Delta, and is a member of the National Council on Family Relations (NCFR). After completing the requirements for a Master's degree in Family Studies, from the Department of Family and Child Development, she intends to seek a career teaching and working with adolescents in family life education programs.



Melinda M. Conklin