

ATTITUDE AND NORMATIVE BELIEFS AS FACTORS  
INFLUENCING ADOLESCENT SEXUAL AND  
CONTRACEPTIVE BEHAVIORS

by

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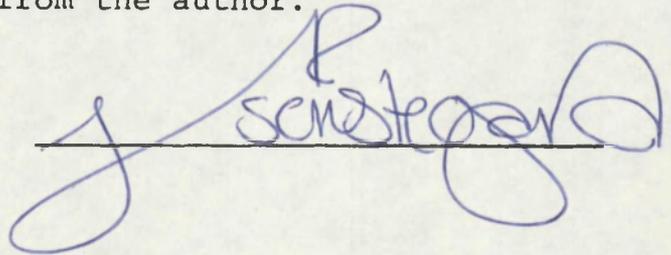
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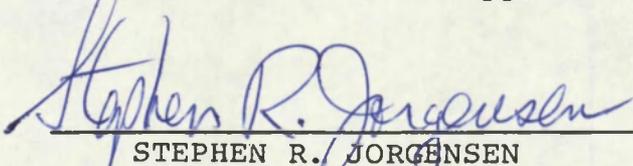
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## TABLE OF CONTENTS

	Page
LIST OF TABLES . . . . .	v
ABSTRACT . . . . .	vi
1. INTRODUCTION . . . . .	1
Statement of the Problem . . . . .	1
Consequences of Adolescent Pregnancy . . . . .	3
Determinants of Adolescent Pregnancy . . . . .	5
Fishbein's Theory . . . . .	5
Hypothesis . . . . .	7
Definition of Terms . . . . .	7
Importance of the Study . . . . .	8
Limitations of the Study . . . . .	9
2. LITERATURE REVIEW . . . . .	10
Adolescent Sexual Permissiveness . . . . .	10
Normative Studies . . . . .	10
Attitudinal and Behavioral Studies . . . . .	12
Adolescent Contraceptive Practices . . . . .	15
Fishbein's Theory . . . . .	22
3. METHODS . . . . .	25
Sample Design . . . . .	25
Variable Measurement . . . . .	29
Sexual Behavior . . . . .	29
Contraceptive Behavior . . . . .	30
Attitude-toward-the-act . . . . .	31
Perceived Expectations of Referent i/ Motivation To Comply . . . . .	33
4. RESULTS . . . . .	37
5. DISCUSSION . . . . .	43
Motivation to Comply . . . . .	47
Implications for Future Research . . . . .	52
REFERENCES . . . . .	55

LIST OF TABLES

Table	Page
1. Demographic characteristics of the sample . . .	26
2. Ranges, means, and standard deviations of all variables in the study (N = 244) . . . . .	27
3. Zero-order correlation matrix: Attitudinal and normative variables with behavioral sexual permissiveness and contraceptive use (N = 244) . . . . .	37
4. Multiple regression analysis of behavioral sexual permissiveness and contraceptive usage (N = 172) . . . . .	39
5. Multiple regression analysis of behavioral sexual permissiveness and contraceptive usage, urban (N = 92) . . . . .	40
6. Multiple regression analysis of behavioral permissiveness and contraceptive usage, rural (N = 80) . . . . .	41

## ABSTRACT

To better understand the sexual and contraceptive behaviors of adolescent females, this study tested Fishbein's model to compare the relative influences of attitudes and norms in the prediction of their sexual and contraceptive behaviors. It was hypothesized that a respondent's sexual and contraceptive behavior can be predicted from a linear combination of her attitude toward performing that behavior and her normative beliefs weighted by her motivation to comply with those norms. Analysis of the data revealed, however, that the hypothesis is not supported for the dependent variable sexual permissiveness as measured by the frequency of sexual intercourse-ever. The analysis also revealed that the attitudinal component of the model proved to be the better predictor of contraceptive behaviors for adolescent females.

## CHAPTER 1

### INTRODUCTION

#### Statement of the Problem

The stage of adolescence, marked by physiological, psychological, and social changes, is recognized as a difficult and problem stage of the human life span (Rogers, 1969). Adolescents shift toward a greater dependence on peers and a reduced dependence on parents and find themselves particularly vulnerable to such outside influences as girl friends and boy friends, teachers, and the mass media. Recent research focused on adolescent sexual behavior and pregnancies adds support to the belief that youth in the United States today find this developmental stage stressful. More than half of the adolescent females in this country are sexually active by the age of 19 years, and the rate for males is thought to be significantly higher (Zelnik & Kantner, 1977). The rate of sexual behavior for both males and females has continued to increase since the early 1960s, but this behavior has not been matched with effective and responsible contraception to prevent unwanted pregnancies (Zelnik & Kantner, 1977).

Adolescent pregnancies have reached epidemic proportions in the United States. More than one million females aged 15-19 years become pregnant each year, one-tenth of all

females in this age group. In addition, 30,000 pregnancies are experienced annually by girls under 15 years of age (Guttmacher Institute, 1976). The number of school-age parents is increasing most rapidly among the 14 to 16 year olds (Nye, 1976). Although fewer females are choosing to marry before age 18 or males before the age of 20, more teenagers under the age of 18 are having children and trying to parent them (Nye, 1976). Although some assume that contraception and legalization of abortion will end unwanted pregnancies for this population, it has not occurred.

Nearly two-thirds of all adolescent pregnancies and half of all births are not intended. Each year 667,000 unintended pregnancies and 300,000 unintended births occur to females aged 15-19 (Guttmacher Institute, 1976). Additional findings reported by the Alan Guttmacher Institute suggest that very few of the 4.3 million sexually active 15- to 19-year-old females want to become mothers at such a young age. The magnitude of the problem may be best understood with the consideration of this statement: "Nearly four million sexually active 15-19 year olds are at risk of having an unintended pregnancy during each year in the mid-1970s and one in six of those at risk actually do get pregnant" (Guttmacher Institute, 1976, p. 17). Recent research indicates that the problem of teenage pregnancy is increasing and, therefore, this risk is still present for

adolescent females today (Guttmacher Institute, 1976; Zelnik & Kantner, 1977).

### Consequences of Adolescent Pregnancy

Researchers have been more successful in determining the consequences of adolescent pregnancy than in discovering the psychological and sociological antecedents of the problem. The consequences of adolescent pregnancy and early childbearing are well documented (Guttmacher Institute, 1976; Nye, 1976; Card & Wise, 1978). Early childbearing and teenage pregnancies are increasing with serious health, socioeconomic, and demographic implications for adolescent males and females, their children, and society (Guttmacher Institute, 1976). The following are some consequences of adolescent pregnancy reported in the literature:

#### 1. Physiological Consequences

a. Babies of young teens are two to three times more likely to die in the first year than those infants born to mothers who give birth in their 20s (Guttmacher Institute, 1976).

b. Babies born to teenagers are much more likely to be premature and of low infant birth weight than infants born to mothers in their 20s. Low infant birth weight is a major cause of infant mortality, childhood illnesses, and birth injuries (Guttmacher Institute, 1976).

c. For young girls who become pregnant before age 15, the maternal death rate from pregnancy, and birth and delivery complications are 60% higher than for mothers in their 20s (Guttmacher Institute, 1976).

d. Almost half of the teenage pregnancies are ended by abortion (Nye, 1976).

2. Psychological Consequences. The number of adolescent mothers who attempted suicide is seven times the national rate for teenage girls without children (Nye, 1976).

3. Social Consequences

a. Three out of five premaritally pregnant mothers aged 17 and younger were separated or divorced within 6 years of the marriage. One-fifth of the marriages were dissolved within 12 months (Guttmacher Institute, 1976).

b. Eighty-five percent of those who first became mothers at ages 15-17 did not complete high school (Nye, 1976).

c. Adolescent parents are particularly prone to child maltreatment and abuse due to their lack of knowledge of child development and their unrealistic expectations for their children (Bolton, Laner, & Kane, 1980; de Lissovoy, 1973).

### Determinants of Adolescent Pregnancy

In looking for determinants of adolescent pregnancy, social scientists have tried to discover variables related to two indicators of pregnancy risk: (1) sexual permissiveness as indicated by frequency of sex and (2) ineffective or inconsistent use of contraceptive methods by sexually active adolescent couples. The studies by Zelnik and Kantner (1977, 1978a, 1978b) give descriptive analyses indicating trends in the frequency of sexual behavior, contraceptive use, and pregnancy in large samples of adolescent females. Further research to discover the determinants and correlates of the teenage fertility problem is indicated.

In response to this need, this study compares the relative influences of attitudes and norms in the prediction of sexual and contraceptive behavior of adolescent females. The findings are compared to other studies on behavioral intentions in regard to family planning that sampled adult women.

### Fishbein's Theory

The failure to find social-psychological and psychological correlates of family planning behavior is clearly problematic. Most large-scale studies previously conducted have not been based on any underlying theory and have been restricted to the testing of interesting, but often unrelated hypotheses (Fishbein, 1972). To better understand

the sexual and contraceptive behavior of adolescent females, this study uses the Fishbein model to investigate the attitude-behavior relationship. Fishbein's (1967, p. 490) approach may be best explained as follows:

Instead of assuming some underlying relationship between an individual's attitude toward a given object and his behavior with respect to that object, the proposed theory recognizes the importance of situational variables, norms, and motivation as factors influencing behavior. Rather than viewing attitude toward a stimulus object as a major determinant of behavior with respect to that object, the theory identifies three kinds of variables that function as the basic determinants of behavior: (1) attitudes toward the behavior; (2) normative beliefs (both personal and social); and (3) motivation to comply with the norms.

Although this theory recognizes that other variables can also influence behavior, it indicates that the other variables operate indirectly by influencing one or more of the three basic determinants.

According to Fishbein, an individual's intention to perform any behavior is a function of (1) his attitude toward performing the behavior and (2) his beliefs about the norms governing the behavior weighted by his motivation to comply with the norms. Expressed algebraically, the theory is as follows:

$$B \approx BI = [A - act]_{w_0} + \left[ \sum_{i=1}^n NB_i Mc_i \right]_{w_i}$$

where

B = overt behavior

BI = behavioral intention

A-act	= attitude toward the act or behavior
$NB_i$	= normative belief
$Mc_i$	= motivation to comply with the expectations of referent i
n	= number of normative beliefs
$w_0$ and $w_i$	= empirically determined regression weights

This study, which tests Fishbein's theory, involves a secondary analysis of the Arizona Survey of Urban and Rural Youth: 1978 (1978). Sexually active adolescent females aged 14-19 years from rural and urban Arizona composed the sample for this study. The dependent variables are sexual behavior and contraceptive behavior. The independent variables are A-act and  $NB_i, Mc_i$ .

#### Hypothesis

It is hypothesized that a respondent's sexual and contraceptive behavior can be predicted from a linear combination of her attitude toward performing that behavior and her normative beliefs weighted by her motivation to comply with those norms.

#### Definition of Terms

The following concepts are defined for a clearer understanding of this study:

1. A-act. The attitude being assessed is the individual's attitude toward the performance of that

behavior, and not an attitude toward a given object, value, person, or situation.

2. Normative belief (NB) refers to an expectation toward a specific behavioral act, the performance of which is expected or desired under the given circumstances.

3. Mc<sub>i</sub> refers to the person's motivation to comply with the expectations that various reference groups or individuals are perceived to hold.

#### Importance of the Study

The importance of this study is twofold: (1) to test the generalizability of the Fishbein formulation to the adolescent female population and (2) to examine independent variables that may increase our understanding of and ability to predict adolescent sexual behavior and contraceptive use.

Acknowledging our youth as a valuable resource, it is critical that we come to understand their sexuality and address their needs related to this dimension of their lives. The magnitude of the teenage pregnancy problem deserves public interest and further empirical investigation. Blanket advocacy of sex education, family planning, and other efforts to "solve" this problem may indeed be premature. If sexual behavior and contraceptive programs are to be effective, then further research focused on

discovering the determinants and correlates of such behaviors is indicated.

#### Limitations of the Study

For the purposes of this study, the following limitations were established:

1. Access to the population of all sexually active and nonactive adolescents was not possible due to strong normative pressures on the part of parents and school administrations. The sample is limited in that it reflects the perception of the female only. Caution should be exercised in generalizing the results of this analysis beyond the sampling frame due to this limitation.

2. No measures for behavioral intentions were included in the original study and, therefore, this study focuses on the prediction of the overt behavior instead of the intention.

3. The measures employed do not replicate those other researchers have used to test the Fishbein model.

## CHAPTER 2

### LITERATURE REVIEW

Adolescent pregnancy is a complex phenomenon, and concern about it has given rise to an extensive literature. A review of the literature found that researchers have focused their search for determinants of teenage fertility in two areas: (1) adolescent sexual permissiveness and (2) adolescent contraceptive behavior. Studies related to the Fishbein theory were also reviewed.

#### Adolescent Sexual Permissiveness

Evidence exists that significant changes have occurred in adolescent attitudes toward and behaviors involving sexual activity (Kantner & Zelnik, 1972; Vener & Stewart, 1974; Zelnik & Kantner, 1977). Normative and attitudinal and behavioral aspects of adolescent sexual permissiveness have been empirically investigated to determine correlates of teenage fertility.

#### Normative Studies

Research covering the past decade indicates that many teenage and college respondents find premarital sex increasingly acceptable and an important component of relationships (Reiss, 1967; Vener & Stewart, 1974). In a study

involving 4,220 American adolescent males and females, Vener and Stewart (1974) did not find evidence of a major sexual revolution in adolescent sexual behavior, but did note normative changes in the increased acceptability of sexual intercourse, hard and soft drugs, alcohol consumption, and cigarette smoking over a 3-year time span in three Michigan communities. Goode (1972) reported a study on one college campus, which revealed that drug users were significantly more likely to engage in sexual intercourse, to engage in it earlier in life, and to engage in it regularly with a greater variety of partners. These findings concur with previous findings that drug utilization appears to be associated with change in the sexual life of drug users.

As a normative concept, Mirande (1968) suggested that reference group theory is useful for understanding premarital sexual behavior among adolescents. Adolescence is a time when one is likely to come under strong cross pressures from reference groups, particularly parents and peers. Reference group theory proposes that the behavior of the person will be consistent with the expectations of the group that is presently serving as a reference point. The data suggested that sexual behavior of students tends to be consistent with standards and behavior of the peer referent.

Further evidence exists that young teenage men and women view adolescent coitus as increasingly legitimate.

Sorensen (1973) found that respondents viewed coitus as a normal response to individual needs and often involved love, affection, and commitment to the present partner. The female partner frequently indicated that she was in love and intended to marry her current partner (Furstenberg, Gordis, & Markowitz, 1969; Kantner & Zelnik, 1972; Reiss, 1976).

#### Attitudinal and Behavioral Studies

Adolescent attitudes toward premarital sexual permissiveness have changed, but it is not clear whether this attitudinal change has been reflected in a corresponding revolution in behavior (Cutright, 1972; Vener & Stewart, 1974). Vener and Stewart noted that their 1970 findings, in comparison with those of Kinsey et al. (1953), did not offer evidence of a long-run sexual revolution for the teenage population. For both males and females, Vener and Stewart's findings from 1970 and 1973 studies show moderate degrees of increase in sexual activity at ages 14 and 15. The authors argued that in the past several decades the permissiveness of sexual attitudes has provided the moral support base which allows the teenager to actively participate in higher levels of sexuality.

Based upon a national survey of 2,839 white and 1,401 black never-married females (ages 15 to 19) conducted in 1971, Kantner and Zelnik (1973) reported the following:

1. Twenty-eight percent of never-married young women aged 15-19 reported having had sexual intercourse. The proportion rose from 14% at age 15 to 46% at age 19.

2. Half as many whites as blacks reported having had intercourse. Race accounts for the largest and most persistent differences in the proportion who have ever engaged in intercourse.

3. Church attendance, rural background, and high levels of confiding with parents were all negatively associated with sexual experience.

4. Socioeconomic factors were less significantly associated with sexual experience among whites than among blacks.

5. Migrant status and central city residence were positively associated with sexual experience.

The coital rates reported by Kantner and Zelnik (1973) and Vener and Stewart (1974) do not concur with the coital rates reported by Sorensen (1973). Sorensen reported that 59% of the teenagers were non-virgins. Compositional factors of the studies and problems in sampling may explain the difference. The Sorensen sample included married respondents, and 53% of the original sample were not interviewed at their parents' request. Vener and Stewart (1974) concluded, following careful comparison of the three studies, that Sorensen's adolescents

were more sexually experienced than the teenagers in the other two studies due to sample differences.

Comparing the data from two cross-national surveys conducted in 1971 and 1976 involving 15- to 19-year-old females, Zelnik and Kantner (1977) concluded that adolescent sexual behavior is becoming increasingly permissive over time. They found:

1. The premarital sexual activity among never-married U.S. teenage females increased by 30% between 1971 and 1976, so that by age 19, 55% had engaged in intercourse.

2. The median age at first intercourse declined by a few months for both black and whites.

3. There was a substantial increase in the number of partners with whom teenage females have ever been involved.

4. Blacks continued to show higher rates of prevalence of sexual intercourse, but relative differences are smaller in 1976 than in 1971.

Although the notion of a "sexual revolution" encompasses different implications for individual researchers, and some question whether the increased sexual activity reaches revolutionary proportions, the literature supports the finding that significant normative, attitudinal, and behavioral changes toward sexual permissiveness have occurred.

### Adolescent Contraceptive Practices

Contraceptive behavior is the other major area of concern for researchers interested in determining the causes of increasing fertility in adolescent females. Since the early 1960s, teenage birthrates, like the national fertility rate in general, have declined except for a slight increase in birthrates for females under age 14 (Guttmacher Institute, 1976). In the last decade, however, females under 18 years of age have experienced increasing rates of pregnancy and presently the number of teenage pregnancies exceeds one million per year (Jorgensen, 1976; Guttmacher Institute, 1976). The national fertility decline may be explained in part by the acceptance of family planning by the adult population, sterilization, and the use of effective contraception that demonstrates responsible action for sexual relationships. Present evidence suggests that these contemporary attitudes and behaviors are not found in the adolescent population, nor do adolescents utilize effective modern methods of contraception. Jorgensen (1976) estimated that 2.2 million females 15 to 19 years of age were in need of family planning services in 1973. In 1976 she projected that as many as 80% of the sexually active females in this age range were currently not receiving the contraceptive and family planning services needed. Contrary to public opinion, empirical investigations (Settlage, Baroff, & Cooper, 1972; Godenne, 1974) have

shown that increasing contraceptive availability and education for this population have not increased sexually permissive behavior.

Risk-taking or chance-taking during intercourse was found to be common in the adolescent population (Kantner & Zelnik, 1973). The Kantner and Zelnik (1973) study involved a national probability sample of young teenage women 15-19 years of age. Of their sample of those sexually active, 53% failed to use any kind of contraception the last time they had intercourse, and in the youngest group the figure reached 71%. Furthermore, fewer than 20% of the sexually experienced 15- to 19-year-old females (15% blacks and 21% whites) reported that they "always" used some birth control method during intercourse to prevent conception.

In 1976 Zelnik and Kantner (1977) conducted a follow-up study, similar but independent of the 1971 study reported in 1972. As before, the sample included females of all marital statuses and races aged 15 to 19 years. Comparing the results of 1971 with those of 1976, the researchers found that adolescent contraceptive usage has increased, but chance-taking and inconsistent contraceptive practices remain significant for this population. Comparing the data from the two studies, the following findings in regard to contraceptive usage are summarized:

1. Contraceptive practices among unmarried teenage women improved significantly between 1971 and 1976.

2. The proportion of sexually active unmarried women who always use contraception and who used it at the time of last intercourse increased.

3. Along with the increase in the use of the most effective medical methods, there has been a substantial decline in the use of three methods--condom, douche, and withdrawal--which were most prominent in 1971.

4. The gap between first intercourse and first use of contraception that was observed in 1971 has not narrowed significantly.

The increased use of more effective medical methods may prevent some pregnancies in the adolescent female population. However, the researchers of this study questioned their desirability due to known side effects, e.g., thromboembolic disease and possible impairment of fertility once no longer on the oral contraceptive.

Inconsistent contraceptive behavior and risk-taking among adolescents engaging in intercourse was also found by Sorensen (1973). The findings differ from those of the Zelnik and Kantner study (1977) in that a higher rate of contraceptive use was reported. Fifty-nine percent stated that contraception was "always" used during intercourse in the preceding month. Many of the adolescents making up the sample indicated using the less effective methods and, therefore, remained at high risk.

Furstenberg et al. (1969) noted that various solutions, e.g., strengthening the family, raising moral standards, have been proposed for dealing with the problem of teenage illegitimacy; these were all aimed at reducing the frequency of nonmarital sexual relations. The solutions have met with little success. Evidence indicates that there is and will be in the future a high prevalence of premarital sexual relations, and if the incidence of premarital pregnancy is to be reduced, it will occur by decreasing the rate of conception, not sexual intercourse (Kinsey et al., 1953; Reiss, 1966).

Using a sample of 169 expectant unwed mothers (almost entirely black), Furstenberg et al. (1969) designed a study to explore the sexual patterns of pregnant adolescents, their attitudes toward pregnancy, and their opinions and knowledge of birth control. Their findings in regard to contraceptive usage are:

1. Most women did not want or expect to become pregnant and virtually all were anxious to avoid a second pregnancy.

2. Most women had limited knowledge of birth control. Those who used contraception relied almost exclusively on the condom, although most acknowledged it was not the best method.

3. The teenagers had little access to effective female methods, and many had misgivings and misinformation about such methods.

4. Nearly all were aware they did not possess adequate knowledge about or access to birth control.

Furstenberg et al. (1969) concluded that the failure to practice birth control stems more from limited knowledge and access than from any pattern of sexual promiscuity or cultural values supporting pregnancy outside of marriage.

Furstenberg (1971) challenged the assumption that premarital pregnancy is specially motivated (Roberts, 1966) and contended that it is the unanticipated outcome of sexual activity. This research effort involving 337 unmarried pregnant adolescents investigated why contraception is not used more often to prevent unwanted pregnancy. The data indicated that experience with birth control was strongly related to the way sex was viewed by the adolescent's mother. Mothers afraid that advice about contraception would encourage sexual activity in their daughter remained silent. Girls from families in which both mothers and daughters reported discussing contraception were much more likely to have used it. The data further indicated that the nature of the couple's relationship greatly influenced whether, and how often, birth control was used. Those couples that had a stable, romantic relationship were more likely to use contraception. In such a relationship the girls were able to gain from their mother's advice and instruction by influencing their partner to cooperate in contraceptive usage.

Other research studies have focused on the reasons why adolescents do not use contraception. Kantner and Zelnik (1973) found 28% of the white and 55% of the black women believed they could not easily become pregnant even if unprotected. A substantial number felt they could not become pregnant because they were too young, had sex too infrequently, or because they engaged in intercourse at the wrong time of the month. It has been suggested that one of the greatest determinants of noncontraception among this population is the episodic nature of sex and, thus, when the act is unanticipated passion is apt to triumph over reason (Furstenberg et al., 1969).

Guilt about sex and denial of the risks are among the reasons given by many adolescents for not using birth control (Goldsmith et al., 1972). From the findings of their opinion survey of adolescent female respondents, Goldsmith et al. concluded that an attitude of accepting one's own sexuality is a more important correlate of contraceptive use than such other factors as exposure to sex education and knowledge of sex and contraception and is similar to the strong relationship between contraceptive use and self-perception found by Kantner and Zelnik (1973). They reported that the evaluation of one's own fecundity was found to be important for those who thought they were highly susceptible to conception, and they were more likely to use contraceptive methods.

Scales (1977) argued that ineffective contraception, or lack of contraception, is related to social-cultural standards that discourage male contraceptive participation, the double-standard in teenage decision making, the lack of communication between the partners regarding contraception, and the belief by the teen that the male should not be responsible for contraception. Vadies and Hale (1977) investigated 1,017 young men in regard to their attitudes toward pregnancy, family planning, and sexuality. In contrast to the findings of Scales (1977), their results indicate that young males tend to see the responsibility for contraception more as a dual responsibility than as that of only the female.

Acceptance of one's own sexuality and the episodic nature of sexual relations for this population have already been noted as correlates of the teenage pregnancy problem. Kantner and Zelnik (1973) found socioeconomic status positively associated with contraceptive use. Additional correlates reported by these researchers are:

1. No differences in contraceptive use between black and white teens were found.
2. Frequent church attendance is associated with higher proportions using contraception among blacks and a lower proportion among whites.

3. Contraceptive use is higher for females with some college than among those of the same age who have not pursued advanced education.

4. Rural residents are below average in contraceptive use and suburban blacks are high in contraceptive use.

#### Fishbein's Theory

Past research efforts in the United States have failed to explain variations in fertility and family planning behaviors from psychological variables. The Indianapolis Study (Whelpton & Kiser, 1946-1958) and the Princeton Study (Westoff et al., 1961) did not find significant relationships between psychological variables (e.g., feelings of inadequacy, adherence to traditions, and conformity to group patterns) and aspects of family planning and fertility. Freedman (1962) concluded that "the patterns of family planning followed are successful in enabling most couples to have the number of children they want" (p. 219) and that "the plans and expectations of married couples will guide their behavior" (p. 217). The lack of an organizing theory shaping these past research studies may in part explain why the psychological variables related to the "plans and expectations" have not been determined (Davidson & Jaccard, 1975). Fishbein's (1972) theory of social behavior has proved useful in the analysis of behaviors related to family planning and fertility.

Evidence for the theory's validity has been accumulated by Fishbein and colleagues (Fishbein, 1966; Ajzen & Fishbein, 1970, 1972; Davidson & Jaccard, 1975). The studies range from trying to predict strategy choices in Prisoner's Dilemma games to premarital sexual intercourse in the college population.

Ajzen and Fishbein (1970) found correlations between behavioral intentions and game behaviors were .897 and .841 ( $p < .001$ ) for two Prisoner Dilemma games. The behavioral intention, measured after eight warm-up trials, changed very little throughout the game and could provide accurate predictions of overt behaviors.

Fishbein (1966) found in a study of premarital sexual intercourse among undergraduates that a specific measure of intention yielded better predictors of behavior than did a more general measure. The general intention to engage in sexual intercourse and self-reported behavior correlated .564 ( $p < .05$ ) for females and .174 (ns) for males. The more specific intention to engage in this behavior in the current semester showed correlations were .676 ( $p < .01$ ) for females and .394 (ns) for males. Fishbein suggested that the correlation for females was not higher due to the amount of time between the measurement of the two variables.

Davidson and Jaccard (1975) administered to a random sample of 270 married women a questionnaire assessing the model's components for three family planning behaviors:

having a two-child family, having a child during the next 2 years, and using birth control pills. The model proved highly accurate for predicting family planning intentions for the total sample. Also, it was found that the more specific attitude-toward-the-act measure was a better predictor of family planning intentions than the traditional attitude-toward-the-object. The authors suggested as a result of their findings that the model is probably generalizable to most of the American population. In this study, the model was tested for its generalizability to the adolescent population. If sexual and contraceptive behaviors are under volitional control, an understanding of the determinants of these behaviors is essential if one is to produce changes in these behaviors.

Additional empirical research is needed to determine specific correlates of teenage fertility and to determine the generalizability of the Fishbein model to the adolescent female population. With increased knowledge, efforts to bring about behavioral and attitudinal changes may be more successful and lessen the dysfunctional consequences of adolescent pregnancy.

## CHAPTER 3

### METHODS

This chapter describes the sample design and variable measurements of the present study. The methods employed in the data analysis are detailed and the statistical data regarding the respondents (see Table 1) and distribution of the variables are reported (see Table 2).

#### Sample Design

This study involves a secondary analysis of the Arizona Survey of Urban and Rural Youth: 1978. The original sample comprised 385 adolescent females, aged 13 to 19 years, from rural, small town, and urban areas of Arizona. Data were gathered by administering a detailed questionnaire to the females. The sample was drawn from adolescents seeking family planning services in county health departments and planned parenthood clinics (the clinic sample) and from urban and rural high schools (the high school sample). Research assistants introduced the study and assured confidentiality to the respondents in the clinic samples, and the questionnaires were then completed on site. The high school sample, drawn from one urban and two rural high schools, presents a more representative picture of adolescent sexual attitudes and

Table 1. Demographic characteristics of the sample

	Age Range 14-19 Years N	$\bar{X} = 16.8$ SD = 1.07 %
<u>Residence</u>		
Urban	128	52.4
Rural	<u>116</u>	<u>47.6</u>
	244	100.0
<u>Race</u>		
Black	12	4.9
Caucasian	194	79.5
Indian	4	1.6
Mexican-American	30	12.3
Oriental	2	.7
Mixed	<u>1</u>	<u>.8</u>
	100	100.0
<u>Religion</u>		
Catholic	72	29.5
Protestant	101	41.4
Jewish	5	2.1
Nonmember	<u>66</u>	<u>27.0</u>
	244	100.0
<u>Grade</u>		
9th	11	4.5
10th	29	11.9
11th	58	23.8
12th	88	36.1
Drop-out	22	9.0
Graduate	<u>33</u>	<u>14.7</u>

Table 2. Ranges, means, and standard deviations of all variables in the study (N = 244)

	Range	$\bar{X}$	SD
<u>Exposure to Pregnancy Risk</u>			
Frequency to Sexual Intercourse-ever	0-8	6.7	2.2
Frequency of Any Contraception	1-4	2.4	1.2
Regularity Effective Contraceptive Use	1-4	2.7	1.3
<u>Attitudinal Variables</u>			
Sexual:			
Sexual relations acceptable/in love	1-4	3.2	.66
Sexual relations acceptable/ strong affection	1-4	2.9	.78
Sexual relations acceptable/ not particularly affectionate	1-4	1.7	.75
Contraceptive:			
Irresponsible	1-4	2.9	.87
Too much trouble	1-4	2.6	.87
Make sex seem planned	1-4	2.9	.81
<u>Normative Belief Variables (Sex)</u>			
Parents:			
Sex is wrong unless married	-2 -(+2)	-.5	1.4
If knew having sex, they would	-2 -(+2)	-.6	1.4
Peers:			
Sex is wrong unless married	-2 -(+2)	.9	1.0
If knew having sex, they would	-2 -(+2)	1.2	1.1
<u>Normative Belief Variables (Contraception)</u>			
Parents:			
All right teens use birth control	-2 -(+2)	.01	1.4
Knew using birth control, they would	-2 -(+2)	.01	1.7
Peers:			
All right teens use birth control	-2 -(+2)	1.1	.96
Knew using birth control, they would	-2 -(+2)	1.2	1.1
<u>Motivation to Comply Variables</u>			
Parents	0-4	2.2	1.3
Peers	0-4	1.7	1.3

behaviors than the clinic sample. Administrations and school boards granted permission for access to this segment of their student populations. Rural high school repondents were volunteers from health and family life education classes who needed parental permission to participate. Respondents from the urban high school were volunteers from the entire female student body who had parental permission to complete the questionnaire. All respondents from the high school sample completed the questionnaire during school hours.

For the purposes of this study, only those adolescent females who were sexually active ( $N = 244$ ) were included in the sample. To determine if the variables operate differently in the various segments of the population, analyses were conducted on the sample as a whole ( $N = 244$ ) and on subsamples: (1) the urban subsample ( $n = 128$ ) and (2) the rural subsample ( $n = 116$ ).

Caution should be exercised in generalizing the results of this analysis beyond the sampling frame due to the following limitation. Strong normative pressures on the part of parents and school administrations in Arizona prevented access to the population of all sexually active and nonactive adolescents and therefore the ideal random and representative sample was not possible. The sample is limited in that it reflects the perception of the female only. Because the female is more likely to attend a family

planning facility than the male and therefore more accessible for data-gathering purposes, the sample was restricted to female respondents. The normal sample drawn from the urban and rural high schools was also restricted to females.

The sample does represent, despite this limitation, a broad cross section of female adolescents in terms of social class, age, and urban (52%) versus rural (48%) residents. The participation rate was also high, with 95% of those approached volunteering to participate in the clinic setting and 98% in the rural high-school setting.

#### Variable Measurement

This study compares the relative influences of attitudes and norms in the prediction of sexual and contraceptive behaviors of adolescent females. The dependent variables were sexual behavior and contraceptive behavior. The independent variables were A-act (attitude-toward-the-act) and  $NB_i Mc_i$  (perceived expectations of referent i/motivation to comply with the expectations of referent i).

#### Sexual Behavior

Sexual behavior, which is a dependent variable, was operationalized by asking the adolescent females making up the sample to respond to the following question:

1. How many times have you ever had full sexual relations?

0 = never  
1 = once  
2 = twice  
3 = three times  
4 = four times  
5 = five times  
6 = six times  
7 = seven-ten times  
8 = more than ten times

A sexual behavior score of 8.0 indicates the highest level of sexual permissiveness, whereas a 0.0 score reveals the lowest level of sexual permissiveness.

#### Contraceptive Behavior

Contraceptive behavior, which is a dependent variable, was operationalized by asking the sample respondents to answer the following questions:

1. When you have had sexual relations in the past, how often have you used birth control?
  - 1 = never
  - 2 = hardly ever
  - 3 = sometimes
  - 4 = always
2. For each of the following birth control methods, indicate whether you have tried that method and if so, how often have you used it. (Response categories include never, once, occasionally, and regularly.)
  - a. birth control pills
  - b. intrauterine device (IUD)
  - c. diaphragm
  - d. rhythm
  - e. condom (rubber)
  - f. foams, creams, or jellies
  - g. douche
  - h. withdrawal
  - i. luck or chance

- 1 = nonuser
- 2 = user ineffective birth control method/or occasional user less effective method
- 3 = moderate user effective birth control method/or frequent user less effective method
- 4 = consistent user effective birth control method

Both variables will be analyzed individually and may later be combined if such a measure would further maximize the predictive ability. For question 1, a score of 4.0 indicates the highest level of contraceptive use, while a score of 1.0 reveals the lowest level of contraceptive use. For item 2, a rater score (interrater reliability .91) was assigned to the responses, with a 4.0 representing the highest level of contraceptive use and 1.0 representing the lowest level of contraceptive use.

#### Attitude-toward-the-act

A-act is concerned with the attitude toward performing a specific behavior in a given situation, rather than with an attitude toward a given person, object, value, or institution. As an independent variable, A-act for the dependent variable sexual behavior is operationalized by having the adolescent females respond to statements taken from Reiss's Sexual Permissiveness Scale (Reiss, 1967). All the samples studied by Reiss showed a coefficient of reproducibility of about .95, and a coefficient of scalability of about .85. Compared with other Guttman-type

scales these results are very high and taken together with the fact that no question had to be dropped it lends support to the validity of the scales (Reiss, 1967). Reliability is not an issue in Guttman scales because a cumulative scale pattern means that the items have a singular meaning to the respondents and would evoke the same response whenever given (Guttman, 1950). Although the entire scale was included in the original survey, only those statements most appropriate for this study were selected for inclusion. Each female was asked to respond to the following items:

1. I believe that full sexual relations are acceptable for a girl before marriage when she is in love.
2. I believe that full sexual relations are acceptable for a girl before marriage when she feels strong affection for her partner.
3. I believe that full sexual relations are acceptable for a girl before marriage even if she does not feel particularly affectionate toward her partner.

Response categories for the above items included strongly agree, agree somewhat, disagree somewhat, and strongly disagree. The respondent was assigned the highest number in the hierarchy to which she answered strongly agree or agree somewhat. A score of 3.0 indicates the most permissive attitude-toward-the-act, whereas a score of 0.0 reveals the least permissive attitude-toward-the-act.

A-act for the dependent variable contraceptive behavior was operationalized by having the females respond to the following:

For the following items, put a check in the column that best describes your response according to how you feel about that statement. (Response categories form a Likert-type scale with choices including strongly agree, agree, disagree, and strongly disagree.)

1. I think that teenagers who do not use birth control every time they have sex are irresponsible.  
(SD = 1, D = 2, A = 3, SA = 4)
2. Except for birth control pills, most other birth control methods are just too much trouble to use.  
(SA = 1, A = 2, D = 3, SD = 4)
3. One problem in using birth control pills or other methods of contraception is that it makes it seem as if having sex was too planned.  
(same response categories as above)

To determine an attitudinal component score, the items were analyzed individually and were later combined if such a measure maximized predictive ability.

Perceived Expectations of Referent i/  
Motivation To Comply

$NB_i Mc_i$ , an independent variable, was operationalized by having respondents answer questions or respond to statements for both  $NB_i$  and  $Mc_i$ . Individual scores for the items were analyzed individually and also summed. The two components were then multiplied to determine an overall score for the normative component.

For the dependent variable sexual behavior,  $NB_i$  was measured by having the females respond to the following:

Normative beliefs (parents)

1. My parents believe that sex is wrong unless it's between two people who are married to each other.

(SD = 2, D = 1, A = 1, SA = -2)

2. If my parents knew I was having sex, they would:

-2 = strongly object

-1 = object, but not too strongly

0 = probably not care one way or the other

1 = probably not agree but give their support

2 = probably agree and give their support

Normative beliefs (peers)

1. My friends believe sex is wrong unless its between two people who are married to each other.

(same response choices and coding as parent item)

2. If my friends knew I was having sex, they would:

(same response choices and coding as parent item)

A score of 2 indicates that the respondent perceives the parent/peer to be very permissive on that item, whereas a score of a -2 suggests that the respondent perceives the parent/peer to be very restrictive on that item.

$Mc_i$  was operationalized by having females complete the following statements from the Peer-Parent Identification Scale (Longstreth & Rice, 1964). Construct validity was

demonstrated by the authors. Only the statements appropriate to the present study were taken from the scale.

1. Usually teenagers are happier if they are:
  - 0 = one of the crowd
  - 1 = close to their parents
2. Usually the persons who can be of more help to teenagers are:
  - 0 = other teenagers
  - 1 = their parents
3. About the worst thing that can happen to teenagers is to be considered an outsider by:
  - 0 = their friends
  - 1 = parents
4. Teenagers just get more confused with the advice of:
  - 0 = parents
  - 1 = other teenagers

A score of 4.0 represents the highest level of identification with parent or peer, whereas a score of 0.0 reveals the lowest level of identification.

For the dependent variable contraceptive behavior,  $NB_1$ , was measured by having the females respond to the following:

Normative beliefs (parents)

1. My parents believe it is all right for teenagers to use birth control.  
(1 = SD, 2 = D, 3 = A, 4 = SA)
2. If my parents knew I was using birth control, they would:
  - 2 = strongly object
  - 1 = object, but not too strongly

- 0 = probably not care one way or the other
- 1 = probably not agree but give their support
- 2 = probably agree and give their support

Normative beliefs (peers)

1. My friends believe it is all right for teenagers to use birth control.  
(same response categories and coding as parent item)
2. If my friends knew I was using birth control, they would:  
(same response categories and coding as parent item)

A score of 2 indicates that the respondent perceives the parent/peer to be very permissive on that item, whereas a score of a -2 suggests that the respondent perceives the peer/parent to be very restrictive on that item.  $Mc_i$  was operationalized with the same measures employed for the dependent variable sexual behavior.

Unless otherwise referenced, the measures included were developed for the Arizona Survey of Urban and Rural Youth: 1978. The measures were pretested and judged appropriate by a panel of experts.

Through forward stepwise regression the relative importance of the attitudinal and normative components in predicting sexual behavior and contraceptive behavior was made clearer.

## CHAPTER 4

### RESULTS

As a first step in determining the strength and direction of relationships among the variables contained in the hypothesis, a bivariate correlation matrix (Pearson's  $r$ ) was computed for all independent and dependent variable measures (Table 3). The correlation coefficients that attain statistical significance show that all are in the predicted directions, although the hypothesis is not supported for the dependent variable sexual permissiveness as measured by the frequency of sexual intercourse-ever. Furthermore, the findings indicate a lack of relationship for the normative component (peers) and the contraceptive behaviors.

Table 3. Zero-order correlation matrix: Attitudinal and normative variables with behavioral sexual permissiveness and contraceptive use (N = 244)

	Frequency of Sexual Intercourse- ever	Regularity of Any Con- traceptive use	Regularity of Effective Contraceptive
A-act	.11*	.32***	.29***
$\Sigma NB_i Mc_i$ (parents)	.06	.23***	.22***
$\Sigma NB_i Mc_i$ (peers)	.10	-.02	-.05

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

To determine the relative impact of significant correlates of adolescent pregnancy risk, as well as assessing the total amount of variance for each dependent measure explained by the variables in the model, a forward stepwise multiple regression was conducted (Table 4). Items were first analyzed individually, and then in the different possible combinations. The totals represent the best predictors and are the only ones shown. Regarding the measure of sexual activity level, the Beta weights indicate that the attitudinal and normative variables are not significant predictors. Regarding the two measures of contraceptive use, both the attitudinal and normative variables (parents) were significant predictors that emerged in the regression analysis. Only the attitudinal variable emerged as a significant predictor when the peer measures were employed for the normative component. As predicted, the normative and attitudinal variables relate positively to regularity of contraceptive use and regularity of effective contraceptive use. However, the total variance explained for any of the dependent variables, given by the  $R^2$  values, is not high. A maximum of 17% of the variance for any of the dependent variable measures in this study was explained.

Multiple regression analysis was also conducted on two subsamples, urban versus rural (Tables 5 and 6), to determine if the model was differentially predictive of

Table 4. Multiple regression analysis of behavioral sexual permissiveness and contraceptive usage (N = 172)

Independent Variable	Unstand-ardized (b)	Standard Error	(Beta)
<u>Frequency of Sexual Intercourse-ever</u>			
A-act	.335	.222	.117
$\Sigma NB_i Mc_i$ (parents)	.021	.025	.066
	R = .14	R <sup>2</sup> = .02	
A-act	.305	.221	.107
$\Sigma NB_i Mc_i$ (peers)	.046	.030	.116
	R = .175	R <sup>2</sup> = .03	
<u>Regularity of Contraceptive Use</u>			
A-act	.194	.054	.257***
$\Sigma NB_i Mc_i$ (parents)	.041	.011	.249***
	R = .36	R <sup>2</sup> = .13	
A-act	.206	.056	.272***
$\Sigma NB_i Mc_i$ (peers)	-.008	.017	-.038
	R = .274	R <sup>2</sup> = .07	
<u>Regularity of Effective Contraceptive Use</u>			
A-act	.220	.059	.268***
$\Sigma NB_i Mc_i$ (parents)	.035	.013	.195**
	R = .34	R <sup>2</sup> = .11	
A-act	.230	.060	.280***
$\Sigma NB_i Mc_i$ (peers)	-.014	.018	-.057
	R = .28	R = .08	

\*p < .05

\*\*p < .01

\*\*\*p < .001

Table 5. Multiple regression analysis of behavioral sexual permissiveness and contraceptive usage, urban (N = 92)

Independent Variable	Unstandardized (b)	Standard Error	(Beta)
<u>Frequency of Sexual Intercourse-ever</u>			
A-act	.605	.315	.201
$\Sigma NB_i Mc_i$ (parents)	.079	.037	.022
	R = .20	R <sup>2</sup> = .04	
A-act	.564	.317	.187
$\Sigma NB_i Mc_i$ (peers)	.344	.044	.082
	R = .22	R <sup>2</sup> = .04	
<u>Regularity of Contraceptive Use</u>			
A-act	.175	.074	.233*
$\Sigma NB_i Mc_i$ (parents)	.042	.016	.250*
	R = .35	R <sup>2</sup> = .12	
A-act	.189	.077	.250**
$\Sigma NB_i Mc_i$ (peers)	.011	.023	.049
	R = .25	R <sup>2</sup> = .06	
<u>Regularity of Effective Contraceptive Use</u>			
A-act	.228	.082	.279**
$\Sigma NB_i Mc_i$ (parents)	.017	.018	.097
	R = .30	R <sup>2</sup> = .09	
A-act	.234	.083	.286**
$\Sigma NB_i Mc_i$ (peers)	.005	.025	.024
	R = .28	R <sup>2</sup> = .08	

\*p < .05

\*\*p < .01

\*\*\*p < .001

Table 6. Multiple regression analysis of behavioral permissiveness and contraceptive usage, rural (N = 80)

Independent Variable	Unstandardized (b)	Standard Error	(Beta)
<u>Frequency of Sexual Intercourse-ever</u>			
A-act	-.177	.314	-.066
$\Sigma NB_i Mc_i$ (parents)	.047	.034	.166
	R = .15	R <sup>2</sup> = .02	
A-act	-.131	.305	-.049
$\Sigma NB_i Mc_i$ (peers)	.058	.041	.161
	R = .15	R <sup>2</sup> = .02	
<u>Regularity of Contraceptive Use</u>			
A-act	.235	.087	.284**
$\Sigma NB_i Mc_i$ (parents)	.038	.017	.230*
	R = .39	R <sup>2</sup> = .15	
A-act	.272	.088	.329
$\Sigma NB_i Mc_i$ (peers)	-.363	.026	-.148
	R = .34	R <sup>2</sup> = .12	
<u>Regularity of Effective Contraceptive Use</u>			
A-act	.251	.093	.281**
$\Sigma NB_i Mc_i$ (parents)	.048	.018	.269*
	R = .31	R <sup>2</sup> = .17	
A-act	.297	.095	.332**
$\Sigma NB_i Mc_i$ (peers)	-.042	.028	-.158
	R = .35	R <sup>2</sup> = .12	

\*p < .05

\*\*p < .01

\*\*\*p < .001

actual behaviors. Regarding the measure of sexual activity level for both samples, the Beta weights indicate that the attitudinal and normative variables do not maintain significant relationships under peer or parental influence. Regarding the two measures of contraceptive use, the Beta weights indicate that under parental influence all variables were significant predictors except the normative variable for regularity of effective contraception in the urban subsample. Considering peer influence, the Beta weights indicate that only the attitudinal variable emerged as a significant predictor from the regression analysis.

The total variance explained for any of the dependent variable measures in the subsamples, given by  $R^2$ , is not high. For any of the pregnancy risk variables, only 17% of the variance was explained.

The interpretation and implications of these findings will be discussed in Chapter 5.

## CHAPTER 5

### DISCUSSION

The findings of this study are discussed in three parts. First, the results of the present study are compared to the findings of other studies (e.g., Davidson & Jaccard, 1975) which have tested the Fishbein (1966) model after sampling adult women. Second, the difference in the predictive ability of the attitudinal and normative components of the Fishbein model for adolescents will be discussed. Third, an explanation of why the attitudinal and normative variables were significant predictors only for the contraceptive behaviors will be offered. In summary, implications for further research and practical application will be presented.

The empirically determined regression weights of the attitudinal and normative variables in this study were not as strong as those reported by Davidson and Jaccard's (1975) study of family planning intentions of adult women. For predicting effective contraceptive use in this study that sampled adolescent females, the regression weight was .268 for the attitudinal component and .195 for the normative component. In comparison, the Davidson and Jaccard study reported regression weights of .401 for the

attitudinal component and .510 for the normative component when the intention to be predicted was the use of birth control pills. Although the two studies are not directly comparable due to several methodological differences, an interpretation of the predictive ability of the attitudinal and normative variables in the two studies may partially explain important factors that have influenced the results of this study.

Several factors may be responsible for the difference in the Beta weights. First, there is strong evidence for the utility of Fishbein's model in the family planning area. To date, the model has been used for predicting intentions to engage in premarital sexual intercourse (Fishbein, 1966), intentions to practice family planning behaviors such as using birth control pills (Jaccard & Davidson, 1972), and intentions to have two children in the completed family (Davidson & Jaccard, 1975). This study, however, involved a secondary analysis of measures not developed specifically to replicate other attempts to test the Fishbein model. In addition, measures of behavioral intentions were not included in the original survey. The intent of this study was to predict actual behaviors from a composite of variables similar to, but not precisely the same as, those incorporated in other tests of the model. Two major classes of problems in regard to the BI-B relationship are (1) the identification of those factors

that tend to reduce the observed relations between intentions and behavior and (2) the factors that are likely to produce changes in behavioral intentions over time. These problems may in part explain why the attitudinal and normative variables have less predictive ability for actual behaviors than they do for intentions.

Several major factors relevant to this study can be identified that influence the strength of the BI-B relationship (Fishbein & Jaccard, 1973). The time interval between the measurement of intention and the observation of behavior is one factor. The longer the time interval, the lower the BI-B correlation that would be expected. If the use of an effective contraceptive is to be predicted for a given date, the best measure of BI can be obtained on that same evening. The predictive power of the same measure of intention will decrease the more it is taken in advance of that specific date. Considering the sporadic and unplanned nature of teenage intercourse (Zelnik & Kantner, 1979), intentions measured in advance of the sexual or contraceptive behavior may not correlate highly with the actual behavior. Exposure to new information can also influence a person's intention to perform a given behavior. This information can produce changes in a person's beliefs about the consequences of the behavior (A-act) or about the expectations that significant others hold for the person ( $NB_i$ ). Although the teenager may initially express the intention to use a specific

contraceptive method, exposure to information indicating risks of employing that particular method may change the adolescent's intention and behavior. In addition, the behavior is at times dependent upon a sequence of prior events. The BI-B relationship is expected to change as a function of (1) the number of steps in the sequence and (2) the degree to which performance of each step depends on the behavior of some other person, or the occurrence of some event. Lindemann (1975) demonstrated that the multiplicity of steps the young woman must go through to seek and obtain professional contraceptive health care is a major deterrent to effective contraceptive usage. According to Lindemann, the adolescent female is just beginning to see herself as a sexually active human being, and engages in sporadic and unplanned sex. At this stage of her development, she is not ready to communicate with her partner or professionals about contraception, and holds the belief that pregnancy is unlikely to happen to her. Only with increased sexual activity and acceptance of her sexual identity is she ready to employ nonprescription methods that involve planning, inconvenience, and cooperation with her partner. It is only in the final stage of what Lindemann (1975) called the "birth control prescription process" that the female is willing to admit her sexual activity to professionals.

Furthermore, the adult women sampled in the Davidson and Jaccard (1975) study were asked their attitudes toward various family planning behaviors and their intentions related to those behaviors. According to the theory of cognitive dissonance (Festinger, 1957), individuals strive for cognitive consistency or balance. Inconsistent cognitions arouse unpleasant psychological states which lead to behavior designed to achieve consistency. If the women were not consistent in their attitudes and intentions, these "nonfitting" relations among their cognitive elements would result in cognitive dissonance. Cognitive dissonance creates pressures to correct the imbalance in the cognitive elements. The results of such pressures are manifested by changes in cognition, behavior changes, and exposure to new information (Festinger, 1957). Interpreting the findings of Davidson and Jaccard (1975) within the context of this theory, it would be expected that the components of the Fishbein model, particularly the attitudinal component, would be highly predictive of behavioral intentions because of the desire to be consistent in their responses to questions measuring attitudes and intentions in the same research setting. Recognizing the many factors that can influence the BI-B relationship, it is possible to partially explain why the predictive ability of the normative and attitudinal variables for the dependent variables in this study did

not reach the magnitude of those reported by the Davidson and Jaccard (1975) study.

The two studies also differ in the measures employed and the individuals sampled. Specific measures were designed for the purpose of testing Fishbein's model in the Davidson and Jaccard (1975) study. The present study involved a secondary analysis of the Arizona Survey of Urban and Rural Youth: 1978, and only those measures employed in the original survey could be included. The following items taken from the two studies will illustrate the differences in measures employed.

#### Motivation to Comply

Davidson and Jaccard (1975) study:

I want to do what my parents think I should do	____ : ____ : ____ : ____ :	I do not want to do what my parents think I should do
--	-----------------------------	---

Present study:

Teenagers just get more confused with the  
 advise of

0 = parents  
 1 = other teenagers

Another significant difference between the two studies is that this study sampled adolescent females rather than adult women. The results indicated that the attitudinal and normative variables were less predictive in this study that sampled adolescent females. The following discussion of adolescence as it relates to the predictive ability of

the two components of the Fishbein model will further clarify the importance of the sampling differences found in the two research efforts.

To understand the differences in the predictive ability of the attitudinal and normative components, knowledge of the stage of adolescence is important. Thornburg (1973) stated that adolescents experience a high level of value-behavior inconsistency due to the cross-cutting pressures of parents and peers. The adolescent, having the need to emancipate herself and discover those values and beliefs she wants to hold for herself, struggles to establish her identity. According to reference group theory (Mirande, 1968), the behavior of a person under such cross pressure will be consistent with the expectations of the group which serves as the reference point at the time. Understanding that an adolescent experiences these cross pressures and will not behave consistently with either the peer or parent reference group adds perspective to the findings of this study. The finding that the Beta weights of the normative variables are not high, or as high as in the Davidson and Jaccard (1975) study that sampled adult women, may have been influenced by the adolescent's ambivalence stemming from guilt if she behaves consistently with the perceived peer norms, and frustration if she behaves

consistently with the expectations of her parents. The finding that the normative component (peers) was not a statistically significant predictor of contraceptive behaviors may indicate that the decision-making process of sexually active adolescent females in regard to contraceptive usage is influenced more strongly by perceived parental norms.

The predictive ability of the attitudinal component for the contraceptive behaviors is a positive finding of this study. In contrast, the findings of Davidson and Jaccard (1975) suggested that both components of the Fishbein model are necessary for the prediction of family planning intentions. The importance of the attitudinal component for adolescents in their decision making regarding contraceptive use may stem from their confusion and frustration in establishing a value system while under the cross pressures of parents and peers. Although the Beta weights are not high, the finding of the importance of the attitudinal component suggests implications for further research and some insight for practical application that will be addressed in the summary.

It was hypothesized that a respondent's sexual and contraceptive behavior can be predicted from a linear combination of her attitude toward performing that behavior and her normative beliefs weighted by her motivation to comply with those norms. The findings support the hypothesis only in predicting frequency of any contraceptive use

and regularity of effective contraceptive use. The attitudinal and normative variables were not statistically significant for predicting sexual permissiveness. Acknowledging the differences in the two types of behaviors that were to be predicted may permit some understanding of the findings. Engaging in sexual intercourse may be viewed by adolescents as a pleasurable and fulfilling experience in and of itself. Consequently, normative support and influence by parents and peers may not play a particularly important role in determining the level of sexual activity of an individual. Further, acknowledging one underlying assumption of social scientific theory that behavior is patterned and predictable, we would not expect the model to predict the sporadic and unplanned intercourse characteristic of adolescents.

The attitudinal and normative variables were significant predictors for both contraceptive behaviors. The normative support of parents is apparently an important factor in influencing an individual to employ contraception. That the attitudinal and normative variables were not better predictors of the contraceptive behaviors may be partially explained by a major limitation of this study. Previous research suggests that the relationship with the sexual partner is a principal determinant of contraceptive use (Thompson & Spanier, 1978; Jorgensen, King, & Torrey, 1980), and in this study partner influence was not measured.

Jorgensen et al. (1980) found that the female's feelings toward her partner and her ability to influence him was clearly associated with her willingness to employ contraception. These authors suggested that the adolescent dyad is able to construct and maintain firm psychological and normative boundaries that distinguish it from other social groups. The couple identity enables the teenage couple to be somewhat impervious to the normative and behavioral influences of peers and family members. Furthermore, only a small portion of the variance was explained for any of the dependent measures. This suggests that the variables influencing adolescent sexual and contraceptive behaviors are numerous and the interrelationships among the variables highly complex, especially since adolescents are less likely than adults to behave in predictable ways (Thornburg, 1973).

#### Implications for Future Research

In the future, partner influence and the nature of the dyadic relationship are important factors that should be empirically studied to improve our predictability of family planning behaviors for adolescents. With a better understanding of the partner as a significant referent, the decision-making processes related to sexual and contraceptive behaviors of these adolescents may become better known.

A replication of the Davidson and Jaccard (1975) study sampling adolescent females would allow a more direct comparison of the findings and better determine the generalizability of the Fishbein model to adolescents. Caution should be exercised in generalizing the results of the analysis beyond the sampling frame. Access to the population of all adolescents was not possible due to strong normative pressures, and the sample is limited in that it reflects the perception of the female only.

Situational variables (e.g., parental control, opportunity, partner influence) should be empirically studied in the future to determine their effect on the decision making of adolescents in regard to their sexual and contraceptive behaviors. The predictive ability of the Fishbein model may be improved for the adolescent population if such situational factors were more directly incorporated into the model. The findings of this study indicate that A-act and NBMc<sub>1</sub> were not strong predictors of these adolescent behaviors and may suggest that situational factors are more directly influencing the decision making of teenagers.

The data indicated the particular usefulness of the attitudinal component of the model in predicting contraceptive behaviors. Further research to determine if this component proves to be the more important predictor of fertility related behaviors for adolescents is indicated. Such a finding may have practical application leading to

educational programs designed to develop responsible attitudes toward sexual activity and contraceptive usage.

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