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PSYCHOSOCIAL MATURITY AND ADOLESCENT SEXUAL BEHAVIOR AND ATTITUDES

by

Carol L. Howe

DISSERTATION

Submitted in partial satisfaction of the requirements for the degree of

DOCTOR OF NURSING SCIENCE

in the

GRADUATE DIVISION

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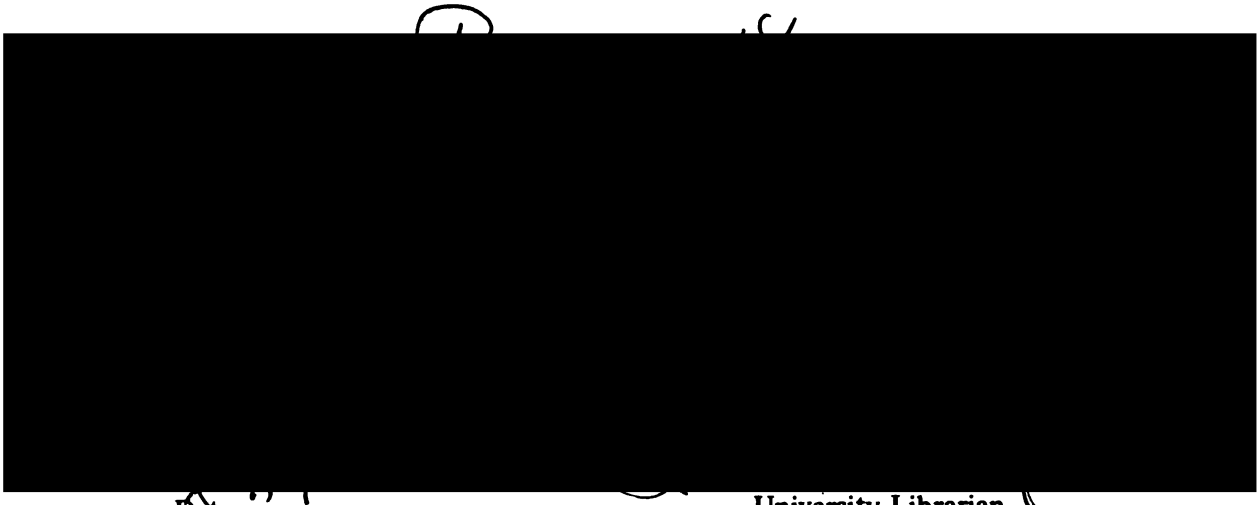
San Francisco



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PSYCHOSOCIAL MATURITY AND ADOLESCENT SEXUAL BEHAVIOR AND ATTITUDES

Carol L. Howe

University of California,
San Francisco

The continuing scientific interest in the sexual behavior and attitudes of today's adolescents indicates that while the body of knowledge related to that subject is constantly expanding, there is still much to be learned. The purpose of this study was to contribute to that body of knowledge by investigating through a developmental/interactional framework, the relationship between the adolescent's psychosocial maturity and selected sexual behaviors and attitudes. The concept of psychosocial maturity was operationalized by the nine subscales of the Psychosocial Maturity Inventory (Self Reliance, Work Orientation, Identity, Communication Skills, Knowledge of Roles, Trust, Social Commitment, Tolerance, and Openness to Socio-Political Change).

Ninety-five male and female students from a San Francisco Bay Area high school responded to the Psychosocial Maturity Inventory and a Sexual Attitudes and Behavior Questionnaire. Regression analysis, discriminant analysis, and analysis of variance were used to test

the relationship of psychosocial maturity and sexual experience, number of sexual partners, contraceptive effectiveness, attitudes toward premarital sex, attitudes toward birth control use and attitudes toward abortion.

The hypothesis that the nine subscales of the Psychosocial Maturity Inventory would be uniformly and positively related to contraceptive effectiveness for both male and female adolescents was not supported. The hypotheses that the Work Orientation subscale and the Openness to Socio-Political Change subscale (considered here to be a measure of sex-role orientation) would be positively related to effective birth control use for females also failed to receive support. Generally, no clear pattern of relationship emerged between psychosocial maturity and the six dependent variables. However, among the significant relationships that did emerge, the more interactive subscales (Knowledge of Roles, Communication Skills, and Trust) predominated. In addition, the Tolerance subscale, which was highly correlated with the interactive subscales, appeared often among the significant findings.

Interesting gender differences emerged in the analysis. Regression analysis generated markedly different equations in the prediction of contraceptive behavior

for males and females. In addition, although the sexual and contraceptive behavior of females and males did not differ significantly, females were found to be generally more mature, to expect more of a love commitment in a premarital relationship, to have more negative feelings about pregnancy, and to assess their risk of pregnancy lower.

In keeping with the national trend toward earlier age at first intercourse, sexually experiences males in this study began sexual intercourse on the average of 11.8 years, while females began at a mean age of 14.4 years.

Difficulties were encountered in testing with the Psychosocial Maturity Inventory. Expressed hostility toward the instrument may have contributed to an attrition from the study of up to 30%, and raised the question of the use of forced choice responses in the testing of adolescents. In addition, there was a marked lack of internal consistency within the subscales. Only one subscale, Knowledge of Roles, had a mean inter-item correlation that reached the 0.05 level of significance.

Suggestion for further research included further testing of the Psychosocial Maturity Inventory. The use of separate conceptual models for male and female sexual

behavior should be explored. Interactional skills, particularly as they may reflect cognitive development, deserve further study related to sexual behavior in adolescence. The early age at first intercourse reported by sexually experienced subjects in this study also indicated a need to focus more research and intervention at the pre-adolescent and early adolescent stages of development.

If the importance of interactional components of maturity is substantiated, interventions that focus upon provision of communication and role-taking skills in non-sexual as well as sexual situations may deserve further exploration.

Ramona T. Mercer, R.N., Ph.D.

December 22, 1980
Date

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The quality of a dissertation committee impacts tremendously upon the ease or frustration with which the research is completed. I count myself most fortunate to have had the opportunity to work with and learn from scholars such as these. Special thanks go to Dr. Ramona

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I am very grateful to the teacher who allowed me to test in her classroom. I cannot reveal her name without betraying the name of the school and thus the subjects who generously consented to participate in this study. Finding a classroom willing to let an investigator administer sensitive questionnaires to adolescents is difficult at best, and this educator saved me from months of anxiety and frustration. Her flexibility and cooperation were invaluable.

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CHAPTER I

SEXUAL BEHAVIOR IN ADOLESCENCE: ITS OUTCOMES AND IMPACT

Questions regarding adolescent pregnancy and contraceptive use recently have stimulated research from a variety of disciplines and theoretical stances. Continued concern with teenage sexual behavior and its outcomes indicates that while the body of knowledge is steadily growing, a thorough understanding of the phenomenon has not been attained. The purpose of this study is to contribute to that body of knowledge by investigating the relationship between the adolescent's psychosocial maturity and selected sexual attitudes and behavior.

The impetus for this research began with the author's experiences working with pregnant adolescents as a nurse-midwife. Even when the young mother and her baby passed safely through pregnancy and delivery, the emotional and social consequences were often overwhelming to the adolescent as well as to those who worked with her.

Significance of the Problem

The author's personal interest in pregnancy and contraception during adolescence is in concert with the increased concern of many health related disciplines and

society as a whole. Adolescent pregnancy is a social phenomenon that results in a variety of problems including school dropouts, unemployment, unstable marriages, child abuse and neglect, and higher maternal and perinatal mortality and morbidity (Baldwin, 1976). The scope of the problem in terms of numbers is staggering. One million adolescent girls (ages 15-19) now become pregnant each year, resulting in 600,000 live births, 300,000 abortions and 100,000 miscarriages. Teenagers under 15 account for another 30,000 pregnancies, of which approximately one-half are aborted. One-fifth of all live births in the United States are to adolescents. Ten percent of all adolescents in the United States become pregnant each year (11 Million Teenagers, 1976).

Sexual activity among teenagers is becoming more frequent and beginning earlier. Approximately 63% of unmarried 19 year olds have had sexual intercourse (Zelnick, Kim, & Kantner, 1979). The percent of sexually active 15 year olds increased from 13.8 percent to 18 percent from 1971 to 1976 (Zelnick & Kantner, 1977).

Most teenagers are poor contraceptors. In a nationwide survey, more than two-thirds (76.8 percent) of pregnancies to unmarried 15-19 year old girls were reportedly unintended. However, only 18.8 percent of

these pregnant girls professed to have practiced any form of birth control (Zelnick & Kantner, 1978). Furthermore, when these same authors analyzed their data for all sexually active 15-19 year old girls, pregnant or not, only 30 percent claimed to use birth control consistently, 25.6 percent never made any attempt to prevent conception, and the remainder (45 percent) were inconsistent contraceptors (Kantner & Zelnick, 1977). Shah, Zelnick and Kantner (1975) conclude that "4/5 of sexually experienced never-married young women aged 15-19 . . . had engaged in sexual intercourse without using contraception" (p. 39).

Less is known about the sexual activity and contraceptive experience of males. However, studies indicate that males begin sex earlier, have more partners, function with a wealth of misinformation and often feel less emotional commitment to the relationship (Finkel & Finkel, 1978; Kirkendall, 1961). There is cultural diversity in sexual activity and attitudes toward birth control use, with Blacks and Hispanics initiating sexual activity earlier and contracepting less effectively than Whites. The impact of male sexual behavior upon the incidence of adolescent pregnancy cannot be underestimated. Zelnick and Kantner (1977) have found that early sexual

encounters among teens are characterized by the use of male birth control methods. Recent studies indicate that male encouragement (or discouragement) impacts strongly on whether or not the couple contracepts (Cvetkovich & Grote, 1977).

Research clearly demonstrates that adolescent pregnancy is a costly event. Physical costs are apparent in higher mortality and morbidity statistics:

> The death rate from complications of pregnancy is 60% higher for women who become pregnant before they are 15 (16 vs. 10 deaths per 100,000 births); while the rate for 15-19 year olds is 13% greater than for mothers in their early 20's. For some causes of maternal mortality, the difference in age is especially striking; mothers 15-19 are twice as likely to die from toxemia, while mothers under 15 are 3.5 times more likely to dies from toxemia (11 Million Teenagers, 1976, p. 23).

Adolescent mothers have demonstrated higher instances of anemia (Chanis, O'Donohue, & Stanford, 1979; Dickens, 1973; Israel & Woutersz, 1963; Jovanovic, 1972), pre-eclampsia (Aznar & Bennett, 1961; Chanis, et al., 1979; Coates, 1970; Duenhoelter, Jimenez, & Baumann, 1975; Hassan & Falls, 1964; Israel & Woutersz, 1963), and prolonged labor (Aznar & Bennet, 1961; Coates, 1970; Hassan & Falls, 1964). Their infants are more likely to be premature and/or low birth weight (Battaglia, 1963; Dott & Fort, 1976; Hassan & Falls, 1964; Jovanovic, 1972;

Menken, 1972; Puffer & Serrano, 1975) and are more likely to die within the first year of life (Dott & Forte, 1976). Recent research indicates that with intensive, specialized care, many of these complications may be lessened or averted (McAnarney, Roghmann, Adams, Tatelbaum, Kash, Coulter, Plume, & Charney, 1978; Perkins, Nakashima, Mullin, Dubansky, & Chin, 1978; Webb, Briggs, & Brown, 1977).

The psychological costs of adolescent pregnancy have not been well documented. However, a few authors (Deutsch, 1944; Mercer, 1979) suggest that the demanding tasks of motherhood may deprive a young woman of the energy needed to complete the normal tasks of adolescence and foster continued personality growth.

The social cost of adolescent pregnancy has been repeatedly demonstrated. Without fail, studies have shown large numbers of school drop-outs (Card & Weis, 1978; Furstenberg, 1976; McAnarney, et al., 1978; Menken, 1972; Moore & Waite, 1977), poor employment records (Card & Weis, 1978; Furstenberg, 1976; Trussel, 1976), poverty and welfare dependence (Furstenberg, 1976; Moore, 1978), and unstable marriages (Card & Weis, 1978; Furstenberg, 1976). Gabrielson (1970) also reports an increased risk of suicide (gestures, attempts, and

successes) among women whose first baby was born before age 18. A toll is exacted from society as well, as it must deal with the cost of outcomes in terms of health care and supportive government programs (Moore, 1978).

Research Question

Given the cost of becoming pregnancy while an adolescent, one is impelled to ask why teenagers would court disaster. Theories abound, ranging from complex motivational analyses to socio-demographic interpretations. None have proven entirely satisfactory. The behavior still defies adult logic. The clue, then, however simplistic it may sound, may lie in their youth. They are not adults. They are young and often immature. Many escape pregnancy by luck alone. However, some adolescents are capable of responsible sexual behavior and do protect themselves against unwanted pregnancies. Are these young men and women generally more mature, or are there certain aspects of development which contribute more significantly than others to the ability to use contraception successfully? This study will attempt to answer the question,

> What is the relationship between adolescent psychosocial maturity and aspects of sexual attitudes and behavior?

Significance to Nursing

The significance of this study lies in its attempt to strengthen the theoretical understanding of adolescent sexuality so that more effective practical application can be undertaken. The increased availability of sexual information and contraceptive facilities has not significantly impacted upon the rate of unwanted adolescent pregnancies. Even when teenagers have information and know where services are available, they may not always be able to apply that knowledge to their own behavior. It is hoped that this study will determine whether certain aspects of psychosocial maturity enable the adolescent to seek out and use information and services better. Nurses, physicians, teachers, and counselors may then attempt to facilitate growth and development in those areas related to the ability to prevent unwanted pregnancy.

Report of the Research

The report of this research will be organized in the following manner. Chapter I has been a discussion of the problem and its impact, the impetus for the study, the major research question to be asked and its

significance to nursing. Chapter II will explore various approaches that have been used in the study of adolescent pregnancy and sexual behavior. It will conclude with a discussion of the framework chosen for this study, specific research questions and hypotheses. Chapter III will describe the conduct of the study and the research tools used. The findings will be reported and discussed briefly in Chapter IV. Chapter V will present major conclusions and interpretations. A final chapter will summarize the implications of the research and its limitations.

CHAPTER II

A CONCEPTUAL BASE FOR THE STUDY OF ADOLESCENT SEXUAL BEHAVIOR

A variety of research perspectives have guided the study of adolescent sexual behavior. The magnitude of data available precludes an indepth discussion of all research in this area. This chapter, therefore, will consist of a selected review of the approaches most frequently employed, followed by a discussion of the framework chosen for this study. The chapter will conclude with the research questions and hypotheses that emerge from this framework.

Previous Approaches to the Study of Adolescent Sexual Behavior

Studies that have looked at broader social demographic perspectives will be discussed first in this section, followed by data considering more immediate social influences such as family and peer relationships. Research oriented to more individual variables such as sexual knowledge and personality factors (including psychoanalytic approaches) will then be considered. This will be followed by a separate discussion of the sexual behavior of adolescent males. The section will conclude with a discussion of more recent developmental/cognitive-

developmental perspectives.

Demographic Factors

Racial and socioeconomic differences in sexual behavior have been reported frequently. Minorities, especially Blacks, tend to begin sexual activity earlier (Finkel & Finkel, 1975; Kantner & Zelnick, 1972). Blacks are less well able to assess their periods of greater pregnancy risk (Kantner & Zelnick, 1972) and have demonstrated a higher incidence of adolescent out-of-wedlock pregnancy (Moore & Caldwell, 1977; Russ-eft, Sprenger, & Beever, 1979). More recent data, however, indicates that births among Black adolescents have stabilized as have those among older women (Zelnick & Kantner, 1978).

The mother's education (Shah, et al., 1975) and father's occupation (Evans, Salstad, & Welcher, 1976) have also positively correlated with contraceptive success of the adolescent female. Goldfarb, Mumford, Schum, Smith, Flowers and Schum (1977) found that in lower socioeconomic status families, the number of siblings (male and female) was inversely related to the incidence of adolescent pregnancy.

Several authors have considered age at first intercourse, with conflicting results. Cvetkovich, Grote,

Lieberman and Miller (1978) found that the older the adolescent at first coitus, the more likely he/she was to use birth control, indicating that greater maturity led to more responsible behavior. Miller (1976), however, found that those who began intercourse earlier were better contraceptors. He postulated that those who had earlier sexual experience had more time to become comfortable with their sexual identity, thus facilitating birth control use. Hornick, Dorna and Crawford (1979) found that males who began to date earlier (15 years old or less) were better contraceptors.

Immediate Social Factors

Difficult family and peer relationships have been observed to characterize pregnant teenagers. The family constellation of estrangement from the mother, closeness to the father, and marital hostility reported by Abernethy (1976) has been confirmed by Welches (1978). Babikian and Goldman (1971) found early chaotic home experiences predominated in his sample of pregnant adolescents, while La Barre (1968) reported family histories replete with deprivation. In a longitudinal prospective study of male and female adolescents, difficult home situations characterized those most likely to become teenage parents (Russ-eft, et al., 1979).

During adolescence, the primary referent group gradually moves from the family to peers. Among adolescents who become pregnant, poor peer relationships in general (Curtis, 1974) and poor relationships with other females (Abernethy, 1974) have been documented. The influence of peers with regard to sexual activity seems critical. According to Welches (1978), high school virgins often felt pressure from non-virgins to initiate sexual activity; however, the reverse was not true. Not unexpectedly, both Jessor and Jessor (1975) and Mirande (1968) noted that friends of non-virgins were more likely to approve of and participate in sexual activity. According to Gagnon (1972), however, it is male expectations that are predominant. The boy responds to pressure from his friends while the girl responds to pressure from the boy. Reasons given by females for initiating sexual activity most often include partner's desire (Cvetkovich, et al., 1978), inability to resist pressure from the boyfriend (Furstenberg, 1976), and fear of losing their man (Curtis, 1974). Partner's desire or love of partner serves as one of the least important motivations for males (Cvetkovich, et al., 1978). This attitude does not seem culture bound, for according to Lowery (1969), "In every social class, girls look for love and boys look for sex" (p. 95).

The girl's source and timing of information regarding sex and menstruation has also been investigated. Receiving information from a family member, especially the mother, at a younger age has been related to more successful contraception in adolescent females (Goldfarb, et al., 1977; Miller, 1976; Russ-eft, et al., 1979).

Individual Factors

Sexual Knowledge. There is clear evidence that adolescents are often grossly misinformed (or not informed at all) about sex and birth control. Some question exists regarding whether teenagers are cognitively capable of making use of the information given (Baizerman, 1977) but nevertheless, it appears that frequently the knowledge is not there.

Cobliner (1974), Furstenberg (1969), Juhasz (1974), and Osofsky and Osofsky (1978) found that sex information of pregnant and sexually active adolescents to be superficial, limited, and inaccurate. Evans, et al., (1976) reported that one-third to one-half of sexually active adolescent females questioned had no concept of a "safe" time for intercourse. Although sexual ignorance is widespread among all teens, fewer Black (18%) than White (42%) teenage girls could pinpoint their period of greatest

fertility (Kantner & Zelnick, 1972). According to Breakstone (1979), fully 98% of San Francisco Bay Area adolescents questioned believed that they could identify when a girl was most likely to get pregnant. Only 25% could do so correctly. In spite of more widespread inclusion of "sex education" in school programs, the proportion of girls who could accurately assess their risk of pregnancy during the menstrual cycle has only increased by 3% between 1971 and 1976 (Zelnick, 1977). In 1975, Shah, et al., reported that of 976 15-16 year old sexually active teenage girls questioned, seven out of 10 replied that they did not use birth control because they did not believe they could get pregnant. For Whites, the primary reason centered around belief that intercourse took place at the wrong time of the month for conception to occur. Among Blacks, a general belief in low fecundity predominated. Most often, this belief rested upon their feeling that sexual intercourse occurred too infrequently or that they were just "too young" to get pregnant. Thinking of this nature may reflect a cognitive inability to accurately assess personal risk, but it reveals an appalling ignorance, as well.

Personality. Many aspects of personality have been studied in relationship to sexual and contraceptive

behavior. Although frequently similar conclusion to psychoanalytic approaches, these reports more frequently focus upon variables as general approaches to life applied to the sexual arena rather than as specific motivations for pregnancy. Considered here briefly will be self-esteem, achievement orientation, and locus of control.

Self-esteem, or the lack of it, may express itself in the sexual activity of adolescents in a variety of ways. Low self regard might impel a girl to seek sexual relationships in order to demonstrate her sexual desirability. Indeed, given society's current emphasis upon the importance of sexual attraction, the ability to be sexually sought after could represent a considerable boost to one's self worth. Sex means being cared about. In fact, many young women do not seem to enjoy sex (Barglow, Bornstein, Exum, Wright & Visotsky, 1968), but participate because they wish "to be held, cared for, and cuddled" (Osofsky & Osofsky, 1978, p. 1162) or because they are lonely and need affection (Cobliner, 1970). When self-esteem is lacking, the girls may feel as though sex is their only contribution to the relationship, the only way of holding on. Abernethy (1976) and Miller (1976) have reported lower self-esteem among pregnant adolescents. A question remains whether the lower opinion of oneself

preceeded the pregnancy or resulted from it. Experiencing an unwanted pregnancy as an adolescent is still somewhat of a social taboo which might impact strongly upon a girl's feelings about herself. However, Hornick, et al., (1979) and Reiss, Banwart and Forman (1975) found that higher self-esteem contributed to better contraception among high school and undergraduate females.

The negative effect of childbearing in adolescence upon achievement in terms of education, work potential, and marital success is well documented. It seems reasonable, then, to assume that a need to achieve might be protective against an ill-timed pregnancy. The need for achievement has proven predictive of contraceptive success for married women beyond adolescence (Kar, 1971). Jessor and Jessor (1975) have considered achievement in light of unmarried teenagers' transitions from virginity to non-virginity. In their study, non-virgin females valued achievement less, while non-virgin males and females both held lower expectations of achievement. Welches (1978), however, found no relationship between virginal status and achievement orientation. Breakstone (1979), Goldsmith, Gabrielson, Gabrielson, Matthews and Potts (1972) and Shah et al., (1975) found higher education aspirations positively correlated with better contraception.

The need to achieve may also be assessed by considering the current "work" of teenagers -- school. Goldfarb, et al., (1977) found expected grade level discrepancy (in the direction of failure) highly predictive of pregnancy risk in indigent adolescent females, as did Barglow, et al., (1968). According to Russ-eft, et al., (1979), in a national sample of 1,000 adolescents, low achievement scores in reading comprehension were associated with an increased incidence of teenage parenthood for both males and females. Both superior and poor achievement in school has been reported to correlate with higher proportions of pregnancy among teenage girls in upstate New York (Hansen, Stroh, & Whitaker, 1978). The relationship between poor school work and adolescent pregnancy can be understood in a social context in which school is considered to be preparation for college and career, the usual focus of "achievement". Marriage and motherhood, in our society, no longer seem to constitute achievement and therefore receive little attention in academics. Therefore, for the adolescent who has no educational or career aspirations (a low need for achievement), school often becomes meaningless, and little effort is expended in that direction. The relationship between superior school achievement and pregnancy is less obvious.

Hansen, et al., (1978) speculate that perhaps these young women search for peer approval through pregnancy or by virtue of their educational achievement are thrown into a faster, older crowd that they are ill prepared to handle. Another possibility might be that those who do well in junior high and high school are often strongly encouraged, even pushed, toward college and career. For those who experience a fear of success often associated with competing against males, or a fear of failure created by competition among women, pregnancy may provide a sure way out of the career ladder.

Psychoanalytic studies have often described pregnant adolescents as passive and dependent. A closely related concept from social learning theory in Rotter's (1966) work on locus of control. Those with an internal locus or sense of control believe that their own actions actually impact upon outcomes. Those with an external locus of control on the other hand, more often believe that what happens to them is the result of fate, chance, or powerful others in the environment. According to Polsby (1974), the pregnant adolescent sees herself as "a passive victim of fate" (p. 297), confirming the earlier observation of Goldsmith, et al., (1972). In 1970, McDonald found better birth control use characteristic of undergraduate females

with an internal locus of control. Breakstone (1979) and Meyerowitz and Malev (1973) also reported an internal feeling of control over life events to be associated with better contraception and fewer pregnancies among male and female adolescents. Segal and DuCette (1973) however, find this to be a cultural phenomenon. In their study, the positive relationship between internal locus of control held true for White high school students, but not for Blacks. Internally controlled Black students were more likely to become pregnant. According to the authors, these findings may represent an accurate reflection of cultural reality. For Whites, pregnancy constituted a very negative event, while for Blacks in their sample pregnancy was accepted perhaps even a positive manifestation of femininity. In Welches' (1978) study of high school females, locus of control did not differentiate sexually active females from virgins, but did discriminate the type of birth control used among non-virgins. Those in an internal orientation chose more effective, medically prescribed methods (the Pill, IUD's), while those with an external locus of control more often relied upon rhythm.

Psychoanalytic/Motivational Framework. The basic assumption of this approach is that adolescent pregnancy,

rather than representing mere contraceptive failure or an "accident", is intended or motivated consciously, subconsciously, or unconsciously in an effort to gratify neurotic needs or resolve earlier conflicts. The implication is a disturbance or pathology in the psychological makeup of the teenager, and in her relationship with others. Three basic themes seem to emerge from this theoretical perspective. The first centers on the quality of the mother-daughter relationship, the second upon object loss and the third upon fundamental ego deficits. These are all viewed within the context of the psychoanalytic perspective of a surge of id (sexual) impulses confronting an ego already weakened by the disequilibrium of the adolescent period.

Among those who focus upon the mother-daughter relationship, Abernethy (1974; 1976) has noted that pregnant teenagers often have a negative relationship with their mother and a very positive relationship with their father. Coupled with hostility within the parents' marriage, this constellation is often associated with significant role reversal in which the daughter assumes many of the mother's duties as wife. Heterosexual activity results as a defense against the incestuous, Oepidal pull to the father. Schaffer and Pine (1972) find that young women who have

been deprived of good mothering are often caught in a conflict between mothering and being mothered. Pregnancy then may represent a way of stimulating care from her own mother, thus succumbing to the regressive pull of the mother of infancy. It may also serve as a defense against that pull by providing an infant who will love her and who can be mothered in the way she wishes she had been. Blos (1967) also sees pregnancy as a defense against the pre-oedipal ties to mother. Barglow, et al., (1968) have found pregnant teens to be ambivalent about their mothers, based upon unmet dependency needs but unable to cut the tie. According to Hatcher (1976), pregnancy in early adolescents more often represents an effort to become closer to the mother through identification while the middle adolescent uses pregnancy as a tool for autonomy and acting out of Oedipal conflicts.

Several authors have noted that in the months preceeding pregnancy, many adolescents have experienced a loss (Gottschalk, Titchener, Piker, & Steward, 1964; Greenberg, Loesch, & Larkin, 1959; Osofsky & Osofsky, 1978; Schaffer & Pine, 1971). This may be through a parent's death or divorce, a family move, or it may represent some other significant loss. According to Greenberg, et al., (1959), these teenagers are especially sensitive to

separations, and their pregnancies represent "reinternalization of the lost object or substitutive object" (p. 297).

Perhaps extreme sensitivity to loss may be attributed to the poorer ego defenses found in teenagers. According to psychoanalytic theory, adolescence represents a period of psychic disequilibrium in which the ego is relatively weakened and more vulnerable. Several studies (Babikian, et al., 1971; Barglow, et al., 1968; Greenberg, et al., 1959; Hatcher, 1976) have found the ego of the pregnant adolescent to be even less effective than usual. Babikian, et al., (1972) describe the ego as poorly structured; Greenberg, et al., (1959) describe it as fragile and infantile. These studies uniformily picture these pregnant teenagers as passive, dependent, defensive, depressive, unrealistic, and impulsive.

Males. The sexual and contraceptive behavior of adolescent males is considered separately for two reasons, because (1) the data available on males are limited, and (2) what data exist seem to indicate that there may be important differences in the sexual behavior of male and female adolescents.

The genesis of these differences probably rests in the persistance of a double standard of behavior for men and women. Although more liberal attitudes seem to be

emerging (Chilman, 1979) and the (reported) sexual activity of the adolescent female is increasing, the male still begins sexual intercourse earlier, has more partners (Jessor & Jessor, 1975; Sorensen, 1973) and is more sexually active than the female (11 Million Teenagers, 1976). Moreover, the fact remains that the male has less to lose in a sexual relationship. The major biologic outcome of intercourse (pregnancy) still falls upon the adolescent girl, with all of its physical, psychological, and social costs. The male incurs none of the physical risk of childbearing. Since fewer adolescent couples now marry as a result of pregnancy and the father rarely, if ever, is granted child custody, the male is often spared the social and economic consequences as well. The psychological impact of unwed parenthood upon the teenage male has yet to be investigated. However, the experience must be meaningful at some level, for the majority of those who father children remain in contact even without the bond of marriage (Furstenberg, 1976; Robbins, 1975).

The male remains the aggressor in adolescent sexual relationships. As noted earlier, the most important reason given by adolescent females for intercourse was partner's desire. For males the most important motivation was their own desire (Cvetkovich & Grote, 1977). Those

who had not had intercourse were more likely to explain that they "lacked the interpersonal skills to persuade a potential partner," (Cvetkovich & Grote, 1977, p. 8) or lacked opportunity (Scales, 1977). According to Kirkendall (1965) the young men in his sample were "considerably more self-centered than partner-centered..." in their sexual attitudes.

The male is highly instrumental in directing the birth control practice of the teenage couple (Cvetkovich & Grote, 1977; Norman, 1977). It may be that in the "male-active/female-passive" tradition the boy is expected to initiate contraception as well as intercourse. More likely, the male influence predominates because most easily accessible birth control methods are either totally male dependent (withdrawal, condoms) or require patience and cooperation on his part (Rhythm, foam). In fact, the early sexual encounters of adolescents depend heavily upon male-oriented contraception (Finkel & Finkel, 1975; Furstenberg, 1976; Goldsmith, et al. 1972; Kantner & Zelnick, 1977).

The birth control practices of teenage boys, however, are at best erratic and haphazard. In a sample of 421 high school males, Finkel and Finkel (1975) found only 28% used condoms at last coitus. Fifty-five percent used withdrawal, douche, or nothing. Broken down by ethnic

group, Whites (55.0%) were more willing to use condoms than Blacks (22.4%) or Hispanics (18.8%). Sixty percent of Blacks used withdrawal, douche or nothing as compared to 58.1% of Hispanics and 40.6% of Whites. In Sorenson's (1973) survey, up to 60% of adolescent males trusted luck to prevent unwanted pregnancy. Only one in 10 always used birth control.

Reasons given for the failure to contracept include not being prepared for sex and not caring if the female became pregnant. Many feel that birth control is solely the woman's responsibility (Finkel & Finkel, 1975). As with adolescent girls, lack of information regarding sex and birth control is common among the boys (Finkel & Finkel, 1975; Robbins, 1975). For those who father an out-of-wedlock child, the event may not be unexpected, and the motivations are quite straightforward. According to Robbins (1975), most wanted to "continue their line, to reproduce themselves, to gain recognition, to prove potency, to have a baby and a home, and to form a pair bond" (p. 156).

Known correlates of male birth control use are few. Hornick, et al., (1979) found that the best predictors of successful contraception in 100 high school males were in descending order (1) age at first date (15 or less),

(2) father's permissiveness (low-medium), (3) belief that planning sex does not spoil it, and (4) father's permissiveness (low). Father's permissiveness entered the equation twice, indicating a particularly strong relationship. According to these authors, males are affected more by external factors than the female for whom internal forces, such as self-esteem and commitment to the relationship, predominate. In her profile of unwed fathers, Robbins (1975) found few commonalities except misinformation and a sense of responsibility to the pregnant girl. However, these young men were significantly more likely to be illegitimate themselves, to have siblings who were illitigimate, and to have siblings who had produced illigitimate children.

Developmental Frameworks

More recently, a few authors have begun to consider adolescent sexuality in the context of developmental issues. A strength of this approach may be its ability to synthesize the social and individual variables that previously tended to be considered separately. Prior to the 1970's, the relationship of development to adolescent pregnancy had not been used as a framework for research. Although the psychoanalytic approach is considered

developmental, it has traditionally focused more upon pathology and the resolution of neurotic conflicts (Abernethy, 1974; Deutsch, 1944; La Barre, 1968). The concept of development as the growth of self (or ego) and as the resolution of "normative crises" in the model of Erikson (1963) or Loevenger (1966) is a more current perspective. The potential of developmental theory to explain the phenomenon of teenage sexual activity remains largely untapped, however. Studies have tended to isolate concepts or aspects of development rather than to place adolescent sexual behavior in a more total developmental framework. The following discussion will focus upon those aspects of development which have emerged most frequently in the consideration of the sexual behavior of adolescents; the incorporation of sexuality into identity, identity status, cognitive development (particularly futurity and risk-taking) and moral development.

Sexuality and Identity. To date, most reference to development focused upon the incorporation of sexuality into one's identity. The importance of this particular task cannot be underestimated, for until a girl can admit to herself that she is indeed sexually active, she is not emotionally free to plan responsibility for intercourse. How can a "chaste" girl have premeditated sex?

There is support for the concept that the lack of sanctions for premarital intercourse makes it difficult to incorporate sexuality and sexual activity as a part of one's identity. Cvetkovich and Grote (1977) found that many young women deny their sexual activity by "placing themselves in situations in which they will lose control and critical judgement (drugs, alcohol) and thus also lose personal responsibility for their sexual conduct" (p. 8). Often a hiatus occurs between the onset of intercourse and the seeking of contraception. Miller (1976) found that none of the adolescent females in his sample, (either in the abortion or the successful contraception group) had used birth control at first coitus. Zelnick and Kantner (1977) found that only one-half of 15 year old females obtained contraception within a year of first intercourse. For those who initiated sex under the age of 14, over 75% obtained no birth control in their first year of sexual activity. Acceptance of sexuality is critical, for a girl cannot confess sexual activity to clinic personnel (or a pharmacist) until she admits it to herself (Goldsmith, et al., 1972; Miller, 1976; Osofsky & Osofsky, 1978).

Identity Status. Pregnancy and motherhood provide a clearcut feminine identify for both older women (Leifer,

1977; Lehfeldt & Guze, 1966) and teenagers (La Barre, 1968). Although motherhood in the past was clearly one of the few acceptable identities for women, changing social patterns have, by expanding role opportunities, increased the breadth and complexity of feminine identity development. In adolescence, pregnancy and motherhood may represent more than simply an additional role. It may represent a negative identity posture, particularly in a culture where illegitimacy is not tolerated. According to Braen (1978), teenage pregnancy may also represent identity foreclosure. However, it is not clear whether the foreclosure is intentional, reflecting an unwillingness to deal with the disequilibrium inherent in an "identity crisis" or whether the foreclosure is a result of having choices limited by the constraints of teenage motherhood.

Cognitive Development. Research in cognitive development has been almost universally based upon the Piagetian model. According to Piaget (Piaget & Inhelder, 1969), cognition progresses through four phases, sensorimotor, preoperational, concrete operational, and formal operational thought. The phases follow an unvariant sequence and differ qualitatively in terms of structure rather than quantitatively in terms of knowledge. A

person who has achieved the level of formal thought not only has more information than the person at the concrete level, but more importantly, he also processes that information differently. Formal thought, according to Piaget, emerges during adolescence and is characterized by a significant decrease in egocentricism and the ability to project oneself into a hypothetical future. This growth permits adolescents to consider seriously the impact of their sexual behavior upon their own future and the lives of others. Although it was initially assumed that all achieve formal thought in early adolescence, current reports indicate that this ability can appear early, late or not at all (Kuhn, Langer, Kohlberg, & Harris, 1977). Furthermore, within the same individual, areas in which the person is comfortable and familiar may be characterized by more advanced thinking, while in threatening or unknown areas more primitive processes exist. Consequently, within the same population of adolescents, the ability to process and use information will vary widely, especially in regard to a subject as new and potentially threatening as sex.

Few, if any, studies of adolescent sexual behavior emerged from a purely cognitive orientation, although several authors have addressed the area theoretically

(Baizerman, 1977; Cobliner, 1974). However, the issues of future time perspective and risk assessment or risk taking have surfaced frequently in other research (Evans, et al., 1978; Finkel & Finkel, 1978; Furstenberg, 1969; Luker, 1975).

Future time orientation is critical to contraceptive behavior in at least two ways. The young person must be able to anticipate the occurrence of intercourse in order to plan for it and also be able to appreciate the potential long term effects of unprotected intercourse. Having realistic life goals is in itself evidence of a more developed sense of futurity.

A common explanation of both male and female adolescents for failure to contracept is that they did not anticipate having sex and were not prepared for it (Breakstone, 1979; Evans, 1976; Finkel & Finkel, 1978; Furstenberg, 1969). An affective component is probably functional here as well, for as noted earlier, emotional acceptance of sexual activity is necessary to permit planning. However, cognitive awareness would seem to be prerequisite to emotional acceptance. Furthermore, the act of contraception requires cognitive planning, either to make a clinic appointment, to take a pill, or to purchase non-prescription methods. Using the Piagetian

model, Cobliner (1974) makes the distinction between figurative thinking (characteristic of the concrete stage) and operative thinking (found at the formal stage) in relation to contraceptive practice. Figurative thinking requires sensory input and responds only to immediate states or situations. Operative thinking is characterized by anticipation and allows mobilization of efforts before confronted with the situation. All current forms of contraception, with the possible exception of the I.U.D. are dependent upon operative thought.

The adolescent must also be able to perceive the potential impact of the failure to contracept. Adolescent pregnancy, according to Bruce (1978), is

> an offense against planning: it represents a dramatic neglect of the ability to judge the present in terms of a perceived future. When futurity is weak, the present is strong, the ability to prioritize behaviors, delay gratification, and make long-term investments of self, becomes meaningless (p. 77).

Elements of risk assessment and locus of control are also operative here. In order to consider the potential impact of childbearing and act to prevent it, the adolescent must believe that pregnancy could occur but might be avoided through personal action. A strong relationship between extended future time perspective and contraceptive success has emerged in studies of older married women

(Kar, 1971; Keller, et al., 1970), single teenagers (Miller, 1976), and samples that included both age groups (Mindick, Oskamp, & Berger, 1977; Oskamp, Mindick, & Berger, 1978). Mindick, et al. (1977), found that poorer contraceptors had short future time extension as well as a tendency to view future events more negatively.

Risk taking is characteristic of much of adolescent behavior, including their sexual behavior. Although risk taking can be indicative of psychopathology characterized by self destructive impulses, in adolescence it is very likely normal, a result of the cognitive inability to appraise risk. Accurate assessment of risk requires that the teenager be able to understand the laws of probability and apply them personally. The notion of a probablistic world requires formal thought, something of which many adolescents are not capable. Accordingly, teenagers frequently respond that they cannot get pregnant because they don't have sex often enough (Evans, et al., 1976; Shah, et al., 1975) assuming the risk to be cumulative. Many discount the risk of any one act of intercourse after having several encounters from which pregnancy did not result (Luker, 1975; Miller, 1976). However, even when knowledge of risk is admitted, teenagers often seem unable to personalize it. Elkind (1979)

describes this "personal fable" characteristic of adolescence as a belief in one's own uniqueness and invulnerability. It is a story we tell ourselves about ourselves, that is not true, usually ending with the words "I just didn't think it would happen to me". The clinical experience of this author and others (Babikian & Goldman, 1971; Cobliner, 1974) attests to the frequency with which this story is told. No matter what the objective risk to other groups or individuals, the teenager sees himself or herself as a special case.

In Luker's (1975) study of risk taking behavior and contraception, a cost/benefit set has been described. Her sample consisted of women who had experienced a previous therapeutic abortion and were returning for another. These women, approximately one-third of whom were teenagers (mean age of the sample was 22) knew well that they could become pregnant, yet repeatedly experienced unprotected intercourse, and discounted their risk of pregnancy. The accounting of cost and benefit done by these women is summarized in Tables 1 and 2. Most of these factors have been found relevant to adolescent contraceptive behavior in other research. Luker found that the costs of contraception, such as acknowledgement of sexual activity or the experience of side effects, and

the benefits of pregnancy, such as proof of fertility or confirmation of a feminine identity were added into an equation that emerged as:

> If I use such and such a contraception certain costs will result, but I probably won't get pregnant, and if I do, certain benefits might emerge; and if they don't I can always get an abortion (p. 96). (emphasis mine).

Table 1

The Costs of Contraception

I.	Social and Cultural Costs acknowledgement, planning, continuing, spontaneity
II.	Structural Problems and Prices fighting the health care system, braving the pharmacy, money
III.	Maintaining Costs carry through, male attitudes, ignorance, collusion, resistance
IV.	Biological and Medical Costs side effects, iatrogenic effects

Note. These costs are summarized from Luker (1975, p. 67).

Table 2

The Benefits of Pregnancy

I.	Pregnancy and Woman's Role
II.	Pregnancy and Self Worth
III.	Pregnancy as Proof of Fertility
IV.	Pregnancy, Relationships, and Significant Others testing commitment, bargaining for marriage, saving a marriage, punishing parents
V.	Pregnancy as a Plea for Help
VI.	Pregnancy as Pure Risk Taking

Note. These benefits are summarized from Luker (1975, p. 43).

Moral Development. Closely related to cognitive development are concepts regarding moral reasoning for sexual standards and behavior. In 1967, Reis discussed four currently defined societal standards with regard to premarital sexual behavior: abstinence, the double standard, permissiveness with affection and permissiveness without affection. In 1974, Jurich and Jurich added an emerging fifth standard, nonexploitive permissiveness without affection, which represented an "anything is acceptable between two consenting adults so long as no one gets hurt" philosophy. In addition, these authors

correlated the reported sexual standards of 160 college students with their scores upon a test of moral maturity. Those who subscribed to the nonexploitive permissiveness without affection standard obtained the highest moral maturity scores, followed by those who advocated permissiveness with affection, the double standard, and abstinence. Lowest moral maturity scores were obtained by those who favored permissiveness without affection.

D'Augelli and D'Augelli (1977) also describe a sexual philosophy status based upon sexual behavior and the reasoning behind that behavior. The six categories identified are Inexperienced Virgins (little dating experience), Adamant Virgins, (saving themselves for marriage), Potential Non-Virgins (waiting for the right person, time and place), Engaged Non-Virgins (sex only with the fiance'), Liberated Non-Virgins (sex within an agreed upon meaning for the relationship) and Confused Non-Virgins (sex without real understanding of motivations). Females in each of these categories were tested with regard to their level of moral reasoning based upon Kohlberg's stages of moral development. No predominant stage characterized Inexperienced Virgins and Potential Non-Virgins, statuses that may be seen as transitional.

Adamant Virgins more frequently were found at the Law and Order stage of reasoning, while Engaged and Liberated Non-Virgins were found more often at the Social Contact stage. A significant number of Engaged Non-Virgins also were found at the Personal Concordance stage. Most Confused Non-Virgins were found at the Instrumental Relativism stage. In this same study, sex guilt was inversely related to the level of sexual experience. Virgins, particularly Adamant ones, seemed to be more oriented to the sex act itself, and to place that act within the structure of societal rules (Law and Order Reasoning). Engaged and Liberated Non-Virgins focused more upon the relationship, as demonstrated by reasoning that considers the effect of the act upon the relationship (Personal Concordance or Social Contract Reasoning). Confused Non-Virgins focused upon themselves and the personal gain found in the sexual behavior. The D'Augelli's conclude that "Sexual behavior is the result of a relationship-based decision making process focusing on the morality of the contemplated behaviors and the implications of those behaviors for the relationship" (p. 46).

Summary

Clearly, the subject of adolescent sexual behavior has generated much thought and study. The fact that additional research continues to appear indicates that gaps in knowledge and understanding persist. What seems to be lacking is a theoretical perspective that incorporates the major elements of research from a variety of frameworks.

Earlier studies were often psychoanalytic in nature. Although conflict resolution may serve as a factor in some adolescent pregnancies, this perspective is limited for several reasons. First, it does not seem to apply to all pregnant young women. Several authors have failed to uncover any hidden motivation in many of the subjects studied (Cobliner, 1974; Shaffer, Pettigrew, Wolkind & Zajicek, 1978). Secondly, these observations are always made after the fact. It is impossible to discern how much personality disorganization is the result of an ill-timed pregnancy rather than the cause. The diagnoses are made by psychoanalysts who are looking for pathology. In at least two studies (Babikian & Goldman, 1971; Hatcher, 1976), all subjects received a psychiatric diagnosis, ranging from frank psychosis to neurosis to "transient situational disturbance". Thirdly, this approach uniformly

ignores the contribution of the male and offers little insight into adolescent females who avoid pregnancy. Most critically, however, the psychoanalytic perspective provides no feasible intervention. Psychoanalysis is a costly, individual, time-consuming process. It is clearly unrealistic for mass screening of pregnancy risk or counseling to avoid unwanted pregnancy.

Those who have approached the subject from other theoretical stances have also contributed additional breadth and important information. Rather than concentrating solely upon the pregnant girl, several of these studies consider the behavior and feelings of males. Rather than focusing primarily on the intrapsychic experience, these studies tend to look at behavior with emphasis upon attitudes, social relationships, and the cultural milieu. Personality is viewed not from the standpoint of conflict resolution and motivation, but from the perspective of personality traits that influence behavior. More importantly, these authors more often move away from the outcome, "adolescent pregnancy", and consider separately the behaviors that preceed it, "having sex" and "using birth control".

The primary criticism of the studies done from these perspectives, however, is that they have identified many

relevant factors, but failed to produce a unifying theoretical background. It is possible now to identify a high risk population. The girls is poor, a minority from a large family. Her mother has little education, her father occupies a lower-level occupational status. She is doing poorly in school. Her sex and menstrual education was obtained late and from sources outside the family and was probably grossly inaccurate. She exists in a social milieu that encourages sexual aggressiveness in her boy friend and gives her double messages regarding her own behavior. She has difficulty resisting her partner's advances. However, explanations why many such factors are relevant are lacking. And without theoretical support, potential interventions cannot be devised.

For this investigator, the most promising theoretical orientation appears to be developmental, although its potential as a unifying perspective has not been fully explored. Although development provides the potential for inclusion both of social and individual factors that appear to be relevant, the social impact is often given only cursory attention. For these reasons, a developmental/interactional approach has been selected as the theoretical foundation of this study. This perspective will be discussed in the following section.

The Conceptual Framework for This Study

The conceptual base chosen for this study emerges from the developmental framework of Erikson (1963, 1968), supported by concepts from the interactionist approach (Blumer, 1969; Mead, 1934; Turner, 1962). Although a tremendous amount of information is available regarding adolescents and their sexual behavior, an organizing framework is still lacking (Baizerman, Sheehan, Ellison, & Schlesinger, 1974).

The relevance of developmental theory to adolescent sexual behavior has been noted by several authors (Braen, 1978; Cvetkovich & Grote, 1977; Miller, 1976). The fact that birth control practice seems to improve somewhat with age (Cvetkovich, et al., 1978; Lindeman, 1974) lends credence to a developmental approach. However, development does not take place in isolation for in adolescence the sphere of significant others with whom to interact widens dramatically. One could not easily consider development, especially in teenagers without apprending the influence of socialization. The theoretical endpoint of both socialization and development is psychosocial maturity, which will serve as the major variable of this study.

Maturation is inherently a developmental process. It makes sense to view psychological and social growth as a dynamic event involving stages in which tasks must be completed and lessons learned. Later learning is no doubt a function of building upon earlier tasks. However, development or maturation never occurs in a vacuum. Any organism deprived of contact with those who provide nurturance and stimulation eventually dies. The child, as a social being, depends upon interaction with those in his environment to provide not only the basics for physical survival (food, warmth, safety) but connection to the social world of which he is a part. Without this contact, he will fail to thrive, in spite of adequate physical care. It is interaction with his environment which provides the norms, expectations, and roles that eventually will be incorporated as part of his identity or "self". The influence of societal norms and expectations (the process of socialization) will also determine the attributes which will define "maturity". Development, however, never ceases, and therefore maturity is never "attained". Because individuals continue to interact, they continue to develop and be socialized. "Maturity", then, may be used,

> When referring to an ideal end product of development and socialization, and "development"

> when referring to either the process leading to maturity or the assessed position of an individual at any point in time. Persons are characterized by varying degrees of development toward maturity; they do not "have" maturity (Greenberger & Sorenson, 1974, p. 331).

Although psychosocial maturity has not been specifically investigated as a variable in studies of adolescent sexual behavior, authors frequently comment upon the difficulty presented when an "immature" adolescent faces the complex decisions sexual activity poses. According to Cobliner (1970),

> Biological drives press for an outlet so much earlier than in former days; this happens at a time when their psychological (inner) development has not provided them with the capacity to control and direct these needs toward satisfactory and constructive gratification (p. 440).

And Polsby (1974) responds to questions about why adolescent girls get pregnant when they know that birth control is available.

> The question presupposes self control, ability to foresee consequences, the belief that "it can happen to me, not just to other people", and nerve enough to acknowledge one's sexuality to a doctor. These are qualities of a mature person, but appear in an adolescent only on her best days (p. 273).

> Never again in life will there be such a high level of hormone secretion in the body together with so little experience and stability to handle it (p. 275).

Everyone who has been an adolescent can attest to the fact that the road to maturity is not always smooth. As Polsby noted, adolescents have good and bad days. Moreover, as is noted in cognitive development, the adolescent may function in a very mature fashion in one area of life while remaining a child in others. The fact that so many adolescents behave in an immature way regarding sexual activity may reflect that, according to Erikson, genital and psychosocial intimacy constitute the developmental task that follows adolescent identity formation. Furthermore, the sexual attitudes and role behaviors that mark the socialization process in our society are replete with intergenerational conflict, double messages, and constant change. It is no wonder that adolescents are confused.

During adolescence, at least four major changes that have direct relevance to sexual behavior. First, while the major task is identity formation, earlier developmental issues resurface and require resolution as well. Secondly, the major determinant of socialization shifts from the family to peers and society in general. Thirdly, adolescents mature biologically, possess sexual desires, and become capable of reproduction. And finally, teenagers begin to date. The interface of these four issues is

found in an adolescent who has the opportunity and desire for sexual activity during a period of psychic disequilibrium and social redefinition.

The impact of developmental and interactional issues upon sexual behavior will now be explored briefly. A short discussion of developmental frameworks in general and Erikson's in particular will be followed by consideration of interaction with an emphasis upon socialization and role behavior.

Developmental Frameworks. Developmental frameworks, in general, stress change over time, basically a dynamic concept. When applied to personality or cognitive growth these frameworks usually emphasize stages or phases at which the individual accomplishes various developmental tasks or resolves developmental crises. However, many areas overlap and change may occur simultaneously in several areas. A critical concept in developmental theories is that each successive stage of the life cycle builds upon preceding ones, and the mastery of designated developmental stages contributes substantially to the successful completion of others.

Erikson's developmental framework proceeds according to an "epigenetic principle," that

> anything that grows has a ground plan and that out of this ground plan the parts arise, each part having its time of special ascendancy until all parts have arisen to form a functional whole (Erikson, 1968, p. 92).

He postulates that individuals work successfully upon tasks related to trust, autonomy, initiative, industry, identity, intimacy, generativity, and integrity as they pass through their life cycle. Trust, autonomy, initiative, and industry form the tasks of childhood, identity formation holds priority during adolescence, while intimacy, generativity and integrity are the developmental milestones of early adulthood, the middle years, and old age respectively. At each phase, elements of other developmental tasks exist, but there is order in regard to which task holds precedence at a given time. Furthermore, the success with which earlier crises have been resolved impact upon efforts at later stages of the life cycle. An individual who has not learned to trust may have later difficulty establishing intimate relationships. An adolescent who has not resolved his childhood efforts at autonomy may experience difficulty in separation from parental ties. Subsequent life events may reawaken old conflicts with the potential of resolution at higher levels of integration.

Erikson's theory is one of the first to recognize that substantial personality growth continues beyond adolescence and early adulthood. Nevertheless, he acknowledges the pivitol position of adolescence for it is at the point that the individual emerges from the family to define himself in terms of larger society. Although coming from a predominantly psychoanalytic perspective, Erikson also represents the first of the neo-Freudians to give credence to the importance of societal impact upon personality and to break from the complete biologic determinism of psychoanalytic theory.

To Erikson, adolescence represents an "identity crisis," an attempt to establish an inner consistency to one's "self". The process of resolving this crisis reawakens aspects of all preceeding tasks. Chilman (1979) observes "these central issues are reworked over and over in the content of those interpersonal relationship that become salient at different stages of the life cycle" (p. 56). The adolescent must re-evaluate trust in light of new, progressively more intimate relationships, autonomy in light of the final struggle for independence from parental control, initiative in light of the need to assume responsibility for personal actions, and industry in light of commitment to a life work.

Adolescent tasks related to identity formation center around independence, occupational choice and the emergence of sexuality. Resolution of these efforts serve to place oneself outside the nuclear family structure and within the larger social order. Also characteristic of the search for personal identity is the beginning of a personal ideology or philosophy of life. The progressive decrease in egocentricism and the concommitant increase in future time perspective characteristic of adolescent cognitive growth permits one to identify with the larger community and to commit oneself to philosophies and goals that are social in nature and long term in perspective.

Sexual behavior in adolescents may reflect aspects of any or all of the developmental considerations which Erikson describes. Furthermore, it will be noted that developmental analysis of sexual behavior encompasses many motivational, personality and social factors that have been proposed to explain the incidence of adolescent pregnancy and non-contraception.

The following discussion will touch briefly upon the developmental tasks proposed by Erikson and their relationship to adolescent sexual attitudes and behavior.

Trust. The first developmental task, according to Erikson, is the acquisition of a basic sense of trust. Characteristics of this stage include a trust in oneself, a faith in others, and a realistic temporal perspective. Trust forms the basis for self confidence and self-esteem. It arises out of a consistent and caring interaction with the maternal figure which engenders a sense of self worth and a belief in the good intentions of others. (I must be good, because my mother loves me). When infantile needs are met without undue delay, an expectation that "sufficient satisfaction is sufficiently predictable to make waiting and working worthwhile" (Erikson, 1957, p. 97) is fostered. The beginnings of an ability to delay gratification and tolerate frustration are found. A positive outlook remains, but is tempered by subsequent development, to insure that a childish naivete does not result. A favorable resolution of the first developmental task might be reflected in adolescent sexual activity by a belief that one was deserving enough to be cared about without having to prove oneself sexually, by a belief that the partner cared enough not to leave even if sexual advances were thwarted or contraception required, and by a belief that one's future was bright enough not to be jeopardized by an unwanted pregnancy. The acquisition

of birth control might be facilitated by trust that professionals could be caring and helpful, and by the capacity to tolerate the delays and frustrations presented by many health care systems.

Contraceptive failure, on the other hand, is often characterized by negative resolution of the first developmental step. Adolescent females often begin sexual activity at the desire of, or pressure from, their partner, fearing the failure to acquiese will result in desertion (Curtis, 1974; Furstenberg, 1976). They do not "trust their ability to win loyal affection" (Juhasz, 1974, p. 264). Poor contraceptors fail to adequately assess the trustworthiness of their partners (Miller, 1976), are often lacking in self-esteem (Abernethy, 1976; Hornick, et al., 1979; Juhasz, 1974; Miller, 1976), and are characterized by a remarkable frustration intolerance (Babikian & Goldman, 1971; Cobliner, 1975). The mother-daughter bond, so important in the development of trust, is often faulty in pregnant adolescents (Abernethy, 1976; Babikian & Goldman, 1971; Barglow, et al., 1968; Schaffer, et al., 1972).

Autonomy. The second psychosocial stage introduces the beginnings of a sense of autonomy. The concepts of choice and independence become central as the child learns

to exert his will upon those who surround him. The precursor of later autonomy struggles is found in the period of toilet training. The child learns that while exercising independence by eliminating and retaining at will, he is also developing a sense of self control. The positive resolution of this stage would be reflected in adolescence as the capacity to assert one's will by resisting peer or partner pressure in sexual matters. In situations where sexual intercourse is tempting, but risky (perhaps due to lack of contraceptive protection), the adolescent would possess the self control necessary to resist until such a time as the situation is deemed more favorable.

For those who have not successfully mastered autonomy, sexual encounters could be distinguished by doubt in oneself requiring constant social validation and conformity. The counterparts to a sense of self control include impulsiveness, passivity, and excessive dependence upon others, factors frequently associated with contraceptive failure (Babikian & Goldman, 1971; Breakstone, 1979; Cobliner, 1970, 1974; Cvetkovich, et al., 1978; Gagnon, 1972; Goldsmith, et al., 1972 (2); Greenberg, et al., 1959; Keller, et al., 1970; Oskamp, et al., 1978).

Initiative. It is one thing to be able to express one's will, but the determination to make it happen is reflected in the third developmental stage, initiative. The preschool years are spent acquiring a sense of direction and purpose. Initiative "adds to autonomy the quality of undertaking and planning" (Erikson, 1963, p. 255). Through the anticipation of roles, the phase forms the basis for a realistic sense of ambition and a need to achieve. An achievement orientation evolves from the belief that one's own actions are critical to the attainment of goals. This awareness of personal accountability provides substrata for the growth of moral responsibility. A positive outcomes of this developmental stage would be demonstrated in adolescents who held themselves accountable for their sexual activity. A belief in personal control of their destiny would place responsibility for pregnancy prevention upon their own shoulders. A capacity for planning would facilitate use of all forms of birth control. In high achievers an unwanted pregnancy would less likely be allowed to interfere with future plans.

Failure to develop a sense of initiative would be associated with factors that do not promote use of birth control. Adolescents who experience contraceptive failure are often characterized by an external locus of

control, seeing themselves as powerless victims of chance or fate (Breakstone, 1979; McDonald, 1970, Meyerowitz & Malev, 1973; Miller, 1976; Polsby, 1971). Non-virgins and non contraceptors do not exhibit a strong need for achievement (Goldsmith, et al., 1972; Jessor & Jessor, 1975; Kar, 1971; Keller, et al., 1978; Shah, et al., 1975), therefore an unanticipated pregnancy might not represent a serious threat to future goals. With a lower motivation to prevent pregnancy and a diminished capacity for planning (required for all birth control use) contraceptive failure would not be surprising.

Industry. Industry is the task of the school aged child. It is an interesting stage because Erikson discusses it almost exclusively in relationship to the male and his place in a technological world. During this stage the young boy acquires preparatory skills necessary to compete in the adult work force. Pleasure in doing work and doing it well are fostered through imitation of role models and through academic and athletic achievement. Participation in team activity and sport encourages a "sense of sharing obligation, discipline, and performance" (Erikson, 1963, p.122). The boyd begins to see himself as a potential provider and worker. A sense of duty and competence emerges as the positive developmental outcome,

while a sense of inferiority remains the negative consequence. For females, the achievements of this stage are more nebulous, especially in light of the changing status of women. In a more stable past, a case could be make that during this period a female child learned "womanly" skills - cooking, sewing, cleaning, and child care. Still, even though these tasks represented her only real alternative, they were considered second class, of lesser importance. Being a wife and mother was (and is) not considered "official" work. Therefore, even if a girl developed her skills well, she was likely to be left with a feeling of inferiority. In the current changing social climate, the situation becomes even more complex. The skills of homemaker and mother have been depreciated even further and these roles have less value than ever. Not only the Women's Liberation Movement, but an inflationary, floundering economy has increased the expectation that a woman will seek employment outside the home. Still, there is little evidence that the socialization of young females has changed appreciably to make success in a traditionally "male" world any easier. Whether achievement in this developmental phase is equivalent for male and females may be open to question.

The effect of this stage upon adolescent sexual behavior is less obvious than other phases. A firm sense of industry, especially in the male, would seem to compound the achievement potential and reinforce the determination and sense of purpose achieved earlier. For both sexes, this combination of desire and competence should provide motivation to postpone childbearing until pregnancy would no longer provide a threat to further achievement.

Failure to acquire a sense of efficacy and skill would serve to diminish the possibility of later success, resulting in a feeling of inferiority. For adolescent males, inferiority might manifest itself sexually by attempts to prove worth by demonstrating virility and fertility through conquest. For the girl, a feeling of inferiority could hamper the ability to resist pressure for intercourse. Moreover, if threatened by the increased pressure to achieve in the work force, she might (consciously or unconsciously) use pregnancy as a way of effectively removing herself from competition. Nineteen of 30 pregnant adolescents interviewed by Babikian and Goldman (1971) were noted to have a "poor capacity for work".

Identity. Identity formation, the task of adolescence, integrates the elements of earlier developmental stages, meshing what one is "really" like with what others think and where one fits in a larger social order. Identity is a feeling of continuity and sameness, a link between past, present, and future (Erikson, 1968). It is achieved only through interaction (Muuss, 1975) as one defines oneself in relation to generalized as well as specific others. In western cultures, a psychosocial moratorium is provided for most young people to allow for the extra preparation needed to function successfully in an advanced society. Adolescence represents a period of psychic disequilibrium, for during the search for identity many earlier battles must again be fought, "all samenesses and continuities relied on earlier are more or less questioned again" (Erikson, 1963, p. 261). Two major positive outcomes of this period are a firm heterosexual identity, and a beginning commitment to an occupational identity. Moreover, during adolescence a recognition of and a responsibility to a larger social system, a system of values, and a philosophy of life begins to emerge.

Failure to achieve a stable identity can result in role confusion. Common adolescent defenses against

identity confusion include strong overidentification with folk heroes of the culture and local heroes of various cliques and crowds, as well as an exceptional intolerance of those who differ from themselves and their idols. Adults marvel at the extent of conformity that is required to prove one is different.

The impact of this identity search and psychosocial moratorium upon adolescent sexual behavior is marked. Overt heterosexual behavior usually begins during adolescence. Even if intercourse does not occur, the opportunity is there and sexual decisions must be made. A heterosexual identity begins to emerge only through interaction with the opposite sex. Erikson (1968) notes:

> To a considerable extent, adolescent love is an attempt to arrive at a definition of one's identity by projecting one's diffused self-image on another and by seeing it thus reflected and gradually clarified (p. 132).

More a reflection of hero worship, falling in love during adolescence is not "entirely or primarily a sexual matter --except where mores demand it" (Erikson, 1963, p. 262). (emphasis mine). Current social mores have tended to encourage increasing sexual contact between young couples. The psychosocial moratorium between childhood and adulthood has gradually lengthened as puberty begins earlier (Katchadourian, 1977) and more

formal preparation time is required for economic independence. Adolescents mature and experience sexual feelings with few, if any, sanctioned outlets so long as the spoken code (primarily religious) remains "no sex before marriage". Moreover, leisure time for adolescents has increased and become less structured and supervised. The opportunity to experiment and to yield to temptation is greater. Meanwhile mass media uses sex to sell everything from toothpaste to orange juice. Folk heroes such as rock stars and athletes provide role models far outside the more traditional values of virginity, marriage, and monogamy. Conflicting messages therefore seem to encourage sexual activity but discourage admitting it, either to oneself or to others. Birth control is tacitly discouraged and its pursuit may require motivations and skills the adolescent does not have.

The ideological commitment that begins to emerge during the period of identity formation may not impact directly upon sexual behavior. However, it is indicative of a decreasing egocentricity that allows the teenager to reflect upon the effect of one's behavior upon others -- the partner, the potential child, and society in general. Moreover, an awareness of others is the mechanism by which the personal fable ("it won't happen to me".)

is eventually lost. Placement of oneself in a larger social context increases awareness that the laws of nature and society apply to everyone, resulting in the potential for a more realistic appraisal of pregnancy risk and consequences.

Identity formation theoretically completes the process of development through adolescence. Some consideration must be given, however, to the succeeding two stages, intimacy and generativity, for they are the antecedent and the consequence of sexual activity. True intimacy, in Erikson's view, includes but transcends mere genitality. It implies a fusion of identities, therefore a firm sense of self required. One cannot give oneself to another unless one has a self to offer. For the adolescent, heterosexual contacts are more often superficial, designed to define one's identity rather than merge it. This has a twofold significance. First, the lack of true intimacy may hinder communication sufficiently to make discourse regarding sexual activity and birth control impossible. Secondly, even a superficial commitment may threaten a real loss of identity to an adolescent with a poorly developed sense of self. Those whose identity is threatened by an intimate relationship may avoid

commitment or "seek promiscuity without intimacy, sex without love, or relationships without stability" (Muuss, 1975, p. 68).

Generativity, the task of middle adulthood, reflects the creative, productive period of life, both occupationally and personally. It is a particularly giving period, invested in some way in providing for succeeding generations. As a major consequence of adolescent sexual activity, generativity through parenthood has a lasting impact. Physical, psychological, and social effects of teenage parenthood were discussed earlier. It was noted that at least two authors, Deutsch (1945) and Mercer, (1974), suggest that early childbearing has the potential for retarding personality growth. An unanswered question is whether the adolescent who enters the period of generativity without a firm identity or the potential for true intimacy will be able to develop a capacity for responsible sexual behavior. The inability for young women to control their fertility even after experiencing the negative consequences of a first unplanned pregnancy has been observed frequently (Furstenberg, 1976; Klein, 1974; McAnarney, et al., 1978; Luker, 1975).

Although Erikson acknowledges the effect of interaction upon behavior,** he does not choose to dwell upon it. The period of adolescence, however, represents a real expansion of social interaction, during which the youth begins to appreciate potential roles within an adult society and society begins to acknowledge the youth as a fledgling adult. The primary identification moves from family to peers. Given that this study focuses upon sexual behavior, which constitutes social as well as sexual intercourse, it seems important to give more than cursory attention to the interactive process.

Interactional Framework

The interactional approach is founded primarily upon the work of George Herbert Mead (1934, 1938), whose social behaviorism approached problems in behavior from the standpoint of society. Mead focused upon the symbolic meaning of behavior -- individuals act or react according to their symbolic definition of the situation. Personality development is studied through the concept of "self" (closely akin to Eriksonian identity) which "arises in the process of social experience and activity"

**"The implicit conclusion that an individual ego could exist against or without a specifically human 'environment", i.e., social organization, is senseless" (Erikson, 1956, p. 106).

(Mead, 1934, p. 135). The self has the property of being both subject and object; that is, it cannot only only experience, but reflect upon itself and that experience. The self is capable of seeing itself through the eyes of others, either specific others or the "generalized" other that represents society as a whole (Mead, 1938). A number of authors (Blumer, 1969; Turner, 1962, 1968) have expanded Mead's work and produced a framework possessed of tremendous scope, great depth and, in some form, almost universal applicability to the study of human behavior. For purposes of this study, a few principles regarding the relationship of interaction to development and maturity will be stressed.

The major proposition is, of course, that interaction contributes to, and is in fact, inseparable from development. For instance, one cannot develop a sense of trust unless there are people there to trust; one cannot become autonomous unless there is someone from whom to declare independence. Speaking of the phases outlined in his theory of psychosocial development, Erikson (1956) notes:

> Each part exists in some form before the time when it becomes "phase specific," i.e., when its psychosocial crisis is precipitated both by the individual's readiness and by society's pressure (p. 76). (emphasis mine)

Pressure from society comes from the process of socialization. According to Stryker (1964), socialization

> broadly refers to the process by which the human organism acquires the characteristic ways of behaving, the values, norms and attitudes of the social unit of which he is a part (p. 133).

The socialization process, in fact, defines psychosocial maturity. The norms, values and behavior that are internalized as appropriate for an adult constitute the meaning of maturity within the society. The development of self and the success of socialization depend heavily upon the ability to an individual to take the role of the other. Role-taking ability is related closely to the decrease in egocentricism that begins in adolescence. It refers to the ability to perceive oneself and one's behavior as others do. According to Gough (1960)

> The degree to which the person will be able to govern internally his thought and behavior in accordance with the imperatives of his culture will be a consequence of the depth and validity of the role taking experiences that he has enacted (p. 240).

In an interaction an individual occupies a status or position to which certain role expectations are attached (Stryker, 1964). Role expectations are a product of society (the "generalized" other) and a product of interaction with corresponding roles. Roles, like selves,

do not exist in isolation, but require the balance of in imputed other role (Turner, 1962). Among those with whom one interacts, not all are equally meaningful. Therefore, the major influences upon role behavior will arise from interaction with significant others and referent groups (Stryker, 1964). The primary referent group of teenagers is the peer group, the influence of whom cannot be underestimated. However, the period of adolescence (the psychosocial moratorium) also allows the youth to experiment with more adult roles. Socialization implies the presence of socially designed roles (or statuses) into which an individual can be socialized. In periods of rapid social change such as now, adults are no longer able to furnish adequate role models (Muuss, 1975), making the process of socialization far more difficult.

The relationship of the interactional framework to sexual activity in adolescence is both direct and indirect. Indirectly, the influence is through the developmental process, for the type of interactions that an individual experiences will determine how well or how poorly developmental tasks are accomplished. The effect of interaction upon adolescent sexual activity is seen more directly through the process of socialization. As

noted earlier, socialization is a general process by which the attitudes, norms and behaviors that constitute maturity are internalized. However, there are two specific aspects of socialization that seem especially important to the sexual behavior of adolescents. The first, of course, is that part of the process that relates directly to sexual behavior. Until more recently, the Victorian ethic has prevailed. Sex has been considered a lower part of human nature, a powerful drive to which men in particular were susceptible. It was to be tolerated, but never enjoyed, by the chaste woman, primarily for procreative purposes but also to satisfy the conjugal rights of the husband. Sex and childbearing were sanctified only within the marriage vow; outside of that union, sexual love was a sin. Although fear of getting caught no doubt deterred some young lovers, illegitimacy still occurred. The "sexual revolution" of the 1960's and 1970's has fostered a growing advocacy of sex between two consenting adults at whatever level of mutual commitment, however, childbearing still remains largely within the context of marriage. For adolescents, though, both sex and parenthood are still regarded as outside acceptable norms for Western society. That unwed parenthood reflects a failure of the socialization process is found

in the fact that mean scores for unwed mothers on the socialization scale of the California Psychological Inventory fell just above those of county jail and prison inmates (Gough, 1960). Oskamp, et al. (1978) have also noted poor socialization among women who experience contraceptive failure.

Although adolescent sexual activity is explicitly discouraged, it is implicitly encouraged by the increased lengths of economic dependence, the increase in unstructured, unsupervised free time, and early heterosexual contact. Since intercourse is discouraged, many have felt that birth control could not be encouraged without implying acceptance of the sexual behavior. Consequently, it is only in recent years that contraceptive information and services have been available to young couples. However, even when services are present they are frequently not utilized. Standing in the way of contraceptive usage are the conflicting norms that make sex so easy to do and so difficult to admit. The sexual situation may be so defined that birth control means incorporating a part of self which the adolescent is not prepared to accept.

A second impact of socialization with great meaning to the sexual behavior or teenagers is the role differentiation between men and women. Traditionally, women have

assumed a more passive stance in heterosexual encounters, whether those encounters have an overt sexual tone or not. Men have been the leaders and women have been the followers. In this century, the psychoanalytic school has served to reinforce this image, contrasting women as passive, dependent and narcissistic to men as active, independent and aggressive (Deutsch, 1945). Although recent social changes have allowed women in general to become more assertive, independent, and achievement oriented, studies indicate that many teenage females remain passive and dependent, particularly in regard to sexual and contraceptive behavior (Cvetkovich & Grote, 1977; Cvetkovich et al., 1978).

Meleis (1971) found a more cosmopolitan self image to be related to effective family planning among married couples. Independence and a need for achievement, characteristics of a non-traditional sex role orientation, favor more effective contraception (Goldsmith et al., 1972; Kar, 1971; Keller et al., 1980; Shah et al., 1975). One could speculate that adolescents with more traditional, passive, sex role beliefs would be at higher risk for pregnancy for several reasons. First they would be less likely to resist male pressure for intercourse and initiate contraception. Secondly, motherhood, albeit unplanned

or illtimed, would not conflict with a basic life plan or sex role identity. And finally, an adolescent pregnancy might provide a conscious or unconscious alternative to competing in a world where women are increasingly expected to handle a multiplicity of roles.

The interactional framework also contributes to the understanding of adolescent sexual behavior through the consideration of role-taking ability. The capacity to take the role of the other would seem to contribute to more responsible sexual behavior primarily through facilitating an increase in communication skill and a decrease in egocentricism.

Role-taking ability facilitates communication by enabling an individual to:

> anticipate the questions and informational demands of the listener and thereby construct and transmit a message more effectively. Conversely, the more completely the listener is able to assume the role of the speaker, the better he will understand the speaker's message (Greenberger & Sorenson, 1974, p. 345).

Although empathy and role-taking are not equivalent, better communication and understanding encourages sensitivity to the affective needs of others as well. Effective communication skills might make discussions of sensitive topics such as birth control easier, helping young couples not only to understand one another, but

to express their own needs and desires better. Unfortunagely, young couples rarely talk about sex, they just do it (Kirkendall, 1961).

Egocentricism declines primarily through the process of interaction. Interaction, characterized by role taking, promotes not only an understanding of the corresponding "other roles" but an appreciation of oneself through the eyes of others. Consequently, the "personal fable" declines as the adolescent learns that he is not unique, but experiences the same thoughts, feelings, and risks as others. Moreover, a decline in egocentricism permits the teenager to grasp the effect of one's sexual behavior upon others.

Thus far, this discussion has concentrated upon stages of development and aspects of interaction in regard to the sexual attitudes and behavior of adolescents. The basic conclusion would seem to be that positive outcomes at all developmental phases and in the socialization process would facilitate responsible sexual behavior, specifically the use of contraception to prevent unwanted pregnancies. It may also be noted that consideration of sexual behavior through a developmental/interactional framework incorporates many of the variables noted in earlier research to be significant. The processes of

development and socialization merge to form the concept of psychosocial maturity which may be viewed as the theoretical endpoint of positive psychological growth and social interaction. In this study, psychosocial maturity will serve as the conceptual base for an analysis of adolescent sexual attitudes and behavior.

Psychosocial Maturity. Although maturity in a general sense has been discussed with regard to adolescent development and sexual behavior (Cobliner, 1970; Polsby, 1974), until recently little attempt has been made to quantify or measure the construct. In 1974, Greenberger and Sorenson published their theoretical model for a measure of psychosocial maturity. Their model asserts that Individual, Interpersonal and Social Adequacy form the basis for psychosocial maturity in our society. The attributes selected to gauge adequacy in these areas were self reliance, identity, work orientation, communication skills, enlightened trust, knowledge of roles, social commitment, tolerance of individual and cultural differences, and openness to socio-political change.

The instrument developed to measure these traits, the Psychosocial Maturity Inventory, was drawn from a base of developmental and sociological theory. The

relevance to Eriksonian and interactional frameworks is readily apparent. Table 3, reproduced from Greenberger and Sorenson (1974), provides a brief description of each of the nine subscales of the instrument. The developmental tasks of Erikson are evident in most. Trust is addressed in "enlightened-trust;"* autonomy and initiative are reflected in "self-reliance;" and industry is tested through "work orientation". Various components of identity are found in the identity subscale while aspects of ideological commitment are explored in all three of the subscales measuring "social adequacy".

Beyond its contribution to the definition of psychosocial maturity, the interactional framework is apparent in the "Knowledge of Roles" and "Communication Skills" subscales. Both reflect aspects of the role-taking concept. Role-taking ability facilitates communication and promotes understanding of self and other roles. Moreover, higher scores on the "Knowledge of Roles" subscale are indicative of a decline in egocentricism, a hallmark of psychosocial maturity. In keeping with the major social change of our times, the "Openness to Socio-political Change" subscale reflects primarily an openness to more

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*For this subscale only, the theoretical orientation of Erikson and the PSM Inventory differ. For Erikson, basic trust includes an element of naivete'. In the PSM Inventory, more "mature" responses are indicative of the ability to assess constraints on trustworthiness.

Table 3

A Model of Psychosocial Maturity[a]

Individual adequacy
- Self-reliance
  - Absence of excessive need for social validation
  - Sense of control
  - Initiative
- Identity
  - Clarity of self-concept
  - Consideration of life goals
  - Self-esteem
  - Internalized values
- Work orientation
  - Standards of competence
  - Pleasure in work
  - General work skills

Individual adequacy
- Communication skills
  - Ability to encode messages
  - Ability to decode messages
  - Empathy
- Enlightened trust
  - Rational dependence
  - Rejection of simplistic views of human nature
  - Awareness of constraints on trustworthiness
- Knowledge of major roles
  - Role-appropriate behavior
  - Management of role conflict

Social adequacy
- Social commitment
  - Feelings of community
  - Willingness to work for social goals
  - Readiness to form alliances
  - Interest in long-term social goals
- Openness to socio-political change
  - General openness to change
  - Recognition of costs of status quo
  - Recognition of costs of change
- Tolerance of individual and cultural differences
  - Willingness to interact with people who differ from the norm
  - Sensitivity to rights of people who differ from from the norm
  - Awarenesss of costs and benefits of tolerance

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[a]Reprinted from Greenberger and Sorenson, 1974.

egalitarian sex-role orientation, a product of the socialization process.

Published use of the PSM Inventory is currently limited to the validity and reliability studies reported by the authors in Greenberger, Josselson, C. Knerr, and B. Knerr (1975), the two reports comparing high and low maturity females and males (Josselson, Greenberger, & McConochie, 1977a, 1977b). In general, in repeated testing on large and varied samples, the PSM Inventory has shown adequate evidence of construct, concurrent, and divergent validity, as well as acceptable reliability coefficients. (Detailes of validity and reliability testing are found in Chapter III). Two recent reports have focused upon comparisons of males and females whose PSM Inventory scores fell at high and low extremes in a sample drawn from 192 11th graders from a small public school. It is interesting to note that the two reports were originally intended to be a single one in which the authors were to select from the entire sample those adolescents with the highest and lowest scores for comparison. The high maturity adolescents however were almost uniformly females, while the low maturity group was almost exclusively male. Gender differences were so striking that the authors elected to study each sex separately.

The purpose of the study was "to contrast the experiential and psychodynamic realities of youngsters who score at the two extremes of the psychosocial maturity (PSM) scales" (p. 27). The sample consisted of 19 males (9 high, 11 low) and 21 females (11 high, 10 low). Subjects were interviewed for one hour and a "developmental phenomenological portrait" was compiled for each.

For males, the major developmental focus was autonomy. Generally, high maturity boys recalled a period of rebellion early in adolescence, while low maturity boys continued to struggle. Similarly, low maturity boys were still bound by peer group pressures while more mature males had achieved a degree of autonomy in that area as well. Sexually, the more mature male seemed to be less experienced practically, but somehow had achieved a firm masculine identity. Low maturity males, on the other hand, seemed to use sexual activity to reaffirm a shaky sense of masculinity. Futurity and occupational concerns characterized high maturity males while those low in maturity seemed to be constantly grappling with feelings of inferiority. According to the authors, especially in the area of occupational choice, the high maturity boy focused upon what he would like "to be"

while the low maturity boy worried about what he would like "to have".

Females with high maturity scores were found to be the most articulate and introspective of the entire group. They placed less emphasis on material gain and more upon interpersonal competency. Although most had career plans, occupational choice did not serve as the primary source of self-esteem as it did in males. These high maturity females tended to date older boys, seemed less susceptible to peer pressure and like the high maturity boys had experienced a period of rebellion early in adolescence. The sexual and dating behavior of high and low maturity females did not differ markedly. Neither group seemed to experience any real intimacy. Low maturity females were characterized by a need for instant gratification and a marked intolerance for tension. The capacity for abstract thought was minimal.

In general, clear differences existed between high and low maturity subjects, indicative of a degree of sensitivity in the PSM Inventory. Gender differences in psychosocial maturity were also readily apparent. The authors note,

> Where one could find apparent real world differences in activities and goals between the high- and low-maturity boys, the high- and low-maturity girls are, on the one hand, observably more similar to one another, and on the other hand, internally more distinct (Josselson, et al., 1977b, p. 162).

Research Questions and Hypotheses

Psychosocial maturity has been selected to serve as the conceptual base for this study. The construct emerges from a theoretical orientation that is drawn both from developmental and interactional frameworks. The PSM Inventory, developed from a similar conceptual foundation, provides an operational definition on which to base a study of psychosocial maturity and adolescent sexual attitudes and behavior. The sexual attitudes and behaviors that serve as a focus for this study are: sexual experience, contraceptive effectiveness, number of sexual partners, and attitudes toward abortion, birth control use, and premarital sex. The demographic variables gender, age, socio-economic status and race are considered as potential intervening variables.

The major research questions of this study may be stated thus:

Research Question 1: Do scores on the subscales of the Psychosocial Maturity Inventory correlate with the presence or absence of sexual experience in adolescents?

Research Question 2: Do scores on the subscales of the Psychosocial Maturity Inventory correlate with the number of sexual partners in adolescence?

Research Question 3: Among sexually active adolescents, do scores on the subscales of the Psychosocial Maturity Inventory correlate with the effectiveness of contraception?

Research Question 4: Is there a correlation between adolescents' scores on the subscales of the Psychosocial Maturity Inventory and their attitudes toward premarital sexual intercourse, birth control use, and abortion?

Research Question 5: Do the variables ethnic background, socioeconomic status, age, or sex serve as interacting variables in the relationship between psychosocial maturity and adolescent sexual attitudes and behavior?

Three hypotheses will be tested as well. The discussion of a developmental/interactional framework suggests that positive outcomes of these processes (psychosocial maturity) should facilitate effective contraceptive behavior. Although sex differences exist in development and socialization, parenthood in adolescence is still not considered responsible behavior for either

males or females. Therefore, the following hypotheses will be tested:

Hypothesis 1: For both male and female adolescents, higher scores on the nine subscales of the Psychosocial Maturity Inventory as a set will be correlated significantly with greater contraceptive effectiveness.

Although a general level of maturity may contribute to effective birth control use for both sexes, it may also be that certain developmental tasks or aspects of socialization contribute differentially to the contraceptive behavior of males and females. Because there is a paucity of information available regarding the sexual behavior of males, no hypotheses will be generated for them. However, major social changes are occurring for women which would seem to favor effective contraceptive behavior. More assertive, independent, and achievement oriented females should have the motivation and desire to prevent unwanted pregnancies as well as the skills and self confidence to do so. Therefore, two hypotheses will be tested regarding the development and socialization of women.

The concepts "industry" and "sex role orientation" have been operationalized in terms of the "Work Orientation" and "Openness to Socio-political Change" subscales

of the Psychosocial Maturity Inventory, respectively. Higher scores on these subscales represent a more positive sense of industry and a more egalitarian sex role orientation.

Hypothesis 2: For adolescent females, higher scores on the Work Orientation subscale of the Psychosocial Maturity Inventory will be correlated with greater contraceptive effectiveness.

Hypothesis 3: For adolescent females, higher scores on the Openness to Socio-political Change subscale of the Psychosocial Maturity Inventory will be correlated significantly with greater contraceptive effectiveness.

CHAPTER III

METHODOLOGY

The Study Design

This study of psychosocial maturity and adolescent sexuality was conducted as a written cross-sectional survey of male and female high school students. Survey research has three major purposes, description, exploration, and explanation (Babbie, 1973), all of which were appropriate to this inquiry. This survey was designed to provide descriptive information regarding the sexual attitudes and behavior of adolescents, to explore the relationship of a developmental/interactional framework to these attitudes and behavior, and to attempt some theoretical explanations of observations found to be significant in other research.

A distinct advantage to the use of survey research to study adolescent sexuality is the ability to assure the teenagers' complete confidentiality, protecting their right to privacy and (hopefully), encouraging greater participation. Moreover, a written survey facilitates testing of larger numbers of subjects, thereby allowing more sophisticated statistical analysis and interpretation.

The primary limitation of a written survey is the loss of face to face contact with the subject. Personal

interviews encourage rapport and allow the researcher to explore responses in greater depth.

The Variables

Independent Variable. The independent variable tested in this study was psychosocial maturity, a concept that emerges from both developmental and interactional frameworks. A theoretical discussion and definition of psychosocial maturity given by Greenberger and Sorenson (1974) has been cited previously. It is repeated here for emphasis and to serve as the conceptual definition for this study.

> We use "maturity" when referring to an ideal end product of development and socialization, and "development" when referring to either the process leading to maturity or the assessed position of an individual at any point in time. Persons are characterized by varying degrees of development toward maturity; they do not "have" maturity (Greenberger & Sorenson, 1974, p. 331).

Psychosocial maturity was operationalized in terms of scores on the Psychosocial Maturity Inventory, a questionnaire devised by Greenberger, C. Knerr, B. Knerr, and Brown (1974). The PMI consists of three scales (Individual, Interpersonal, and Social Adequacy), which are further divided into nine subscales. These nine subscales test the following attributes of psychosocial maturity: self-reliance, identity, work

orientation, communication skills, enlightened trust, knowledge of roles, social commitment, tolerance of individual and cultural differences, and openness to socio-political change. The items of the PSM Inventory appear in Appendix A as they were administered to the students and in Appendix C under their appropriate subscale heading.

Dependent Variables. Scores obtained on the various scales and subscales of the Psychosocial Maturity Inventory have been correlated with six dependent variables representing various aspects of adolescents' sexual attitudes and behavior. These dependent variables are:

1. the experience of sexual intercourse,
2. number of sexual partners,
3. the effectiveness of contraception among those who are sexually active,
4. attitudes toward premarital sex,
5. attitudes toward birth control use,
6. attitudes toward abortion.

These six dependent variables were selected for several reasons. First, it appears that issues and motivations involved in the initiation of sexual activity and in the use of birth control may be different, therefore they have been tested separately. Moreover, sexual

activity that involves a longterm commitment would seem to be different than sexual behavior characterized by multiple partners. Decision-making models acknowledge the relevance of attitudes to behavioral outcomes (Fishbein, 1972). It therefore seems reasonable to explore the relationship of development to the formation of attitudes toward sexual behavior.

The six dependent variables were operationalized in the Sexual Attitudes and Behavior Questionnaire (See Appendix B). This section of the survey consisted primarily of questions selected from other studies of adolescents. Questions pertaining to sexual and contraceptive activity were drawn from the dissertation of Dr. Lois Welches (1976). Several questions regarding attitudes toward abortion were taken from a study of contraceptive practice by Gabrielson et al. (1971). Attitudes toward birth control use and premarital sexual intercourse were tested by investigator-created items derived from attitudes expressed in other studies of adolescents (Breakstone, 1979; Shah, et al., 1975).

Sexual experience was operationally defined as the self reported answer to the question "Have you ever had sexual intercourse?" The level of sexual activity was defined in terms of the number of reported partners.

Contraceptive effectiveness was operationalized in a series of questions regarding birth control use in general, in the last two months, and at last coitus. For each time period the type of birth control and the faithfulness with which it was used was ascertained.

Attitudes toward premarital sex were defined as liberal versus conservative in response to the question:

I believe that

1. _____sexual intercourse if just for marriage.
2. _____sexual intercourse is ok, it you are in love and engaged.
3. _____sexual intercourse is ok, if you really like the guy.
4. _____sexual intercourse does not have to mean an emotional commitment.

Attitudes toward abortion were operationally defined in terms of responses to a series of nine questions. These questions addressed a variety of themes regarding abortion, including whether it was like killing, whether it was morally right or wrong (and under what circumstances), whether it should be legal, whether it was safe, and whether it was right for one's friends or oneself.

Attitudes toward birth control were operationalized in terms of responses to five questions referring to

contraceptive practice. These questions addressed such issues as whether birth control inhibited spontaneity in lovemaking, whether birth control use was acceptable for pregnancy prevention in general, and whether responsibility for contraception rested with the male, the female, or the couple. Two questions concerned whether birth control represented preplanned sex and whether "good" girls could acknowledge planned sex through contraceptive use.

Interacting Variables. Sex, age, socio-economic status, and race or ethnic background were considered as potential interacting variables in this study. Because psychosocial maturity is primarily a developmental phenomenon, one would assume differences would be noted with respect to age. Given the contribution of socialization to psychosocial maturity, differences may also exist within certain subgroups, such as males and females, or subcultures, such as different socio-economic levels or ethnic backgrounds. Age has been operationalized as self reported age in yearly increments, and sex as self reported gender status. Socio-economic level was ascertained using Hollingshead's two factor index of social position (1957). Hollingshead utilizes the educational and occupational status of the head of household to determine social class,

which may range from Class I (major professionals with graduate education) to Class V (unskilled laborers with minimal education). Father's education and occupation were used to calculate socio-economic status unless the adolescent lived with the mother only, in which case her education and occupation were used. Race or ethnic background was defined as Black, White, Asian, Spanish Surname or Other. The respondent was asked to specify if the category "other" was checked.

The Setting

This survey was conducted in a large urban high school in central California. The school draws from a mixed racial and socio-economic pool, providing education for the teenagers of a "university community" as well as for the adolescents of an inner city slum. The racial breakdown of the school is approximately 40% Black, 40% White, 10% Asian, and 10% Hispanic and "other". The community is known to be rather liberal politically as well as to support a wide variety of life styles.

The primary advantage of such a setting is that it was one of the few that would consider administering a questionnaire regarding sex to its students. The obvious disadvantage of the setting is that its very liberal nature makes generalization to more conservative

populations questionable. The rich mix of racial and economic statuses, however, enhances the ability to make other inferences.

All subjects were from one course in Social Living. This is a mandatory class usually taken in the sophomore year. Content covers typical "sex education" material such as reproduction, pregnancy, and birth control. Also discussed are all aspects of sexuality, including homosexuality, bisexuality, prostitution, masturbation, sexual abuse, and feelings about sexual intercourse. These discussions are quite frank and in vivid detail. An anonymous survey regarding personal sexual activity is routinely administered by the teacher. Among other social issues discussed are death, child abuse, wife beating, career choices, health and nutrition, drugs and drug abuse, and family relationships.

The Sample

The survey was administered in two parts to all students registered for Social Living during one school term who consented to participate. There were 145 students enrolled of which two were visually or mentally handicapped to an extent that prohibited reading and understanding the questionnaire. Six students were either absent on one or both days of testing or simply

declined to participate. Therefore, 137 responses were obtained. Of those, 42 were sufficiently incomplete to render analysis of the major research questions impossible. The major analysis of data collected for this study was the 95 questionnaires for which both sections were essentially complete with minimal questions unanswered.

Because of the desire to preserve anonymity, it was impossible to identify those who declined to participate. Some information regarding attrition is available from the incomplete data. Of the 42 incomplete questionnaires, 24 consisted only of Part I (the PSM Inventory), 8 consisted of a Part II only (the Sexual Attitudes and Behavior Questionnaire) and 10 contained both sections, but one or the other was so incomplete as to make analysis impossible. Since demographic data were obtained on Part II, 18 questionnaires could be analyzed in regard to the type of student more likely to drop out at some point in the testing procedure.

Table 4 provides a brief demongraphic comparison between the final sample and those whose questionnaires were complete. However, demographic data were available on those incomplete surveys that contained a Part II (N = 18) less than half of the total incomplete data (N = 42). Since nothing is known about the characteristics

those students who returned only Part I, tests of significance were not done between those who had completed questionnaires and those who did not. Reviewing the data available, however, those students who failed to complete the survey were more often Black, female, and middle class.

The 95 questionnaires that were analyzed for the major research questions appeared to be adequately representative of the total school population. The sample was divided evenly among males and females. The racial and ethnic breakdown of the sample (See Table 4) was very close to the total school population (Black 40%, White 40%, Asian 10%, Hispanic and other 10%). No estimates were available of the socio-economic breakdown of the school population. However, administrative personnel indicated that every social class was represented, and this range is reflected in the socioeconomic distribution of the sample. The course in which testing was conducted is mandatory and usually, but not always, taken in the sophomore year. Eighty-three percent of the sample students were age appropriate for that school year. Therefore, it appears that the sample population can be considered typical of the total school population at the sophomore year.

Table 4

Demographic Data of Subjects in Final Sample and Subjects with Incomplete Questionnaires by Percent

Variable	Sample N = 95	Incomplete Questionnaires
Race		
Black	41.1	55.5
White	42.1	27.8
Asian	14.7	11.1
Spanish Surname	2.1	5.5
Socio-Economic Status		
1	30.4	17.6
2	16.3	58.8
3	27.2	17.6
4	19.6	5.8
5	6.5	
Age		
14	2.1	0
15	60.0	55.5
16	23.2	33.3
17	13.7	1.1
18	1.1	
Sex		
Male	49.5	33.3
Female	50.5	66.6
Sexual Activity		
Yes	40	50
No	60	50

The Questionnaire

The survey was administered in two parts on two days during class time. The first day students completed the Psychosocial Maturity Inventory (Form D), the second day they answered the Sexual Attitude and Behavior Questionnaire. The second section also elicited demographic data.

The Psychosocial Maturity Inventory (PSM). The PSM Inventory was devised by Greenberger, C. Knerr, B, Knerr, and Brown in 1974 as a means of assessing developmental progress beyond academic achievement. In its first form (Form A) it consisted of 349 items which were culled through repeated testing into 93 items forming the nine subscales of Form D. Responses to the items are in a four point Likert-like scale ranging from strongly agree to strongly disagree.

Scores for the nine subscales of the PSM Inventory are obtained by adding the scores of each item in the subscale and dividing the sum by the number of completed items. The possible range is one to four, with the higher score representing a more "mature" response. Scores for two major scales, Individual and Social Adequacy, can be obtained by summing the scores of the individual subscales within the larger scale. It is not possible to obtain scores for Interpersonal Adequacy because both

hierarchical factor analysis and principle components analysis suggest that the three subscale constituting that scale do not cohere adequately (Greenberger, Josseson, C. Knerr, & B. Knerr, 1975).

Several validation and reliability studies for the PSM Inventory have been conducted by the authors (Greenberger, et al., 1975). Most data come from test forms B and C on the South carolina sample of fifth graders (N = 729), eighth graders (N = 925), and eleventh graders (N = 637). The two younger grades were retested a year later. Form D* was tested on 2,605 eleventh graders in Pennsylvania. From these studies and others, the authors have provided data regarding the construct, concurrent, and divergent validity of the instrument as well as its internal consistency and stability.

The argument for construct validity is supported by data from the South Carolina sample indicating comparison of mean subscale scores between all grade levels differed significantly ($p \leq 0.05$ or better), with older students receiving higher scores. If psychosocial maturity is truly a developmental construct, age differences would be expected.

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*Form D differs minimally from Form C. Alternations consist of a few wording changes and replacement of three "trust" items (Greenberger, et al., 1975).

Tests of divergent validity were conducted to insure that the PSM scores were neither a measure of social desirability or of intelligence. At all grade levels within the South Carolina sample correlations between PSM scores and scores on the Crowne-Marlowe Social Desirability Scale were very low (-0.30 to 0.26). Moreover, while PSM scores increase with age, social desirability scores decline.

The relationship of PSM scores to measures of intellectual capacity is slightly more complex. In the South Carolina Sample, 153 fifth graders and 281 eighth graders took the Iowa Test of Basic Skills and 305 eighth graders took the California Test of Basic Skills. Correlations were stronger with the California test (reading ranges from 0.39 to 0.57; math ranges from 0.16 to 0.26) than the Iowa Test (reading ranges from 0.07 to 0.38; math ranges from 0.01 to 0.21). On both tests, reading and math scales showed the highest correlations with the Openness to Change subscale and lowest correlations with the Communication Skills subscale. Two thousand eleventh graders in Pennsylvania took the "Level of Previous Learning" test, a measure of verbal achievement. The highest correlation was 0.34 (with Openness to Change) and the lowest was 0.13 (with Work Orientation). Self

reported grade point averages were also obtained from this sample. The relationships ranged from 0.13 (with Tolerance) to 0.29 (with Work Orientation). From a sample of 101 Oregon tenth graders, correlations between actual grade point average and PSM subscales ranged from 0.22 (with Identity) to 0.42 (with Work Orientation). The authors suggest that while moderate and significant correlations exist between the PSM Inventory and various measures of intellectual ability (especially verbal achievement), at no time do these results account for more than 33% of the variance in any subscale. Therefore, the PSM Inventory must be considered more than a measure of intellectual capacity (Greenberger, et al., 1975).

Tests of concurrent validity have included comparisons with teachers' ratings, as well as with measures of self-esteem, anxiety, and neuroticism. In the South Carolina sample, 729 fifth graders were rated by teachers as mature or immature on a four point scale for each subscale of the PSM Inventory. While students who were ranked high in maturity uniformly scored higher than other students in the sample on all PSM subscales, those rated less mature did not score consistantly lower. In a subsequent study of 192 eleventh graders, however, teachers were asked to identify only the most and least

mature students on four PSM traits (self-reliance, work orientation, social commitment, and tolerance). Under these circumstances, discrimination was more accurate. In this study, "mature" students scored significantly higher than other students in the sample in three of the four subscale (exception: self-reliance), while students who were considered less mature scored significantly lower on three of four subscales (exception: tolerance).

Studies of the relationship between the PSM Inventory and self-esteem, neurotocism, and anxiety were conducted with 192 11th graders in suburban Baltimore and 68 freshmen in an experimental Massachusetts college where students were admitted early. Measures were the "TP" (self-esteem) scale and the "N" (neuroticism) scale of the Tennessee Self Concept measure, Rosenberg's self-esteem scale, and Welsh's anxiety scale. It was expected that a positive relationship would be found with measures of self-esteem and a negative relationship found with anxiety and neuroticism.

In the "TP" measure of self-esteem, correlations ranged from 0.07 (with Social Commitment) to 0.50 (with Identity). The Rosenberg measure ranged from -0.05 with Identity. In both tests, correlations were with one exception positive. Those subscales reflecting Individual

Adequacy, as well as the Communication Skills subscale were significantly related to self-esteem.

As expected, subscales of the PSM Inventory showed a negative relationship with both the neuroticism and anxiety measures. For the "N" scale, correlations with the PSM Inventory ranged from 0.52 with Identity to -0.06 with Openness to Change. The correlation of PSM scores and anxiety scores was also predominantly negative. The strongest positive correlation was with the Tolerance subscale (0.05) while the most negative correlation was with Identity (-0.40).

The subscales related to Social Adequacy were also administered to 71 college students who had demonstrated commitment to various volunteer social projects, and to 44 control students from the same school who had done no volunteer work. Those whose behavior was consistent with social concern scored significantly higher than controls on all three Social Adequacy subscales.

Evidence of the reliability of the PSM Inventory has also been provided by the authors (Greenberger, et al., 1975). In the evolution of the 349 items of Form A to the 93 items of Form D, item to test correlations for the nine subscales were used to strengthen the internal consistency of the instrument. With the sample of 2,605

Pennsylvania 11th graders correlations* within Form D ranged from 0.74 (Trust) to 0.86 (Social Commitment). The stability of the instrument has been demonstrated through retesting of grades five and eight of the South Carolina sample after one year. Correlations were 0.91, and 0.90, respectively.

The Sexual Attitudes and Behavior Questionnaire

This instrument (See Appendix B) was investigator created using items used in and stimulated from other research. The first section consists primarily of questions regarding demographic data, attitudes toward premarital sex, birth control, and abortion, motivation for pregnancy, future plans, and estimates of sexual activity among classmates. The second section of the questionnaire focused upon sexual behavior, including contraceptive practice. If the subject had not had sexual intercourse, he or she answered a series of questions not directly relevant to the questions of this research, but aimed primarily at preserving confidentiality. In this way, the subject could not be identified by virtue of only filling out half of the questionnaire. Those who experienced sexual intercourse answered questions pertaining to contraceptive practice and pregnancy. Separate

*Kuder-Richardson Formula Eight Estimates.

forms were used for male and female students to allow for certain wording changes (i.e., "Have you ever been pregnant?" versus "Have you ever gotten a girl pregnant?").

Items on the Sexual Attitudes and Behavior Questionnaire were considered separately except for those testing contraceptive effectiveness and attitudes toward birth control and abortion. Composite scale scores were obtained for these three variables.

Scores for attitudes toward abortion and birth control were obtained by adding the scores from each relevant question, highest scores representing more favorable or more liberal attitudes. Nine questions (Appendix B, Items, #11, #18, #19, #20, #21, #22, #23, #24, and #25) made up the attitudes toward abortion scale. Tests for reliability indicated a strong intercorrelation (Cronbach's Alpha 0.84459). However, the five questions (Appendix B, Items #12, #14, #15, #16, and #17) measuring attitudes toward birth control did not demonstrate good internal consistency at all. Inter-item correlations were very low (mean 0.02424) with a Cronbach's Alpha of 0.19841. There are two reasons why the intercorrelations among these questions could be so inconsistent. First, although "attitudes toward birth control" represented a consistent construct, the question

may have been poorly worded and therefore not a valid reflection of what they attempted to measure. A second explanation might be that the construct itself is not unidimensional, but consists of different attitudes toward different dimensions of birth control use. A person might be favorably disposed toward fertility control in general, but find contraceptive techniques distasteful or inappropriate for personal use for a variety of reasons. Whatever the reason, the internal consistency of this particular scale renders it useless for generalizations regarding attitudes.

The contraceptive effectiveness scale was drawn from questions #46, #47, #49, #50, #51 and #52. The subject was asked to report birth control use (frequency and type) in general, in the last two months and at last intercourse. A score was obtained for each of the three reference periods, higher scores being indicative of more frequent use of more effective methods. Scoring for contraceptive effectiveness is demonstrated in Appendix F. A mean score was then obtained from the three raw scores. By using a mean score rather than a cumulative one, missing data (for instance, no intercourse in the last two months) did not penalize a subject with a falsely low contraceptive effectiveness score.

The reliability of the Sexual Attitudes and Behavior Questionnaire depends heavily upon the honesty of teenagers reporting their sexual activity. Self report is the only access investigators have to this information and yet it is impossible to verify. For this reason, guaranteed confidentiality is of paramount importance in allowing the adolescent to respond truthfully. Some assurance that adolescents do answer honestly can be drawn from the fact that the percentage of sexually active teenagers does not vary widely among different studies. In this study, 40% of the total sample reported having sexual intercourse. More males reported (48.9%) sexual experience than females (31.3%). Sexual experience increased with age as follows: 14 years (0%); 15 years (31.5%); 16 years (50%); 17 years (61%), and 18 years (100%). These findings are consistent with the observations of others (Chilman, 1979; Zelnick & Kantner, 1977).

The Consent Procedure

The question of consent procedures for the study of adolescent sexuality is controversial at best. Two issues are involved. The first is concerned with parental consent for doing research upon minor subjects. It is now possible in most states to provide service to adolescents in sensitive areas such as contraception,

pregnancy testing, abortion, venereal disease, or substance abuse without parental consent. However, it is difficult to do research in these same areas without permission. In her 1976 study, Welches found that educators and administrators were reluctant to let her even approach parents for permission to interview their daughters. Arguments usually concerned the parents' fear that interviews and questionnaires about sex would (1) give adolescents ideas that they would then try to put into practice, or (2) teach adolescents something the parents do not care them to know, or (3) raise questions that the parent is too uncomfortable to answer. Contrary to educators' arguments, when Welches finally found a school in a conservative rural area that was willing to let her contact parents, she found them exceedingly receptive. Nevertheless, when parental consent is required, the potential refusal rate from a sample doubles. The sample thus obtained is also highly biased; parents more likely to consent are those who are comfortable with their own sexuality and that of their children and who have provided a very different socialization atmosphere in the home.

The second issue involved in the consent procedure is the protection of anonymity. Any time an individual

is asked to sign his name, even if the form is later separated, the potential exists for loss of confidentiality. In an area as sensitive as the report of one's own sexual behavior, even the smallest chance of identification may be too great. Again, the risk to the research process is a higher refusal rate.

In this study, the investigator was fortunate to be able to resolve both issues. Parents of the students who served as subjects were aware of the nature of the subject matter presented in usual classes. Students frequently completed surveys provided by the teacher and others without parental permission. The teacher, in fact, requested that parental consent not be required as it might throw suspicion upon other assignments and surveys that parents had previously accepted. Therefore, the Committee on Human Research granted the investigator permission to test without parental consent.

The question of anonymity was addressed through the use of implied consent. The cover sheets on each questionnaire assured students that participation was not mandatory, that no penalty would be experienced for declining to participate. It was noted that the questions were often of a very personal nature and might make some people uncomfortable. If the teenager agreed to

participate, consent would be implied by the return of a completed questionnaire. In order to be able to rejoin the two parts of the questionnaire without using names, each student was asked to select a personal code number of four numbers and and one letter to be placed on both questionnaires. In this way, the two parts were matched anonymously after testing was completed.

The Collection of Data

After written permission to test had been obtained from the teacher and appropriate administrative personnel two testing days were scheduled. The teacher requested permission to introduce and administer the questionnaires as class time was limited and the curiosity and questions stimulated by the presence of a guest might have taken up too much class time to allow for completion of the questionnaire. The investigator did not appear until the end of class when she collected the completed instruments from the students. The survey was introduced simply as a research project being conducted by a doctoral student at the University that had to do with teenagers and sex. The teacher reiterated that participation was not mandatory. Further explanation of the survey and consent process was provided on the cover sheet for each questionnaire (See Appendix A & B).

At the beginning of the testing session, students were asked to determine their own code number for the questionnaires by selecting a sequence of four numbers and one letter meaningful only to them (i.e., the first two numbers of their zip code, the last two numbers of their phone number, and their first initial). They were asked to place that same number on each page of the quesionnaire on both testing days. In this manner the two parts of the questionnaire could be rejoined without the use of names or the loss of anonymity. After the questionnaire was completed, the students sealed the questionnaire in a plain envelope (provided by the investigator) and dropped it into a large box with a small hole cut into the top. At the end of class, the investigator collected the box. The completed questionnaires were locked in a file cabinet at the investigator's home and destroyed when data analysis was complete. Toward the end of the students' term in Social Living, the investigator, at the request of the teacher, returned to answer questions and to discuss the general results of the study with the class.

Data Analysis

Data obtained in this study are primarily nominal and ordinal level, although most scales lend themselves

to analyses as interval data. A variety of statistical techniques have been used. Multiple regression analysis, discriminant analysis, and analysis of variance have been employed for the analysis of the major research questions and hypotheses. These techniques will be discussed briefly as they are applied to this study. Other analyses of descriptive data and minor variables employed other techniques such as t tests and Chi Square. These statistical tests can be found in any standard statistical text and will not be discussed here.

In general, the type of test employed reflected the nature of the dependent variable. Where data from the dependent variable provided sufficient variation, as in contraceptive effectiveness, regression analysis was used. Where the dependent variable could be dichotomized, as in the presence or absence of sexual activity, discriminant analysis was employed. Where the dependent variable could not be dichotomized and did not provide adequate variance, as in the number of sexual partners, analysis of variance allowed comparison of mean scores of individual subscales among groups.

Multiple Regression Analysis. Multiple regression is a statistical technique which can be used to analyze the relationship between a single dependent variable on

multiple independent or predictor variables. It is especially useful in social science research where cause/effect relationships are rarely (if ever) simple and multivariate analyses are essential. Multiple regression assumes that relationships between variables are linear and additive. The combination, however, is not a simple summation, for regression analysis accounts also for the interactive influences of the independent variables. In this manner a prediction equation can be obtained that indicates how scores on the predictor variables can be weighted and summed for the best prediction. The result is an estimate of the variance accounted for by the joint influence of the independent variables. Nie, Hull, Jenkins, Steinbrenner, & Bent, 1975).

In step-wise regression, scores for each of the independent variables, as well as the dependent variable, are fed into the computer. The computer then selects the single most predictive variable as the first variable in the step-wise regression. The second variable in the equation is then selected based upon the best predictive value <u>in combination with the first variable</u>. The second variable is not selected on the basis of being the second best predictor variable by itself, but on its contribution in interaction with the first variable. The third variable

is selected on the basis of its interaction with the first two variables, and so on until the addition of further variables no longer contributes substantially to prediction. At each step of the regression an "F" value and a probability statement are obtained for the individual variable and for the combination of variables at that step. Since regression analysis investigates a linear relationship (therefore a correlation) between variables, a total multiple "R" value is obtained also at each step of the regression. This value squared represents an estimate of the amount of variance within the dependent variable that is accounted for by that combination of independent variables.

Regression analysis was used in this study because it was possible to analyze the components of psychosocial maturity (represented by the nine subscales) individually and in combination. The subscale scores of the PSM Inventory are not designed for summation to provide one score. Therefore, multiple regression permitted the investigator to search for a total effect by entering the scores into a linear regression equation. This type of analysis, like simple correlation, requires a dependent variable with sufficient range to allow for a truly linear relationship. In this study, the contraceptive effectiveness

scale, the attitude toward birth control scale, and the attitude toward abortion scale met that requirement.

Discriminant Analysis. In multivariate analysis where data from the dependent variable are nominal, discriminant analysis may be used. Nominal classifications are considered groups and "the mathematical objective of discriminant anlysis is to weight and linearly combine the discriminating (independent) variables in some fashion so that the groups are forced to be as statistically distinct as possible" (Nie, et al., 1975, p. 435). Like regression analysis, discriminant analysis is done in a step-wise fashion. The single most discriminating variable between or among groups is computed and variables are determined in an order that best enhances the discriminant capability. At each step an"F" value and a probability statement are provided for the individual variable added and for the entire combination of variables at that step. Variables are added until the "F" level becomes insufficient for further computation. Discriminant analysis was employed in this study to investigate the relationship between the subscales of the PSM Inventory and the presence or absence of sexual activity in adolescence.

Analysis of Variance. Analysis of variance is a statistical technique that tests the assumption that the

mean scores on a particular variable are equivalent among the groups analyzed. It is mathematically akin to a simple t test but allows analysis of more than two groups. Raw scores for each individual within a group are used to compute a mean score for that group which is then compared to the mean scores of other groups. This comparison yields an "F" value and a statement of probability regarding the differences between groups. The disadvantage of analysis of variance in this study is that while analyzing the effect of each subscale individually every well, it does not allow easy interpretation of the subscales in combination. Interactive effects can be tested, but large numbers of independent variables make the process difficult and cumbersome.

In this study, two dependent variables, attitudes toward premarital sex and number of sexual partners were not dichotomous, nor did they provide sufficient variation to allow for either discriminant or regression analyses. Therefore, each response within the dependent variable was considered to constitute a group. Mean scores on individual subscales of the psychosocial maturity inventory were compared among groups using analysis of variance.

CHAPTER IV

FINDINGS

The major findings of this study are reported in this chapter. The first section presents results pertinent to the sample, a review of demographic characteristics and their relationship to psychosocial maturity. The second section reports findings relevant to the internal consistency of the Psychosocial Maturity Inventory. These data are presented first to provide background for the results related to the research question and hypotheses which are reported in the following sections. The final portion of the chapter will present additional findings not directly related to the major research questions or hypotheses.

As specific results are presented, they will be discussed briefly. An attempt will be made to provide possible theoretical explanations for individual outcomes. In the following chapter, these results will be placed in broader perspective in an effort to identify patterns and evaluate the relevance of the framework to the research questions.

Statistical analysis of the data was done at the computer center at the University of California, San Francisco, using the Statistical Package for the Social

Sciences. Multiple regression analysis, discriminant analysis, and analysis of variance were used to investigate the relationship of Psychosocial Maturity and the six dependent variables. Additional analyses required the use of chi square tests, t tests, Pearson's r, and Kendall's tau. Specific tests are cited in the text. The accepted level of significance for this study was $p \leq 0.05$.

The Sample and Psychosocial Maturity

Forty-seven males and 48 females were studied. Ages ranged from 14 to 18 years, although 83% of the subjects were either 15 or 16 years, age appropriate for the sophomore year. A rich mix of ethnic background and socioeconomic status was obtained. The reader is referred to Table 4 (Chapter 3, p. 91) for a breakdown of demographic characteristics.

Forty percent of the sample (48% of the males and 31% of the females) had experienced sexual intercourse. Four males claimed to have fathered one or more children and one female had experienced pregnancy.

Some variation in maturity, as measured by the Psychosocial Maturity Inventory was noted for the sample in general and when analyzed on the basis of demographic

data. The data are presented here as background to facilitate understanding of the findings relevant to the research questions and hypotheses.

The range, mean and standard deviation scores for all subjects on each subscale of the Psychosocial Maturity Inventory are presented in Table 5. The smallest range and standard deviation are found on the Change subscale, although mean scores do not differ substantially among subscales. Mean scores clustered around 3.0 in a possible range of one to four. Highest mean scores were found in the Self Reliance subscale and lowest mean scores in the Communication Skills subscale, although the difference between these scores was only 0.45041.

Mean scores on the PSM Inventory subscales were compared for males and females. Table 6 presents the means for each group as well as the p value obtained by analysis of variance. In four subscales, Self Reliance, Roles, Trust, and Tolerance, these differences were statistically significant. In two subscales, Social Commitment and Change, the differences approached significance.

Gender differences were not generally surprising. Josselson, Greenberger and McConochie (1977a, 1977b) in their study comparing high and low maturity subject (based on the PSM Inventory) found that the highest scores

were almost all female, while the lowest scores were uniformly male. In their sample, mean scores on both the Individual Adequacy and Social Adequacy Scales for the 12 most mature females were higher than mean scores for the 12 most mature males. In addition, the mean of the 12 least mature females was higher than the 12 least mature males. The findings coincide with the traditional lay opinion that girls mature earlier than boys.

Table 5

Range, Mean, and Standard Deviation Scores for the Psychosocial Maturity Inventory Subscales: Total Sample

Subscale	Range	Mean	Standard Deviation
Self Reliance	1.60 to 4.00	3.28199	0.436252
Work	1.60 to 3.80	2.84947	0.489219
Identity	2.00 to 4.00	3.11041	0.498424
Communication Skills	1.7 to 3.80	2.83158	0.49963
Roles	1.60 to 4.00	3.12737	0.508113
Trust	1.70 to 3.60	2.87053	0.428226
Social Commitment	1.545 to 3.81818	3.03512	0.464373
Tolerance	1.81818 to 3.90909	3.20143	0.453463
Change	2.09091 to 3.45455	2.91196	0.276076

Table 6

Comparison of Mean Scores on the Psychosocial Maturity Inventory Subscales for Males and Females

Subscale	Males	Females	F*	p
Self Reliance	3.1260	3.4347	13.470	0.0004
Work	2.7915	2.9062	1.211	0.2550
Identity	3.0849	3.1354	0.242	0.6237
Communication Skills	2.7766	2.8854	1.128	0.2909
Roles	2.9638	3.2875	10.622	0.0016
Trust	2.7468	2.9917	8.373	0.0047
Social Commitment	2.9511	3.1174	3.116	0.0808
Tolerance	3.0745	3.3258	7.822	0.0063
Change	2.8627	2.9602	3.029	0.0851

*1 and 93 degrees of freedom

In spite of the fact that males are usually considered more independent than females, girls had significantly higher scores on the Self Reliance subscale. Traditional male autonomy, however, is usually occupationally oriented. He does not depend upon others for financial support. Beyond that he may be dependent upon others to wash and iron his clothes, clean his house, and put a good meal on his table. In these areas, it is the female who is taught to function independently. Therefore, in adolescence the male may not necessarily

be more autonomous, in that he may not be able to take care of himself financially or personally. The female, on the other hand, is learning or may have mastered many areas of personal autonomy. Higher scores on the Roles subscale are probably reflective of the empathic skills taught females. As much of their identity is dependent upon interpersonal relationships (Josselson, et al., 1977b; Marcia, 1980) females must, and do, show "greater sensitivity to interpersonal nuance" (Josselson, et al., 1977b, p. 162). Given greater interpersonal skills, it is also not surprising that females in this study also had more insight into constraints upon trustworthiness, as demonstrated by higher scores on the Trust subscale. This sense of enlightened trust was characteristic of high maturity females in the Josselson, et al. study (1977b), as well. Interpersonal sensitivity is also indicative of the ability to look inside a person rather than forming judgements based upon superficial data. Therefore, it is not unusual to find that females in this sample were significantly more tolerant than males. Josselson, et al. (1977b) found high maturity girls "more connected to the larger society" (p. 161). They often had friends who were different in some way and used this friendship as a way to learn more about themselves.

Mean scores on the Psychosocial Maturity Inventory were also compared for each age group. Table 7 represents the mean scores for each group as well as the p value obtained by analysis of variance. Four subscales (Self Reliance, Work Orientation, Roles, and Social Commitment) demonstrated significant differences on the basis of age. Higher scores were not necessarily associated with increased chronological age, however. It appears that the data may have been skewed by two very mature 14 years olds and one very immature 18 year old. There were two 14 year olds in the sample and in six of the nine subscales (Self, Reliance, Work Orientation, Roles, Tolerance and Change) they produced the highest mean scores. On the other hand, the one 18 year old produced the lowest mean scores for seven of the nine subscales. The exceptions were Communication Skills and Trust, on which the lowest scores were obtained by the two 14 year olds.

In three of the four subscales in which significant age differences were found, the 14 year olds scored highest. Three factors probably influenced these results most directly. The first is the fact that as 14 year olds in high school, these subjects may have been typical "overachievers" who were accelerated on the basis of good

Table 7

Comparison of Mean Scores on the Psychosocial Maturity Inventory Subscales by Age Groups

Subscale	14	15	16	17	18	p
Self Reliance	3.450	3.284	3.241	3.446	1.600	0.001
Work	3.350	2.790	2.959	2.931	1.800	0.056
Identity	3.450	3.063	3.173	3.246	2.000	0.0994
Communication Skills	2.550	2.823	2.860	2.877	2.700	0.9286
Roles	3.800	3.174	2.977	3.154	2.100	0.0363
Trust	2.950	2.886	2.836	2.815	3.300	0.8323
Social Commitment	3.000	3.08405	2.926	3.112	1.727	0.0342
Tolerance	3.364	3.232	3.153	3.175	2.545	0.5821
Change	3.091	2.904	2.897	2.986	2.364	0.2124

academic performance. This would explain higher scores on the Work Orientation subscale. Secondly, both 14 year olds were female. As noted previously, females tend to be generally more mature in adolescence. The relationship of gender to maturity in the Self Reliance and Roles subscales has been discussed. The final consideration is the lone, extremely immature 18 year old who in seven of nine subscales obtained the lowest mean score. In the Self Reliance subscale in particular, significant differences are probably due less to the high scores of the 14

year olds that the extremely low score of the 18 year old. The only other subscale to demonstrate significant age differences was Social Commitment, in which 17 year olds obtained the highest mean scores. Again, in this instance, it is probably the low score of the 18 year old that creates the discrepancy.

Mean scores on the Psychosocial Maturity Inventory were compared on the basis of ethnic background. Table 8 presents mean scores for each group, as well as the p value produced by ANOVA. Two subscales, (Roles, and Identity) demonstrated significant differences on the basis of ethnic background. In both cases, Blacks obtained lowest mean scores and those with Spanish surnames scores highest. Hauser (1971) has reported that the predominant identity status for Black male adolescents is Foreclosure, a "low" identity status. Healey and DeBlassie (1974), however, found no differences among Black, White, and Spanish American adolescents in measures of identity or "social self" with the Tennessee Self Concept Scale. In his study, Hauser (1971) discusses the American social system's encouragement of a childlike behavior (pliant, obedient) in the Black population and observes that Black males often have few strong role to emulate. In the Spanish American culture, however,

male and females roles are clear and traditional (Bello, 1979), perhaps easing the process of identity formation. The meaning of differences in scores on the Role subscale is not clear. However, role-taking is easier when the roles themselves are clearer (Burr, 1972). It is easier to understand how someone feels if you know how someone is supposed to feel. In the Spanish American culture where roles are more clearly defined, role taking may be more developed than in cultures such as the Black where roles are more diffuse.

Table 8

Comparison of Mean Scores on the Psychosocial Maturity Inventory Subscales by Ethnic Background

Subscales	Black	White	Asian	Spanish Surname	p
Self Reliance	3.158	3.403	3.250	3.500	0.0762
Work	2.826	2.838	2.929	3.000	0.8834
Identity	2.941	3.225	3.193	3.550	0.0328
Communication Skills	2.767	2.935	2.700	2.950	0.3304
Roles	2.956	3.260	3.164	3.550	0.0324
Trust	2.795	2.978	2.771	2.900	0.2158
Social Commitment	2.897	3.179	3.000	3.091	0.0583
Tolerance	3.148	3.298	3.129	2.818	0.2506
Change	2.953	2.868	2.916	2.955	0.5930

No significant differences in maturity were noted on the basis of social class. Table 9 represents the mean scores for each group along with the p value obtained by analysis of variance. Although no statistically significant differences were found, the Identity, Communication Skills and Roles subscales approached significance. With only one excpetion, Tolerance, Class V subjects produced the lowest mean scores, while in six of nine subscales, Class I subjects scored highest.

Generally, the demographic differences in psychosocial maturity were not surprising. Similar gender differences had been reported by the authors of the instrument. Ethnic differences were also supported in the literature. Social class was not related to psychosocial maturity. The age differences noted probably were spurious, a reflection of two mature 14 year olds and a single immature 18 year old.

Table 9

Comparison of Mean Scores on the Psychosocial Maturity Inventory Subscales by Socio-Economic Class

Subscale	Class I	II	III	IV	V	p
Self Reliance	3.365	3.227	3.312	3.265	2.950	0.3153
Work	2.818	2.907	2.872	2.906	2.550	0.5918
Identity	3.189	3.107	3.216	2.983	2.650	0.0883
Communication Skills	2.989	2.8533	2.864	2.644	2.517	0.0958
Roles	3.289	2.993	3.120	3.150	2.733	0.0961
Trust	3.0214	2.900	2.744	2.778	2.750	0.1333
Social Commitment	3.143	2.986	2.938	3.1263	2.909	0.4349
Tolerance	3.3019	3.024	3.152	3.283	3.204	0.3523
Change	2.925	2.915	2.902	2.929	2.833	0.9543

The Psychosocial Maturity Inventory

A major concern affecting the results of this research was the strength of the instrument used to measure the variable, the Psychosocial Maturity Inventory. Although the authors presented good evidence of the validity and reliability of their questionnaire (Greenberger, et al., 1975), with several large samples, the subscale did not demonstrate substantial cohesiveness in this study. The individual inter-item correlations for each subscale are

found in Appendix E. The means and ranges are listed in Table 10. Only one subscale (Roles) produced a mean inter-item correlation (IIC) that reached the 0.05 level of significance. Although extensive investigation of the instrument to identify reasons for this lack of cohesion is beyond the perview of this dissertation, an effort was made to determine obviously weak items within each subscale. The weaker items were examined to see if they differed substantially from the content of other subscale items, but in general, no clearcut differences were observed. The reader is referred to Appendix C to identify the content of items in the following discussion.

The strongest subscale, statistically, was the Roles subscale, followed by Social Commitment, Identity, Self Reliance, Work Orientation, Communication Skills,Tolerance, Trust, and Change. In a few of the subscales (Work Orientation, Identity, Communication Skills and Social Commitment) one or two items were clearly weaker than the rest. Their elimination would raise the mean inter-item correlations to statistical significance. In a few of the measures, one can understand intuitively why certain items are weak. For instance, in the Work Orientation subscale, "I seldom get behind in my work", was definitely not related to the other items. It has been the experience

of the investigator that it is often the overachiever, the one with the strongest commitment to work, that frequently becomes so overcommitted that he is chronically behind in work. However, for most other subscales there is no readily apparent reason why certain items are not related.

Table 10

Summary of Inter-Item Correlations for the Psychosocial Maturity Inventory Subscales

Subscale	Range of Correlations	Mean Inter-Item Correlation	Negative Correlations
Self Reliance (10 items)	-0.00689 to 0.44453	0.1865536	3 of 45
Work (10 items)	-0.27435 to 0.49618	0.1333418	8 of 45
Identity (10 items)	-0.02524 to 0.49234	0.199948	1 of 45
Communications Skills (10 items)	-0.33349 to 0.42386	0.1237296	15 of 45
Roles (10 items)	0.00527 to 0.51269	0.2187307	0 of 45
Trust (10 items)	-0.15677 to 0.39799	0.1050687	15 of 45
Social Commitment (11 items)	-0.16857 to 0.48102	0.2025649	1 of 55
Tolerance (11 items)	-0.37522 to 0.44769	0.1147835	14 of 55
Change (11 items)	-0.29127 to 0.39088	0.0083447	32 of 55

The Change subscale, for instance was the weakest, with a mean inter-item correlation of only 0.0084. Thirty-two of 55 (58%) possible inter-tiem correlations were negative. The weakest items were 50, 87 and 92. Elimination of these items, however, does little to raise the mean inter-item correlation substantially. The removal of the three items not related directly to sex roles (creating the Women's Roles subscale) does not produce a significant mean inter-item correlation either. In order to achieve a significant mean inter-item correlation, all but four items (5, 14, 23 and 32) must be eliminated. These items clearly cluster to the exclusion of others with a mean inter-item correlation of 0.3075. The sex role items of the Change subscale can be broken down into three categories; those related to women's career choices (14, 32, 79, 92) those related to men's roles (60, 5), and those related to women and motherhood (69, 23). A possible explanation for the lack of coherence within the subscale might be that young women espouse newer roles and opportunities for themselves but remain conventional regarding masculine roles and are loath to negate the traditional motherhood values. However, this explanation falls short as well, for the items in each catetory have very little statistical relationship to each other.

The difficulties encountered with internal consistency are difficult to explain, especially in light of the author's reported success with the instrument. Additional testing with larger samples would be necessary to corroborate the results presented here. Data obtained from this sample are based upon 95 subjects for 93 test items, far below the five to 20 subjects per items recommended for adequate testing.

A final possibility that must be considered is that these problems exist only within this sample. A number of subjects in this study expressed real hostility at the content and format of the PSM Inventory, and 25-30% of the potential sample declined to finish the testing. It is conceivable that others simply answered capriciously. This potential is, of course, impossible to ascertain at this time. However, responses to the Sexual Attitudes and Behavior Questionnaire seemed to be consistent and reasonable. It would seem that a lack of commitment to one part of the research would be reflected in other parts as well.

Nevertheless, without internal consistency, there is no assurance that the subscale is a valid measure of the construct it claims to assess. Consequently, the credence attached to the following results of this study is limited.

Research Questions

Research Question 1

Do the scores on the subscales of the Psychosocial Maturity Inventory correlate with the presence or absence of sexual experience in adolescents?

In the discriminant analysis regarding sexual experience, the Roles subscale emerged most frequently, first as the only discriminating variable for the entire sample and secondly as the most discriminating one for males (See Summary Tables, Table 11). This variable significantly discriminated sexually experienced from virgin subjects ($p = 0.016$), the latter group having higher mean scores on the Roles subscale. Using this subscale alone, 65.26% of the sample could be correctly classified according to sexual experience. Fifty percent would have been correctly classified by chance alone.

Three explanations for the relevance of this subscale seem feasible. First, the Roles subscale reflects primarily a knowledge of and adherence to appropriate role behavior. Although more and more adolescents are becoming sexually active (11 Million Teenagers, 1975), social mores still overtly discourage teenage sexual intercourse. Higher scores on the Roles subscale could represent more socially conforming behavior and thus be

Table 11

Summary Table/Discriminant Analysis*
Psychosocial Maturity Inventory
Subscales and Sexual Experience

Step	Action Entered	Action Removed	Vars In	Wilks' Lambda	Sig.	Label
1	SS5		1	0.931868	0.0106	Roles Subscale

Summary Table/Discriminant Analysis
Psychosocial Maturity Inventory
Subscales and Sexual Experience
for Males

Step	Action Entered	Action Removed	Vars In	Wilks' Lambda	Sig.	Label
1	SS5		1	0.870510	0.0130	Roles Subscale
2	SS8		2	0.796515	0.0067	Tolerance Subscale

*The Discriminant Analysis Summary Table is read in the following manner:

Each step of the analysis is listed separately. The action category reports whether a variable was entered or removed at that step. VARS IN indicates the number of variables currently in the equation. WILKS' LAMBDA is "an inverse measure of the discriminating power in the original variables which has not yet been removed by the discriminant functions" (Nie, et al., 1975, p. 442). SIG. represents the p value of the equation at that step and LABEL provides the name of the variable that was entered or removed at that step.

reflected in virgin status. Reluctance to depart from age appropriate norms was noted among virgins in Jessor and Jessor's (1975) high school sample. A second interpretation would acknowledge the strong interactive component of this subscale. A decline in egocentricism is manifested by better role taking skills, a function of higher cognitive development. The highly empathic adolescent may be more considerate of the partner's welfare and wishes. Given that among teenagers the male still assumes the aggressor role (Cvetkovich & Grote, 1977) this consideration may take the form of not being willing to pressure his partner into intercourse. A final consideration is that the Roles subscale is statistically the strongest of the nine (See p. 124, Table 10) and would therefore be more likely to demonstrate a relationship than other subscales that may not be measuring a single construct or dimension.

For males, the Roles subscale and the Tolerance subscales significantly discriminated the sexually experienced from the virgins ($p = 0.0067$). Virgin males had higher mean scores on the Roles subscale but lower mean scores on the Tolerance subscale. Using these two subscales, 72.34% of the males could be correctly classified. Tolerant males had more frequently experienced sexual intercourse. Again, given the social expectation

that teenagers should not have intercourse, it is reasonable to expect that those who diverge from social values themselves would be more tolerant of others who did the same.

Demographic Variables and Sexual Experience. The relationship of demographic variables to sexual experience was consistent with findings in other studies of adolescent sexual behavior. Although more males (49%) than females (31.25%) were sexually experienced (See Table 12), the difference was not significant. In recent years, it appears that rates of premarital coitus have increased faster for females than for males (Chilman, 1979), beginning to close the gap in sexual experience between the sexes. The rates of sexual experience reported here for females are consistent with those of Zelnick and Kantner (1977) and Jessor and Jessor (1975) who found 40% of females sexually experienced by age 17. Reports of males have varied from 69% (Finkel & Finkel, 1976) to 33% (Jessor & Jessor, 1975) among high school students.

As would be expected, the percent of sexually experienced students increased with chronological age (See Table 13). Females in this study were comparable with those in the Jessor and Jessor (1975) study of high school students in the Rocky Mountain region. Males in

Table 12

Sexual Experience by Gender

Sexually Experienced	Male	Female
Yes	23	15
No	24	33
Total	47	48

x^2 = 2.40202, 1 df, p = .1212

Table 13

Sexual Experience by Age

Sexually Experienced	Age				
	14	15	16	17	18
Yes	0	18	11	8	1
No	2	39	11	5	0
Total	2	57	22	13	1

Kendall's Tau -0.27346, p = .0038

this study were generally more sexually experienced than those in the Jessor and Jessor study but very close to those in the Finkel and Finkel (1975) sample in a large Northeastern high school. Males and females together averaged about 15% higher at each age level in their rates of sexual experience than those in the combined Jessor and Jessor sample. The percents reported here more often approach percents in those studies reporting

generally higher levels of sexual experience, although they are not dissimilar to those found by other authors.

Ethnic background also discriminated the level of sexual experience (See Table 14). Blacks were more likely to have had sexual intercourse. This finding is in concert with that of other authors (Kantner & Zelnick, 1977; Finkel & Finkel, 1975), and also reflects these subjects' attitudes toward premarital sex. Blacks were also significantly more liberal in their acceptance of premarital intercourse.

Table 14

Sexual Experience by Ethnic Background

Sexually Experiences	Ethnic Background			
	Black	White	Asian	Spanish Surname
Yes	23	12	2	1
No	16	28	12	1
Total	39	40	14	2

$x^2 = 11.45756$, 3 df, $p = .0095$

Social Class approached significance ($p = 0.0546$) in distinguishing sexually active and virgin subjects. (See Table 15). This again corroborates findings in other research (Kantner & Zelnick, 1972). Of course, the interactive effects of ethnic and socioeconomic status

are difficult to evaluate, given that minority cultures unfortunately still cluster in the lower social classes.

Table 15

Sexual Experience by Socio-Economic Class

Sexually Experienced	Class I	II	III	IV	V
Yes	8	7	9	10	3
No	20	8	16	8	3
Total	28	15	25	18	6

Kendall's Tau = -0.18431, p = 0.0546

Sexual experience in this study seemed to be a phenomenon of age, cultural background, tolerance and role behavior. Those subjects who had experienced sexual intercourse tended to be older, poorer, Black, and more tolerant (especially males). In addition, they scored lower on a measure of knowledge of roles, normative role behavior, and role taking ability.

Research Question 2

Do scores on the subscales of the Psychosocial Maturity Inventory correlate with the number of sexual partners in adolescence?

Analysis of variance was employed to investigate the relationship between the PSM Inventory and number of

sexual partners. Table 16 reports means, F values and p levels for each subscale. The Communication Skills subscale alone demonstrated significant differences between groups. On all but two subscales (Social Commitment and Tolerance) highest mean scores were found in groups having two or three partners. In all subscales, lowest mean scores were found in groups having four, five or more sexual partners.

Better communication skills were associated with one, two, or three partners while those reporting four or more partners generally scored lower. Perhaps better communication skills facilitate the initiation of sexual intimacy in a relationship. However, multiple partners (in this case more than three) may be more characteristic of superficial communication and/or the inability to say no. Conversely, it is possible that sexual intimacy can facilitate communication skills, but in the case of multiple partners is substituted for other forms of communication. Most likely, a third variable, possibly empathy, influences both communication skills and the number of sexual partners. Empathy is requisite for effective communication and may facilitate fewer, more meaningful relationships, rather than multiple superficial ones.

Table 16

Relationship of the Psychosocial Maturity Inventory Subscales to the Number of Sexual Partners

Subscale	Number of Partners 1 (N=14)	2 (N=6)	3 (N=4)	4 (N=3)	5 (N=1)	> 5 (N=9)	F*	p
Self Reliance	3.3214	3.5000	3.5000	3.0333	2.3000	3.0111	1.622	0.1732
Work	2.8500	3.0667	2.8750	2.4333	2.4000	2.4556	1.426	0.2424
Identity	3.0571	3.1981	3.6500	2.6667	2.4000	2.9222	2.067	0.0965
Communication Skills	2.9000	3.2000	3.3000	2.5333	2.2000	2.6889	2.799	0.0337
Roles	3.1214	2.9500	3.3250	2.6000	2.7000	2.7667	1.125	0.3676
Trust	3.0214	2.7167	3.2000	2.8667	2.3000	2.6222	1.429	0.2416
Social Commitment	3.1039	2.9484	3.2500	2.3636	3.2727	2.8485	1.211	0.3273
Tolerance	3.2987	3.6061	3.2727	2.9091	2.9091	2.9596	1.841	0.1338
Change	2.9286	2.8788	3.0455	3.1212	2.9091	2.8384	0.553	0.7348

*5 and 36 degrees of freedom

Demographic Variables and Number of Sexual Partners. Age and social class were significantly related to the number of sexual partners (See Table 17). In this sample, 15 year olds had more sexual partners than any other age group. Multiple partners were also associated with lower socio-economic status.

Little data exists, to the writer's knowledge, that would support or explain the findings related to age. However, it may indicate that in this class, there was some difference socially between those students who took the Social Living course at age 15 (the typical age for sophomores) and those who took it later. Two possible conclusions could be drawn. It could be that those who took the course at an older age were students who had failed and were entering high school later or were taking the course later because they had to make up other subjects. These subjects may differ socially as well as academically. On the other hand, perhaps some students who were taking heavy college preparatory curricula in early high school had postponed this course until they were juniors or seniors. Social differences between those who are very academically oriented versus those who are academically marginal versus those who are "just average" might account for some differences in the level of sexual

activity. An additional explanation might be that this group of 15 year olds reflect the tendency to begin sexual intercourse earlier and have had more time in which to have had more partners. Zelnick and Kantner (1977) have also noted as general increase in the number of sexual partners from 1971 to 1976, in part related to an earlier age at first intercourse.

Table 17

Relationship of Gender, Age, Ethnic Background and Socio-Economic Class to Number of Sexual Partners

Variable	Test	p
Gender	Kendall's Tau -0.26004	0.0763
Age	Kendall's Tau -0.23959	0.0346
Ethnic Background	Chi Square $x^2 = 19.46989$ df 15	0.1932
Socio-Economic Class	Kendall's Tau 0.23148	0.0402

The relationship of social class to the number of sexual partners is also difficult to explain. In the more recent studies of teen sexual activity (Finkel & Finkel, 1975; Jessor & Jessor, 1975; Zelnick & Kantner, 1977) no

data on social class and the number of sexual partners has been reported. Some racial differences were noted (Zelnick & Kantner, 1977), however, ethnic differences were not found in this study. Socio-economic status has been related to coital experience in teens (Kantner & Zelnick, 1972), lower social classes having higher rates of sexual activity. Perhaps, if lower socio-economic status favors sexual experience generally, it is also conducive to more sexual partners.

Research Question 3

Among sexually active adolescents, do scores on the subscales of the Psychosocial Maturity Inventory correlate with the effectiveness of contraception?

No subscale or combination of subscales predicted CEFF for the entire sample (See Table 18). However, when separate regression analyses were done for males and females, some significant equations were produced (See Table 19). Interpertation of the results, then becomes more difficult. The small numbers in each regression (23 sexually experienced males and 15 sexually experienced females) make any inferences about the statistical significance highly questionable. The data are interesting, though, merely on the basis of the striking difference of the equations produced. Only two subscales were common

to both male and female equations, and the order of the subscales within the equations was noticeably dissimilar. However, given the uncertainty of the validity of regression results based on such small numbers, only those subscales found to be significantly correlated individually will be discussed.

Individual correlation coefficients for the Psychosocial Maturity Inventory subscales and contraceptive effectiveness are also found in Table 20. No subscale was significantly correlated with CEFF for the entire sample. For males, only the Trust subscale ($r = -0.5328$, $p = 0.005$) was highly associated with contraceptive practice. Lower Trust scores were related to better birth control use. For females, the Communication Skills and Change subscales produced significant correlations. Better communication skills were positively associated ($r = 0.4504$, $p = 0.046$) with contraceptive effectiveness while the Change subscale demonstrated an inverse relationship ($r = -0.5605$, $p = 0.015$).

Although the discussion of trust in the conceptual framework focused primarily upon females, similar reasoning could help to explain why more trusting males were better contraceptors. A boy with a strong sense of basic trust, a faith in himself and the good intentions of others,

Table 18

Psychosocial Maturity and Contraceptive Effectiveness: All Subjects

Subscale	Multiple R	R Square	Simple R	Beta
Identity	0.22505	0.05065	0.22505	0.28000
Trust	0.33860	0.11465	-0.19615	-0.26287
Communication Skills	0.35655	0.12713	0.14872	0.17945
Work	0.38136	0.14544	0.03396	-0.25187
Self Reliance	0.38850	0.15094	0.15836	0.18056
Roles	0.39434	0.15550	-0.03284	-0.09913
Tolerance	0.39593	0.15676	0.11130	-0.07748
Social Commitment	0.39854	0.15883	0.04296	0.06751

VARIABLE identifies the variable entered at each step of equation. MULTIPLE R is the multiple correlation coefficient which, when squared (R SQUARE) provides an index of the amount of variance explained by the equation. SIMPLE R refers to the individual correlation coefficient for that variable. BETA represents the standardized regression coefficient, a measure of the relative effect on the dependent variable of each independent variable. At each step of the equation an F value and a significance level are generated to measure the overall goodness-of-fit of the regression equation. In this report, equations which generate a significant F ($p \leq 0.05$) are identified with a footnote.

Table 19a

Psychosocial Maturity and Contraceptive Effectiveness: Males

Variable	Subscale	Multiple R	R Square	Simple R	Beta
SS6	Trust	0.53279 a	0.28387	-0.53279	-0.56063
SS7	Social Commitment	0.62947 b	0.39624	0.14197	0.17958
SS9	Change	0.65769 c	0.34255	0.25023	0.11220
SS1	Self Reliance	0.66405 a	0.44097	0.17744	-0.18173
SS8	Tolerance	0.68253 b	0.46584	0.21893	0.43816
SS4	Communication	0.69509 c	0.48315	-0.11229	-0.35489
SS2	Work	0.70457 a	0.49642	0.15824	0.17744
SS5	Roles	0.70579 b	0.49814	-0.17443	-0.07261
SS3	Identity	0.70619 c	0.49870	0.05346	0.04039
(Constant)					

[a] $p \leq 0.025$

[b] $p \leq 0.01$

[c] $p \leq 0.05$

Table 19b

Psychosocial Maturity and Contraceptive Effectiveness: Females

Variable	Subscale	Multiple R	R Square	Simple R	Beta
SS9	Change	0.56048 a	0.31414	-0.56048	-0.41610
SS4	Communication	0.70095 b	0.49132	0.45047	0.46041
SS2	Work	0.74381 a	0.55325	-0.11651	-0.48256
SS3	Identity	0.87241 b	0.76110	0.41689	0.62670
SS7	Social Commitment	0.87906 a	0.77275	-0.12329	-0.09304
SS8	Tolerance	0.88145 b	0.77696	-0.06828	-0.04488
SS5	Roles	0.88247 a	0.77876	-0.06395	-0.09222
SS6	Trust	0.88318 b	0.78001	0.02562	0.05741
(Constant)					

[a] $p \leq 0.05$

[b] $p \leq 0.01$

Table 20

Correlation Coefficients: The Psychosocial Maturity Inventory and Contraceptive Effectiveness

Subscale	All Sexually Experienced r	Males r	Females r
Self Reliance	0.15836	0.1774	-0.0107
Work	0.03396	0.1582	-0.1165
Identity	0.22505	0.0535	0.4169
Communication Skills	0.14872	-0.1123	0.4505[a]
Roles	-0.03284	-0.1744	-0.0639
Trust	0.19615	-0.5328[b]	0.0256
Social Commitment	0.04296	0.1420	-0.1233
Tolerance	0.11130	0.2189	-0.0683
Change	0.06246	0.2189	-0.5605[c]

[a] p equal to 0.046

[b] p equal to 0.005

[c] p equal to 0.015

might feel less need to prove his virility or fertility in a sexual relationship. Erikson also speaks of trust as confidence in the future, an attribute that might make the males less willing to risk that future by fathering a child too early.

The relationship of effective communication skills and successful birth control use in females is also theoretically sound. The ability to communicate well implies also the capacity for empathy and role taking. This potential sensitivity, plus the confidence in the ability to communicate, would facilitate the discussion of sensitive areas, such as sex and birth control. A girl who communicates well might be more willing and able to discuss her feelings with both her partner and health care professionals.

The relationship between resistance to change and birth control use is not so clear. The Change subscale was originally used as a measure of sex role orientation, as the majority of items focused in that area. However, it appears that the strong relationship found emerges from the three items (42, 50, 87) that were not related to sex roles. Without those three items, the relationship becomes negligible, declining from $r = -0.5606$ ($p < 0.01$) to $r = -0.0273$ ($p < 0.436$). Therefore, it appears that a more general resistance to change is associated with more effective contraception. Perhaps this is a reflection of a more traditional orientation in general lifestyle, an attitude that makes out of wedlock pregnancy more unacceptable. Cvetkovich, et al (1978) found non-virgins

to be "liberal, but not liberated" (p. 232); that is, permissive sexually but inclined toward stereotypical sex roles. It may be in this study that traditionalism extended beyond mere sex roles to a more generally conservative attitude among those who used birth control more effectively. A final consideration is that the Change subscale was statistically the weakest of the nine. Therefore, interpretation of its relationship to sexual behavior and attitudes must be made with caution.

Demographic Variables and CEFF. Neither gender, age ethnic background nor socio-economic status (SES) was associated significantly with contraceptive effectiveness (See Table 21). Few comparisons of the contraceptive behavior of males and females have been reported. Hornick, et al (1979) did investigate a sample of 144 females and 100 males. Of these sexually active high school and undergraduate students, 72% of the females and 69% of the males used some kind of birth control. Although no comparisons were made regarding the frequency and efficacy of the methods used, the percentages of those attempting to use something was not dissimilar.

Zelnick and Kantner (1977) found that the percent of females using birth control at last intercourse increased with age, from approximately 53% at age 15 to 70% at age 18.

However, the percent of females always using birth control remained approximately 30% for all age groups. Data from Finkel and Finkel (1978) indicate that the use of effective contraception among males (defined as use of condom or female birth control at last coitus) increased significantly ($p < 0.02$) with age. At age 15, 31.9% of their sample were classified as effective contraceptors, increasing to 42.7% at age 16, 44.8% at age 17, and 62.7% by ages 18-19. In this sample, males and females were combined and no relationship between CEFF and age was noted.

Table 21

Relationship of Gender, Age, Ethnic Background and Socio-Economic Class to Contraceptive Effectiveness

Variable	Test	p
Gender	t test t = -0.94 df = 35	0.354
Age	Pearson's r r = -0.2155	0.100
Ethnic Background	ANOVA F = 1.583 df = 3 & 33	0.2122
Socio-Economic Class	Pearson's r r = -0.1559	0.182

Ethnic background and social class were also unrelated to birth control use in this sample. This finding differs from other reports which have found that both Black males and Black females tend to use less effective methods less frequently (Finkel & Finkel, 1978; Kantner & Zelnick, 1977). Again, the effect of social class upon contraception is often muddled by the minority concentration in the lower economic strata. Studies of older women have found that lower socio-economic status was correlated with contraceptive failure and high fertility rates (Campbell, 1968; Chilman, 1973). It is possible that in this setting where early sex education in schools is the rule and low cost, confidential contraception is available that ethnic and social class differences have been muted.

Although cultural differences existed between virgins and sexually experienced subjects in this sample, no cultural differences were noted among the sexually active in regard to birth control use. For males, CEFF was related to trust - the more trusting, the better the birth control use. This finding could reflect a faith in oneself and the attitudes of others that negated the need to prove oneself through risking an unwanted child. For females, better communication skills were associated with better contraception, implying that these girls may find it

easier to convince partners to use birth control and to seek contraceptive advice themselves. The inverse relationship between the Change subscale and CEFF does not lend itself to ready interpretation, but may reflect an unwillingness to defy tradition by having an out of wedlock pregnancy.

Although a significant amount of variance was not explained, it is difficult to determine if this reflects a lack of relationship between the variables and the framework or a lack of statistical power due to a relatively small sample and a relatively large number of variables. Difficulty with internal consistency of the PSM Inventory also presents difficulty in interpretation. Of interest, however, are the differences noted between males and females.

Research Question 4

Is there a correlation between adolescents' scores on the subscales of the PSM Inventory and their attitudes toward premarital sexual intercourse, birth control use, and abortion?

Attitudes Toward Premarital Sex. The dependent variable, attitude toward premarital sex, consisted of one item:

I believe that:

1. _____sexual intercourse is just for marriage.
2. _____sexual intercourse is ok, if you are in love and engaged.
3. _____sexual intercourse is ok, if you really like the girl (guy).
4. _____sexual intercourse does not have to mean an emotional commitment.

In this analysis, subjects with the same response were treated as a group for which a mean score was calculated on each subscale. The group means were then compared in an analysis of variance. This form of analysis was used because the data did not lend itself to regression or discriminant analysis. Results of the analysis of variance are provided in Table 22. Significant differences were found in four subscales -- Self Reliance, Communication Skills, Roles, and Tolerance. The Social Commitment subscale also approached significance. In all five subscales that differentiated the groups, the lowest mean scores were found in the "marriage only" group. Highest mean scores were found in the "in love and engaged" group on the Self Reliance, Roles, and Social Commitment subscales. On the Tolerance and Communication Skills subscales, the "no emotional commitment" group had the highest mean scores.

Table 22

Relationship of the Psychosocial Maturity Inventory to Attitudes Toward Premarital Sex

Subscale	Marriage Only (N = 9)	In Love and Engaged (N = 23)	If You Like the Person (N = 46)	No Emotional Commitment (N = 17)	F*	p
Self Reliance	3.1691	3.4942	3.1935	3.2941	2.803	0.0443
Work	2.6670	2.9391	2.8022	2.9529	1.076	0.3634
Identity	3.1667	3.0261	3.1043	3.2111	0.483	0.6948
Communication Skills	2.3889	2.8696	2.8413	2.9882	3.167	0.0282
Roles	2.8444	3.3435	3.0652	3.1529	2.700	0.0503
Trust	2.7667	2.8870	2.8848	2.8647	0.201	0.8958
Social Commitment	2.8081	3.2372	2.9836	3.0214	2.473	0.0666
Tolerance	2.6667	3.3636	3.1630	3.3690	7.239	0.0002
Change	2.8485	2.9209	2.8933	2.9840	0.615	0.6072

*3 and 91 degrees of freedom

In general, more liberal attitudes toward premarital sex characterized this sample (See Table 18). Only nine (9.5%) felt that sexual intercourse was "for marriage only". Most (45.3%) felt that sex required some commitment, but that the commitment did not have to go as far as being in love and engaged. It should be noted that this question was not easy for many adolescents to answer. Perhaps in an unconscious reflection of personal attitudes, the investigator combined "in love" and "engaged". Responses to the question indicated that for this sample these two were not necessarily related. Many deleted the word engaged and left only "love", or wrote in a separate category. For purposes of this analysis, all who answered "in love and engaged" or any of the variations that were added or deleted were coded in the same manner. However, the reader should remember that a good portion of the sample did not believe that engagement is a prerequisite to intercourse.

The least mature scores on all but one subscale (Identity) were found in the "for marriage only" group. The fact that these subjects obtained higher (but not highest) scores on Identity could be explained by the concept of identity foreclosure (Marcia, 1980). Identity foreclosure subjects often reflect some characteristics

of a strong identity, such as commitment to ideals and low anxiety, but their views are not necessarily their own. Their commitment was obtained without conflict by adopting attitudes of their parents or other respected authority figures. Extremely conservative attitudes toward premarital sex, clearly outside the norm of their peer group, suggests that these views may be in some fashion, a reflection of others.

In four of the subscales (Tolerance, Communication Skills, Self Reliance and Roles), significant differences were noted. In all four cases, the least mature scores were obtained by those who felt that sexual intercourse is for marriage only. Lower scores on the Tolerance subscale suggest a generally more fundamentalistic attitude found among some who disapprove of premarital sex (Chilman, 1979). Lower scores on the Self Reliance subscale may indicate, as discussed earlier, that perhaps these judgements are not yet their own, but a mirroring of parental or church standards. Less effective communication skills have been associated with virginity in adolescent boys (Cvetkovich & Grote, 1977). However, the relationship of this subscale is more difficult to understand. The fact that the "for marriage only" group also

obtained the lowest scores on the Roles subscales indicates that something basic to the interactive process is involved. Perhaps again, as noted in other analyses, it is the empathetic, role-taking component. Those who find intercourse acceptable only in a marital situation do not seem to include in their judgement an awareness of affectional and sexual feelings prior to marriage. In fact, that philosophy requires the couple to sublimate those feelings until they are given official sanction.

For two subscales, Tolerance and Communication Skills, highest scores were associated with the most permissive attitudes toward premarital sex ("does not require an emotional commitment"). It is reasonable to expect that a generally more tolerant attitude would extend itself to the area of sexual activity. However, the relationship of communication skills is not so readily understood. Perhaps some who communicate freely and easily find relationships more quickly established (although maybe more superficially) and allow sex to become simply another method of communication, without intimacy. Those who found premarital sex acceptable within a love commitment obtained the highest scores on the Roles subscale, but came very close to the highest scores on the Communication Skills subscale, as well. In this case, the

establishment of relationships may be easier, but tempered by empathy and the awareness of social norms and role behavior regarding intercourse. Among older groups, sex without affection may be acceptable, but in high school, intercourse seems to implicate a "close relationship and love rather than a casual encounter" (Jessor & Jessor, 1975, p. 483).

Among the demographic variables, age and socio-economic status were not related to attitudes toward premarital sex. However, significant gender and ethnic differences were found (See Table 23).

Table 23

Relationship of Gender, Age, Ethnic Background and Socio-Economic Class to Attitudes Toward Premarital Sex

Variable	Test	p
Gender	Chi Square $X^2 = 11.4718$ 3 df	0.01
Age	Pearson's r $r = 0.1142$	0.135
Ethnic Background	ANOVA $F = 2.722$ df 3 & 91	0.0489
Socio-Economic Class	Pearson's r $r = 0.0580$	0.292

In this study, the expectation of a committed relationship emerged. Only 17% of the sample felt that no emotional commitment was required. However, significant differences in the level of commitment existed for males and females (See Table 24). Females were far more likely to specify a "love" relationship (x^2 = 11.471844, 3 df, $p < 0.01$). It is also interesting to note that males and females were nearly identical in the proportions who responded "for marriage only" and "no emotional commitment".

Table 24

Comparison of Male and Female Attitudes Toward Premarital Sex

	Marriage Only	In Love and Engaged	If You Like the Person	No Emotional Commitment
Males	5	5	28	9
Females	4	18	18	8

The fact that females so frequently mention love as a necessary ingredient could be explained in several ways. There is some evidence that traces of the double standard linger still (Chilman, 1979). Perhaps for females, less guilt is associated with sex in the context of being in love. There is also less chance of being considered

"easy" or promiscuous. In addition, as a teenager, the female has more to lose if she becomes pregnant. Love is a bond that would make both partners more responsible for the relationship and its potential outcomes. A final thought is the fact that, in our society, much of a female's identity is tied up with intimacy and interpersonal relationships (Marcia, 1980). Others (Cvetkovich & Grote, 1977; Furstenberg, 1976) have found that a primary motivation for sexual intercourse among teenage girls has been to please their boyfriends and maintain the relationship. This need for love and affection may be seen as their goal in a sexual relationship. Therefore, it is not surprising that females more often feel that love must accompany a sexual encounter.

In this study as in others (Reiss, 1967; Yankelovich, 1974), Blacks were more liberal in their attitudes toward premarital sex. Asians were most conservative, with 35.7% believing that sex is for marriage only. Only 9.5% of the entire sample (2% of Blacks and 7% of Whites) felt that premarital sex was unacceptable under any circumstances.

In general, attitudes were very liberal with 90.5% of the sample approving of premarital sex under some circumstances. Gender and ethnic differences were noted

in that males and Blacks were generally more liberal. Equal proportions of males and females fell into the "for marriage only" category, a response that was associated with typically less mature scores on the PSM Inventory.

Attitudes Toward Birth Control Use. Seven subscales entered the regression equation investigating the Psychosocial Maturity Inventory and attitudes toward birth control use (See Table 25). Although two subscales, Tolerance and Trust, formed a significant combination, they represented only 7.28% of the variance in attitudes toward birth control. The entire equation, in fact, accounted for only 10.6% of the variance. Higher scores on both the Tolerance and Trust subscales were associated with more favorable attitudes toward birth control.

Tolerance, in this case, may extend to an acceptance of premarital intercourse. If sexual intercourse is permissable, there would be no need to pretend that it is something that occurs without forethought. Therefore, contraception may be seen as a more acceptable part of the sexual experience, free from moralistic judgement regarding the act itself. More liberal attitudes toward birth control use were also associated with Trust scores that were indicative of an awareness of potential

Table 25

Psychosocial Maturity and Attitudes Toward Birth Control Use

Variable	Subscale	Multiple R	R Square	Simple R	Beta
SS9	Tolerance	0.23923 a	0.05723	0.23923	0.21157
SS6	Trust	0.26987 a	0.07283	0.14998	0.14725
SS7	Social Commitment	0.28444	0.08091	0.23405	0.18320
SS5	Roles	0.30809	0.09492	0.08782	-0.11198
SS1	Self Reliance	0.31438	0.09884	0.08081	-0.07462
SS2	Work	0.31596	0.09983	0.06028	-0.04926
SS4	Communication	0.31716	0.10059	0.12926	0.03280
(Constant)					

[a] $p \leq 0.05$

constraints on trustworthiness. This awareness, in the context of sexual experience, may facilitate a recognition that premarital encounters carry an element of risk in terms of the partner's intentions should pregnancy occur. Moreover, these subjects may be less likely to trust luck to protect them from an unwanted pregnancy, making them more inclined to support the use of birth control.

No demographic variables were significantly related to attitudes toward birth control (See Table 26). This finding is in contrast to others who have noted less positive attitudes among Blacks and lower social classes (Freeman, 1980; Furstenberg, 1970; Kantner & Zelnick, 1969). In these studies, the value of fertility as a symbol of masculine virility and feminine sex role fulfillment plus a distrust of birth control methods as unnatural and potentially unsafe contributed to the negative opinion regarding contraceptive use. In addition, some Blacks have felt that White establishment supported family planning efforts constituted a form of genocide by controlling the number of minorities (Russo & Brackbill, 1973). The fact that ethnic and social class differences were not found in this sample may reflect the benefit of early sex education and community involvement in the local family planning movement.

Table 26

Relationship of Gender, Age, Ethnic Background and Socio-Economic Class to Attitudes Toward Birth Control

Variable	Test	p
Gender	t-test t = 0.65 df 87	0.520
Age	Pearson's r r = 0.1042	0.165
Ethnic Background	ANOVA F = 1.607 df 3 & 85	0.1937
Socio-Economic Class	Pearson's r r = 0.0459	0.337

A final consideration in this discussion lies in the soundness of the measurement instruments. In this case, consideration of both the independent and dependent variables is necessary. Tolerance and Trust are statistically among the weakest subscales of the PSM Inventory. Moreover, as noted in Chapter III, the Attitudes Toward Birth Control scale did not demonstrate impressive inter-item correlations either (mean 0.02424).

In general, attitudes toward birth control were not predicted well by the PSM Inventory. The Tolerance subscale was most significant, perhaps reflecting an acceptance or tolerance of premarital intercourse that frees

the question of birth control from the moralistic overtones surrounding the sexual act itself. Cultural differences noted by other authors were not found, a result most likely indicative of the generally liberal setting from which the sample was drawn.

Attitudes Toward Abortion. The equation in Table 27 was produced by regression analysis of the relationship between scores on the Psychosocial Maturity Inventory and the Attitudes Toward Abortion scale. Although eight subscales entered, significant equations were generated only in the first two steps of the analysis. The Roles and Communication Skills subscales in combination represented 90% of the total variance accounted for in the equation. However, with a Multiple R of 0.32277, the entire regression explained only 10.4% of the variance in attitudes toward abortion. Higher scores on both the Roles and Communication Skills subscales were correlated with more liberal attitudes. A potential explanation lies in the fact that these subscales, as noted earlier, are highly interactionist, dependent upon empathy and role taking skills. Persons who can place themselves in the position of those experiencing an unwanted pregnancy might be more likely to favor the abortion alternative. Moreover, the Roles subscale addresses the adherence to appropriate norms.

Table 27

Psychosocial Maturity and Attitudes
Toward Abortion

Variable	Subscale	Multiple R	R Square	Simple R	Beta
SS5	Roles	0.26602 a	0.07076	0.26602	0.16556
SS4	Communication	0.30793 a	0.09482	0.21591	0.12801
SS6	Trust	0.31747	0.10079	0.22504	0.08416
SS7	Social Commitment	0.32004	0.10242	0.20551	0.06741
SS8	Tolerance	0.32108	0.10309	0.12614	-0.03108
SS3	Identity	0.32200	0.10369	0.18600	0.03829
SS1	Self Reliance	0.32237	0.10392	0.17931	-0.02678
SS9	Change	0.32277	0.10418	0.07454	0.01763
(Constant)					

[a] $p \leq 0.025$

Motherhood, especially unwed, in adolescence is still not a socially accepted role, therefore subjects may favor abortion as an alternative to adolescent parenthood.

Of the demographic variables, only social class was significantly correlated with attitudes toward abortion (See Table 28). Lower socio-economic status was associated with more negative or conservative attitudes. This findings is consistent with a 1972 Gallup Poll (cited in Chilman, 1979) and McCormick's (1975) findings regarding social class and attitudes toward abortion. The fact that ethnic background was not related seemed to contradict a previous report that Blacks are generally more conservative toward abortion (McCormich, 1975). However, separate analysis comparing only Blacks and Whites did reveal the former group having significantly more negative attitudes ($\underline{t}$ test, $\underline{t}$ = 912151791, 72 df, $\underline{p} < 0.001$). The conservative attitudes of the poor and of Blacks may reflect a basic belief that a life that has begun must be preserved (Kantner & Zelnick, 1969). An alternative explanation might focus upon issues of control. Those who have been frequently found to have an internal locus of control, notably middle to upper class Whites, might be more favorably disposed toward abortion, which could be viewed as a way of maintaining control of one's body and one's

destiny. The poor and/or Black, found frequently to have an external locus of control (Joe, 1971; Lao, 1970), may accept pregnancy as one of those "chance" occurrences that must simply be tolerated. Although age was not a significant factor in this analysis, teenagers have generally been found to have more conservative attitudes toward abortion than older women (Zelnick & Kantner, 1975). Subjects in this investigation seemed generally to favor abortion. The mean score for the sample was 27.6667 in a possible range of 9 to 36, with higher scores representing more liberal attitudes.

In general, no subscale was highly predictive of attitudes toward abortion. With a few exceptions, however, those subscales that did emerge seemd to have an underlying interactive component, suggesting perhaps that more liberal attitudes are associated with the ability to empathize and to understand the pressures placed on those finding themselves unhappily pregnant. Still, a majority of the variance in this dependent variable is left to be explained by factors other than psychosocial maturity.

Table 28

Relationship of Gender, Age, Ethnic Background and Socio-Economic Class to Attitudes Toward Abortion

Variable	Test	p
Gender	t test t = -1.17 df 86	0.245
Age	Pearson's r r = 0.0675	0.265
Ethnic Background	ANOVA F = 1.824 df 3 & 84	0.1490
Socio-Economic Class	Pearson's r r = -0.2024	0.031

Hypotheses

Hypothesis 1

For both male and female adolescents, higher scores on the nine subscale of the Psychosocial Maturity Inventory as a set will be correlated significantly with greater contraceptive effectiveness.

In this analysis, the hypothesis that male and female adolescents who had higher scores on the nine subscales of the Psychosocial Maturity Inventory would use birth control more effectively was not supported. When males and females were analyzed together (See Table 18), a

Multiple R of 0.3984 (R^2 = 0.15883) was obtained and no combination of subscales formed a significant equation. Moreover, after the first eight subscales entered, the F value for the last subscale was sufficiently low as to exclude it from the equation. The F value for the entire equation was 0.66089 with 8 and 28 degrees of freedom ($p > 0.05$).

When analyzed separately, the regression for males (See Table 19) produced a Multiple R of 0.70619 (R^2 = 0.49870). However, although all nine subscales entered the equation, only the first four produced a significant equation. The F value at the end of nine steps was 1.32643 was 9 and 12 degrees of freedom ($p > 0.05$).

Analysis for females alone (See Table 19) produced a very high Multiple R of 0.88318 (R^2 = 0.78001). However, when the number of variables (9) approaches the total N (15), the multiple R and R^2 become falsely inflated. Moreover, although the first six subscales produced significant equations, only eight subscales entered the anlysis. The F value for the entire equation was 2.65928 with 8 and 6 degrees of freedom ($p > 0.05$).

There are several potential explanations for this lack of predictive power. The first is simply that the

psychosocial maturity model is not an appropriate model for the study of contraceptive behavior. A second explanation is that the instrument used did not adequately test the model. This possibility was explored in greater detail in the second section of this chapter. A third possibility is that the predictors of male and female contraception differ so substantially that they must be tested and analyzed separately. Indeed, when separate analysis for males and females were done, interesting differences did emerge. A fourth explanation may lie in the sample size. Lack of significant relationships may reflect a lack of statistical power resulting from a small sample relative to the number of variables tested.

Separate analyses produced significant equations for both male and females. For males, the linear combination of Trust, Social Commitment, Change, and Self Reliance accounted for 44.1% of the variance and was statistically significant ($p < 0.05$). For females, six subscales (Change, Communication Skills, Work Orientation, Identity, Social Commitment, and Tolerance) combined to produce an equation significant at the 0.05 level. It is interesting to note that only two subscales (Change and Social Commitment) were found in the equations for both sexes and that the order of the subscales as they entered the equation

differed markedly. There is some support for the assertion that predictors of contraceptive behavior are substantially divergent for males and females.

The PSM model must still be questioned, however, for the hypothesis also stipulated that more mature scores on each subscale would be associated with better contraception. Three subscales(Trust, Communication Skills and Roles) were negatively correlated with male birth control use, and five subscales (Change, Work, Social Commitment, Tolerance and Roles) were negatively associated with female contraceptive behavior. Again, one would conclude that CEFF is not a function of psychosocial maturity or that the subscales simply were not stable enough to detect a relationship. It is also important to consider that in only two subscales (Identity and Roles) is the direction of the correlation the same for males and female subjects (See Table 20). With regard to contraceptive use, this finding underscores the need to look for separate paradigms to explain the behavior of boys and girls. Moreover, interesting theoretical questions arise with regard to the meaning of this model for each sex. Is psychosocial maturity the same for males and females? Can it be measured on the same scale?

In summary, it appears that for this sample, the psychosocial maturity model, as tested by the PSM Inventory, was not the best basis for prediction of adolescent contraceptive behavior. The predictors of male and female birth control use clearly differ and the study of these probably requires separate theoretical orientations. Since a few subscales were significantly related to CEFF on an individual basis, some elements of the framework may contribute to the understanding of teenage contraception. However, testing with a larger sample and verification of the stability of the subscales is needed before firm conclusions may be drawn.

Hypotheses 2 and 3

For adolescent females, higher scores on the Work Orientation subscale of the Psychosocial Maturity Inventory will be correlated with greater contraceptive effectiveness.

For adolescent females, higher scores on the Openness to Socio-Political Change subscale of the Psychosocial Maturity Inventory will be correlated with greater contraceptive effectiveness.

These hypotheses were based upon the assumption that a strong work orientation and more egalitarian sex roles would be associated with better contraceptive behavior by virtue of the motivation to prevent pregnancy and the skills and perserverence to obtain contraception. Neither hypothesis was supported. For females, the correlation

between Work Orientation scores and contraceptive effectiveness scores ($r = -0.1165$) was in a negative direction and not statistically significant ($p = 0.340$). The correlation between the Change subscale and contraceptive effectiveness was significant ($p = 0.015$) but in the opposite direction ($r = -0.5605$). Higher scores on the Change subscale were associated with poorer birth control use. As discussed earlier, this hypothesis was based upon the fact that the Change subscale contained a preponderance of items related to changing sex roles for men and women. Given the rather strong rejection of that hypothesis, a separate analysis was conducted by removing the three items that were not directly related to sex roles and forming a new subscale, Women's Roles. The correlation between this new subscale and birth control use was substantially lower (-0.0273) and no longer significant ($p = 0.436$) but was still in a negative direction.

The neglible relationship of the Work Orientation subscale would seem to indicate that the perseverance and determination characteristic of that measure are not essential issues in the contraceptive practice of adolescent females. Perhaps these attributes are not that necessary in settings such as this where contraceptive services are available and relatively accessible, although

it would seem that these traits would be operative in the maintenance of most birth control methods. It was also the investigator's assumption that a strong work orientation would be more closely tied with career aspirations which would strengthen motivation to prevent pregnancy. Although for males, a sense of industry clearly is referable to one's "life work" or occupation. For females, however, a strong sense of industry may be equally tied to the life work of a homemaker and mother, an aspiration to which pregnancy is not antithetical.

A strong correlation was found between the Change subscale and CEFF; however, the relationship was opposite to the direction hypothesized. A new subscale, Women's Roles was then created, made up of only those items in the Change subscale referable to sex role. The correlation of this subscale and CEFF was substantially lower and no longer significant. It appears then that sex role orientation, at least in this sample as measured by this subscale, had no relationship to birth control use in females. This findings is in contrast to other studies of both teenage girls (Goldsmith, et al, 1972; Shah, et al, 1975) and older women (Kar, 1971; Keller, 1970; Meleis, 1971). It may be that a more general egalitarian sex role orientation does not extend to sexual encounters in teenage

women. Perhaps also it takes time to internalize or personalize sex role beliefs, just as it takes time to internalize a sexual identity. It has been the investigator's experience that many pregnant adolescents will espouse a very "Women's Lib" rhetoric while bowing meekly to the wishes of their boyfriend.

In every analysis, the strength of the measure must be considered. For this sample, internal consistency for both the Work Orientation and the Change subscales was lacking (See Table 10, p. 124). Removal of the three Change subscale items not directly related to sex role behaviors did not substantially increase the mean inter-item correlation. Moreover, although there was a fair range of scores on the newly created Women's Roles subscale (18 - 32.14) the scores were somewhat clustered at the more liberal extreme. The generally liberal nature and potential lack of diversity among the sample on this issue may have hampered the ability to test this relationship. However, if these results are indeed valid, it would appear that factors other than those characteristic of a "raised consciousness" in women's issues are more relevant to adolescent female contraceptive behavior.

Additional Findings

Findings other than those directly related to the major research questions and hypotheses will be presented in this section. Results relative to the relationship of the dependent variables will be presented first, followed by a discussion of the two subscales (Women's Roles and Self Esteem) that were created from the PSM Inventory by this investigator. Results pertinent primarily to the sexually active portion of the sample (age at first intercourse, estimation of peer sexual activity, desire for pregnancy, and assessment of pregnancy risk) will then be discussed.

Relationship of Dependent Variables

The lack of a generally higher interrelationship between the dependent variables in this study was somewhat of a surprise. Attitudes and behavior demonstrated little congruence. Moreover, the various attitudes were not related to one another. This finding underscores the complexity of the relationship between attitudes and behavior.

Sexual experience was not related to attitudes toward abortion ($\underline{p}$ = 1.26, 86 df, $\underline{p}$ = 0.211) or to attitudes toward birth control use ($\underline{t}$ = 0.69, 60.18 df, $\underline{p}$ = 0.490).

However, as would be expected, more liberal attitudes toward premarital sex were highly associated with having had sexual intercourse (x^2 = 9.00255, 3 df, p = 0.0293).

No relationship was found between contraceptive effectiveness and attitudes toward birth control use (r = -0.12118, p = 0.231) or attitudes toward premarital sex (ANOVA, F = 0.473, 2 and 34 df, p = 0.6274). However, contraceptive effectiveness and attitudes toward abortion were significantly correlated (r = 0.3309, p = 0.026). Subjects with higher mean contraceptive effectiveness scores also had more liberal attitudes toward abortion.

The attitude scores did not demonstrate a strong relationship with one another. A correlation of only 0.0948 (p = 0.196) was found between attitudes toward abortion and attitudes toward birth control. The relationship between attitudes toward premarital sex and attitudes toward birth control produced an F value (ANOVA) of 1.675 with 3 and 85 degrees of freedom (p = 0.1785). An F value (ANOVA) of 1.533 (3 and 84 df, p = 0.2119) was generated in the analysis of attitudes toward abortion and attitudes toward premarital sex.

The fact that attitudes toward premarital sex and sexual experience were related was not unexpected. Cvetkovich and Grote (1977) also found attitudes toward

premarital sex to be the single most predictive variable regarding sexual experience. Although it would seem reasonable to assume that conservative attitudes toward premarital intercourse would serve as a constraint upon sexual activity, the possibility exists that other factors may exert a stronger effect upon sexual behavior. The experience of sexual intercourse may then serve to liberalize attitudes to be more congruent with behavior.

The positive relationship between attitudes toward abortion and CEFF is interesting. One might think that negative attitudes toward abortion would serve as motivation to contracept better. In fact, Luker (1975) has observed that in some areas, increased acceptance of birth control has led to an increase in abortions. It appears that legitimization of reproductive control through birth control use also extends to therapeutic abortion. That is, once the fact that pregnancy can be prevented is accepted, any means to do so is tolerated.

The lack of correlation between attitudes toward birth control and other dependent variables most likely reflects the lack of reliability of the scale. As noted earlier, this lack of reliability may represent either poor questions or a construct which does not yield a unidimensional score. One might approve of family planning

as a population concept, but disapprove of it personally because it is not natural in lovemaking or because one is not suppose to be having sex anyway.

Russo and Brackbill (1973) have stated, "That attitudes do not necessarily predict behavior is a truism in psychology" (p. 410). Fishbein (1972) has explored in greater depth the relationship between attitudes, norms, behavioral intention and behavior, emphasizing again that although connections exist, the relationship is neither simple or straightforward. Moreover, although it is generally accepted that attitudes have some influence over behavior, it is not clear how behavior affects attitudes. With regard to the interrelationship of these six variables in this sample, few conclusions can be drawn.

Women's Roles and Self Esteem

When the lack of internal consistency among some subscales became apparent, these two new subscales (Women's Roles and Self Esteem) were created by the investigator in an effort to identify specific concepts within the larger subscales that might be relevant. The Women's Roles subscale, consisting of the eight items found in Appendix D, did not add to the reliability substantially.

It was related neither to sexual experience (t = 0.41, p = 0.686) or CEFF (r = -0.0273, p = 0.436) and produced a mean inter-item correlation of only 0.0457. It is difficult to understand why these items were not more directly tied to sexual behavior when other authors have consistently found a relationship between sex role orientation and the sexual and contraceptive behavior both of adolescents and older women (Cvetkovich & Grote, 1977; Cvetkovich, et al, 1978; Eagly & Anderson, 1974; Meleis, 1971; Scanzoni, 1976). It was noted earlier that these eight items seemed to fall into three general categories: the perception of women's careers and opportunities, male roles, and motherhood. Although for this sample, items within each category were not highly correlated, it seems that sex role orientation may not necessarily represent a unified construct, especially in adolescense. Attitudes may vary from a strong feminist standpoint of truly egalitarian sex roles to a modified stance expressed as "yes, women should be able to do whatever they want careerwise, but they shouldn't leave their kids alot and the man shouldn't have to change his life to fit hers". Yankelovich (1974) has in fact documented that among American youth 16 to 25 years of age, this modified stance prevails. Perhaps for those in the early years of identity formation,

these sex role questions are too hypothetical, too far in the future. Those who have yet to make a career commitment or experience motherhood may not be able to appreciate the conflict inherent in those roles and the amount of role reorganization required (of everyone) to fulfill them. The egocentricism and present time orientation characteristic of early to middle adolescence may prevent adolescents from seeing the inconsistency in advocating more opportunities for women but no changes in other roles or statuses. Thus, in the Women's Roles subscale, it is possible that it is the subjects' attitudes that are inconsistent, not the items.

The subscale, Self Esteem, was created from three items contained in the Identity subscale (See Appendix D). These items, separate from the larger concept of identity, speak directly to the positive or negative feelings one has about oneself. Although not related to sexual experience ($\underline{t} = -0.28$, $\underline{p} = 0.779$), Self Esteem was related to contraceptive effectiveness ($\underline{r} = 0.3351$, $\underline{p} = 0.021$), supporting the findings of Hornick et al (1979).

Self esteem and self concept have been defined and measured in many different ways. Wylie (1974) uses the term "self regard" to include measures of "self satisfaction, self acceptance, self esteem, self favorability,

congruence between self and ideal self, and discrepancies between self and ideal self" (p. 128). The three items selected here from the original Identity subscale actually seem to measure something slightly different. Each item refers to other's favorable perception of self:

Item 24 Most people are better like than I.
44 I can't seem to keep people as friends for very long.
89 I am not really accepted and liked.

These items might be more precisely labeled "perceived popularity" or "perceived acceptance by others". This would seem to be a part of self esteem, but not representative of the entire construct as traditionally defined. The importance of peer acceptance has been underscored by Coleman (1980) who points to the support needed when the physiological and emotional upheavals of adolescence are in progress. Since one of the primary tasks requires severence of emotional ties with parents, the peer group is critical in providing the acceptance and friendship needed. If adolescents perceived themselves as accepted, likable, or popular, it would be reasonable to assume that they would not worry as much about rejection or loss of status by insisting upon birth control use. There might be no need to demonstrate proof of another's love by producing a baby as tangible evidence. Feeling liked and

accepted also would seem to make adolescents generally happier with their present life and less willing to risk "messing it up" with an unwanted and unplanned pregnancy.

Age at First Intercourse

The average age at first intercourse for males was 11.8 years and for females 14.4 years. This difference was statistically significant ($p < 0.001$, t test). Only one female experienced intercourse as early as age 10, whereas 10 was the modal age for males. One 15 year old Black male reported experiencing intercourse at age 5. It was impossible to determine whether this report was false, or whether intercourse had actually occurred as the result of experimentation, incest, or rape. This young man also reported having fathered two children.

Subjects in this study, although reporting levels of sexual experience similar to others, seem to begin their experiences very early. The average age at first intercourse for the entire sample was 12.9 years compared to Freeman (1980) whose sample of 730 Black adolescents reported an average age of 14.8 years. Males in this sample began intercourse an average of one year earlier (11.8 years) than those in Finkel and Finkel's (1975) study (12.8 years). Both Cvetkovich and Grote (1977) and

Zelnick and Kantner (1977) reported an average age of 16 at first coitus for female subjects. In this sample, sexually experienced females began sex on the average at 14.4 years. The implication of age at first intercourse, other than as a possible index of sexual permissiveness, is unclear. Cvetkovich and Grote (1977) have reported that the older a girl is at her first sexual experience, the more likely she is to use contraception from the beginning. Miller (1976) on the other hand found that for a given age group, those girls who had begun sex earlier were more likely to be using birth control. The conclusion drawn here is that the young women who started intercourse sooner have had more time to incorporate sexuality into their identity, a prerequisite to effective birth control use.

A final consideration has been raised by Cvetkovich and Grote (1977). The trend in research seems to be to consider how development affects the likelihood of sexual activity. However, with the increased number of males and females having sex earlier, another question arises. How is adolescent development affected by early sexual intercourse?

Estimation of Peer Sexual Activity

Sexually experienced and virgin males and females were compared to see if their estimates of peer sexual activity differed (See Table 29). Subjects were asked to estimate the percent of males and females in their class who had experienced sexual intercourse (See items 27 and 28, Sexual Attitude and Behavior Questionnaire, Appendix B). Sexually experienced and virgin females did not differ greatly in their estimates of either male or female classmates' sexual activity. Approximately half of both virgin and sexually experienced females felt that 50% or more of their classmates of both sexes had experienced sexual intercourse. Virgin and sexually experienced male subjects, on the other hand, clearly differed in their estimates of their peers' sexual activity. No virgin male felt that more than 50% of his male classmates were sexually experienced. More than one half of the sexually experienced males felt that 75-100% of their male peers were no longer virgins. Differences in the estimates of male subjects regarding their male classmates were statistically significant (x^2 = 23.189756, 5 df, $p < 0.005$). Virgin and non-virgin males also differed significantly in their estimates of female classmates' sexual experience (x^2 = 19.1044, 4 df, $p < 0.005$). Sexually active males

gave higher estimates of female classmates' sexual experience than did virgin males.

Table 29

Estimation of Peer Sexual Activity

Estimates of Percent Sexually Experienced	Females		Males	
	S.E.	Virgin	S.E.	Virgin
Percent Male Peers				
100	2	1	3	0
75	3	7	11	0
50	6	6	6	10
25	3	10	1	9
10	1	8	1	4
0	0	1	1	1
Percent Female Peers				
100	2	0	3	0
75	2	4	7	0
50	8	9	6	7
25	2	8	5	9
10	1	9	0	8
0	0	2	0	0

The importance of the peer reference group in influencing sexual behavior in adolescents has been discussed by Mirande (1968). In his study males and females who were sexually active were significantly more likely to have friends with permissive attitudes toward premarital sex. Mirande, however, addresses only the close associates of the subjects. In this study a larger referent group (the entire class) was used and a significant relationship was found only for males. Several questions arise when considering these data. Does the perception of peer sexual experience affect sexual behavior or does sexual experience affect perception of peer sexual activity? Why also would the relationship not hold for females?

Chilman (1979) has observed that while sexually active friends may encourage sexual experience in teens, sexually active teens may also seek out friends with similar attitudes and behavior. Either explanation is equally plausible, especially when considering smaller referent groups. However, when looking at larger referent groups, the similarity between the group's and the individual's attitudes and behavior may not be so great. If, as in this study, the <u>perception</u> of group standards is similar to one's own, the possibility of projection arises. Mirande (1968), even when studying closer referent groups,

admits that his data do not exclude the chance of "projection of the respondent's own behavior to the reference figures for whom is is reporting" (p. 576). Given that males in this study reported significantly higher perceptions of peer sexual activity, it is interesting to see how these estimates compared to reality. Using the figures found for this sample* (49% of males sexually experienced and 32% of females) it was found that 33% of sexually experienced females overestimated males sexual activity while 57% of virgin females underestimated the sexual activity of their male classmates. Eighty percent of sexually experienced females overestimated their female peers' sexual experience while 34% of virgin females underestimated. Sixty percent of sexually experienced males overestimated. Male classmates' sexual activity and 58.4% of virgin males underestimated. Sexually experienced males overestimated by 76% their female classmates' sexual experience while virgin males underestimated female sexual experience by 33%. It would appear that in this sample, it was not the actual behavior of peers that was related to sexual experience. These data seem to lend support to the theory that adolescents are likely to project their own sexual behavioral standards upon others.

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*These figures were probably not the best figures to use because subjects were asked to estimate their "classmates'"sexual experience. Older subjects may then have used their Junior and Senior class as the referent group,

Why did females in this study not demonstrate a significant relationship between their sexual experience and their estimates of others? Chilman (1979) notes that females are more likely than males to behave according to their own sex standards while male behavior is more opportunistic. Moreover, females are more likely to experience guilt regarding their sexual activity (Miller, 1974). Guilt or embarrassment would seem to make confiding one's sexual experience less likely. Sixty percent of males, however, discuss their sexual experience with someone else within one month (Carns, 1973). Males are "more heavily influenced by peers than females in their sex behavior, with strong pressure frequently being experienced by males to have intercourse" (Chilman, 1979, p. 136). The net effect of this social/sexual milieu would seem to be that females would admit to fewer sexual experiences while males might admit to more (or at least not admit that they had not). Differences in the male and female estimates in this study may be in some part due to the numbers of each sex who talk about or are willing to admit their sexual experience to others.

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which may have had higher percentages of sexually experienced adolescents. However, the figures used were the only ones available.

Desire for Pregnancy

All subjects were asked to rate their feelings regarding experiencing a pregnancy or fathering a child at this point in their lives on the following scale:

_____It would be the worst thing that could happen to me.
_____It would be really bad.
_____It would be ok.
_____It would be really nice.
_____It would be the best thing that could happen to me.

Table 30 reports the frequencies of responses to this question by gender and by sexual experience. Clearly, a pregnancy at this time was not considered to be a particularly desirable event by most subjects. Although very few subjects responded favorably to the idea of pregnancy, it appears that the virgins in the sample felt more negatively than their sexually experienced counterparts ($x^2 = 8.5597$, df 3, $p < 0.01$). Only one sexually inexperienced subject (a male) thought pregnancy would be "ok".

For sexually active adolescents, analysis of variance was employed to determine if a lack of desire for pregnancy was associated with better contraceptive effectiveness. No significant differences were found for all sexually active subjects ($p = 0.8186$), for males

($p = 0.7068$), or for females ($p = 0.2431$).

Table 30

Subjects' Feelings About Experiencing Pregnancy or Fathering a Child

Feelings	Females		Males		Total
	S.E.	Virgin	S.E.	Virgin	
Worst Thing	7	21	6	9	42
Bad	6	12	11	13	42
OK	1	0	5	1	7
Nice	1	0	1	0	2
Best Thing	0	0	0	0	0

Some disparity exists regarding the number of adolescent pregnancies that are considered to be accidents or unintentional. Many (Blos, Clothier, Abernethy) believe that a substantial portion of teenage pregnancies are consciously or subconsciously intended, either for a functional value (getting a boyfriend to propose or gaining peer acceptance) or a psychological need (such as acting out identification with the mother). Methodological difficulties exist in trying to determine just how teenagers feel about pregnancy. If questioned before the event, the overwhelming majority will deny that a pregnancy is desired. Zelnick and Kantner (1979) found only 4% of

White females and 10-12% of Black females desiring pregnancy. In this study, 95.8% of females and 84.18% of males felt that pregnancy would be either bad or "the worse thing that could happen to me". Virgins in this sample clearly felt negatively with 98.2% finding pregnancy bad or "worst". Seventy-eight percent of those sexually experienced reported negative feelings about pregnancy. Pregnancy would be "ok" for 7.5% and "nice" for only 2.1%. However, those who think that pregnancies are not unintentional would content that some subjects are simply denying their feelings, giving a socially desirable answer, or are unaware of subconscious motivations. Some studies have reported higher percentages (25-63%) of "planned" or "wanted" pregnancies among teens (Freeman, Rickels, Huggins, Mudd, Garcia, & Dickens, 1980; Ryan & Sweeney, 1980). However, these studies are of pregnant females who have chosen to carry their infants to term. Such samples eliminate those who fear pregnancy enough to abstain from intercourse, contracept, or abort. Dissonance theory (Festinger, 1957) would point out that once a situation has occurred and a decision has been made, the subject tries to view her situation in the most positive light and denigrate other alternatives. Even so, a clear majority of pregnancies are not wanted or intended (11 Million Teenagers, 1976).

It would seem that fear of pregnancy would serve as motivation that might alter sexual behavior in some way. It is interesting that in this study, the desire not to be pregnant significantly discriminated sexually experienced from virgin subjects, but had no impact upon contraceptive behavior. It seems possible that either the desire to avoid pregnancy may encourage one to avoid intercourse or that those who see pregnancy as distinctly unwanted may also tend to view premarital sexual intercourse as improper or wrong (given the correlation between sexual experience and attitudes toward premarital sex).

Assessment of Pregnancy Risk

Sexually active subjects were asked to rate their estimation of pregnancy, using their current practice of birth control on the following scale:

_____Certain
_____Very Likely
_____About 50-50
_____Very Unlikely
_____Impossible

These data are reported in Table 31. Most subjects responded that their chances were either 50-50 or very unlikely. This holds true even if no birth control was used at last intercourse. Four of the 11 sexually active females used no contraception the last time they had sex.

One of these rated her chances of pregnancy "very unlikely" while the other three refused to answer the question. Fourteen sexually active males (60.87%) used no birth control at last intercourse. Of these, one considered the chance of pregnancy "very likely", seven considered their chances about "50-50", two considered pregnancy "very unlikely", and four refused to answer the question.

Table 31

Estimation of Pregnancy Risk by Sexually Active Subjects

Estimate	Females	Males	Total
Certain	0	0	0
Very Likely	0	1	1
50-50	1	9	10
Very Unlikely	8	8	16
Impossible	3	1	4
No Answer	3	4	7

It has been the writer's clinical experience that pregnant adolescent girls, when asked why they did not use birth control, almost uniformly reply "I just didn't think it would heppen to me". This discounting of pregnancy risk has been reported by others (Luker, 1975; Zelnick & Kantner, 1979) and seems to reflect both a lack

of information and the egocentric pattern of thinking characteristic of many adolescents. Zelnick and Kantner (1979) found that in a sample of 15-19 year old females who did not use birth control, 94% did not want to become pregnant. Of those who did not desire pregnancy, 35.4% admitted that there was a chance they could become pregnant but did not use contraception mostly because they were not expecting to have intercourse. The majority (64.6%) did not believe they could become pregnant because (1) they had intercourse at a "safe" time; (2) they were too young; or (3) they did not have sex frequently enough. In addition, a substantial portion could give no specific reason why they felt they could not become pregnant. Reasons cited here reflect both lack of information and the general belief that they were invulnerable to pregnancy. Elkind (1980) characterizes this feeling of invulnerability as the "personal fable", "a story we tell ourselves that is not true" (p. 435), which arises out of the egocentric nature of adolescence. Luker (1975) found that women in her sample did not assess pregnancy risk statistically, but on the concrete level of outcome. "For them individually the chances are zero or one: either they get pregnant or they do not. One cannot translate an 80% chance of pregnancy <u>over the long run</u> into being

80% pregnant" (p. 16).

In this sample, no one felt that pregnancy was a certainty. Only one male thought that pregnancy was "very likely". He used no birth control at last intercourse, but felt that getting a girl pregnant was the worst thing that could happen to him. Only one female assessed her chances of pregnancy as high as 50-50. She felt that pregnancy would be really bad and had used a comdom at her last sexual experience. Nine males assessed their chances of getting a girl pregnant at 50-50. Of these, four thought that pregnancy would be "ok", one thought that it would be nice and four thought it would be bad. Fifty-two percent of the sample assessed their chances of experiencing pregnancy as very unlikely or impossible. In general, these were the young people who had tended to use some form of contraception. In fact, of those who reported their chances unlikely or impossible, all but two (one male and one female) used birth control at last intercourse. Those methods reported were generally the most effective ones, such as condom, foam and condom, diaphragm or Pill. None were depending upon rhythm, withdrawal, or douche. Of those who refused to answer the question regarding risk (three females and four males) none used birth control at last intercourse. All of the

females in this group reported that pregnancy was the worst thing that could happen to them. Of the four males who refused to answer, one felt that getting a girl pregnant would be ok, one felt it would be bad and the other two felt it would be the worst thing that could happen. Subjects in this study were not asked to give an absolute assessment of risk as in the Zelnick and Kantner (1979) study (I could get pregnant or I could not get pregnant). They were asked instead to rate their chances on a five point scale from certainty to impossibility. In general, the subjects assessments were rather accurate, in that those who used more effective contraception assessed their risk of pregnancy lower. A substantial portion (18.4%) did not answer the question. For these young people, uniformly not users of contraception, this question may have been very threatening. Being asked to objectively consider the risk of pregnancy may challenge their personal fable, "It won't happen to me".

Summary

In this chapter, the major findings of the study were presented and discussed. The following chapter will attempt to draw some conclusions and place the results

in broader perspective. Difficulties encountered in testing and analysis will be discussed.

CHAPTER V

CONCLUSIONS

Although this study was primarily exploratory in nature, it was entered into with the expectation that a reasonable relationship between psychosocial maturity and adolescent sexual behavior might be found. The questions primarily concerned the nature of that relationship. A brief perusal of results indicated that although some significant relationships exist, they are isolated and do not fall into an easily identifiable pattern. In fact, in several cases, the significant relationships were in an opposite direction to what might have been expected theoretically. The primary task of this chapter will be to draw some general conclusions and to explore why more meaningful relationships did not emerge.

The central question is whether the difficulty lies in the framework or in the conduct of the study. It may be that the psychosocial maturity framework was not an appropriate theoretical perspective from which to study adolescent sexual behavior. Conversely, it may also be that this study did not provide an adequate test of the framework. In fact, the answer may lie somewhere in between. Although the entire framework may not represent the most succinct or concise view of adolescent sexual behavior,

certain elements may be very pertinent. However, the extent to which this framework is relevant is uncertain in light of methodological difficulties such as small sample size and lack of cohesion in the PSM Inventory.

The first section of this chapter will present tentative conclusions based upon the data regarding the research questions and hypotheses. The second section will discuss the implications of testing with the PSM Inventory. The relationship of some of the additional findings of the study will be discussed in a final section.

Research Questions and Hypotheses

The analyses between the PSM Inventory and the six dependent variables were presented and considered in light of available theory and research that would support those results. Some analyses were easily explained, but others did not lend themselves to ready interpretation.

Although some significant correlations were noted between Psychosocial Maturity subscales and the sexual attitudes and behavior of adolescents, it seems as though no clear pattern of relationships emerged. Certainly the hypothesized relationships were not supported and in general the overall "fit" between psychosocial maturity and the dependent variables was not exceptional. However,

two general conclusions seem to fall from the data. First, a preponderance of interactive or interpersonal subscales seemed to characterize the significant data, and second, results relative to the male and female portions of the sample were sufficiently diverse as to indicate that separate paradigms may be necessary to understand their sexual behavior and attitudes.

Interactive Subscales

The focus of this analysis was the nine individual subscales of the PSM Inventory. Considering the subscales in that manner seemed more congruent with the conceptual framework used for the study. No one subscale or combination of subscales emerged consistently. However, if the subscales are considered in the context of the author's theory of Individual, Interpersonal, and Social Adequacy (Greenberger & Sorenson, 1974), there appears to be a predominance of interpersonal or interactive subscales (Communication Skills, Roles, Trust) within the significant data. Subscales indicative of individual adequacy (Self-Reliance, Work Orientation, Identity) and social adequacy (Social Commitment, Change) appeared far less often. The exception was the Tolerance subscale, a measure of social adequacy, which appeared as often as interactive subscales.

Frequency counts were obtained by simply adding the number of times a subscale appeared as the first variable in a regression or discriminant analysis or was the most significant variable in an analysis of variance. Interactive subscales were first or most significant 56% of the times, as opposed to social subscales (33%) and individual subscales (11%). If one considers the first two subscales in each regression or discriminant analysis and the two most significant subscales in analysis of variance, 62% of the subscales are interactive, compared to 31% social and 6% individual. If only those subscales that produced significant regression or discriminant analyses or analyses of variance are considered, the pattern remains the same. In all analyses the four most prevalent subscales are Roles, Communication Skills, Tolerance, and Trust.

The Roles subscale has been discussed previously as the only subscale with statistically acceptable internal consistency. It was felt that perhaps its strength relative to other subscales made significant relationships easier to identify. The other three subscales that emerged most frequently (Communication Skills, Tolerance, and Trust) have no such advantage. In fact, only the Change subscale had lower mean inter-item correlations or more negative inter-item correlations. One could then speculate

that the relationships found were so strong that they emerged in spite of the weakness of the subscales or that the relationships were spurious because of the lack of cohesiveness in the measures.

If the first interpretation is true, however, then it appears that the interactive element of the psychosocial maturity model is more relevant than more intrapsychic developmental aspects. One social adequacy subscale (Tolerance) emerged almost as often as the interactive ones. Although tolerance has implications for social good, the roots of tolerance are interactive in that one must be able to role-take in order to understand, communicate, and interact with others who are culturally different. The fact that the Tolerance subscale is highly correlated ($p < 0.0001$) with both Communication Skills and Roles, although not with Trust, supports a strong interactive component to that subscale. In fact, the three interactive subscales plus Tolerance account for over 85% of the significant findings relative to the PSM Inventory.

Although it is not possible at this point to determine if this trend toward a strong interactional base in adolescent sexual attitudes and behavior is truly valid, it seems very reasonable to speculate that the interactive processes may predominate in the sexual attitudes and behaviors of

adolescents. According to Kirkendall and Libby (1966), "A sexual relationship is an interpersonal relationship, and as such is subject to the same principles of interaction as are other relationships" (p. 48).

The predominance of interactive subscales raises another question as well. Good communication skills, tolerance, the ability to role take, and appropriate role behavior, are preceeded by a decline in egocentricism and depend heavily upon the presence of formal thought. In order to understand someone or to empathize, it is necessary to be able to step outside of ones own shoes and take the role of the other (Mead, 1934). This is by nature an abstraction, since one cannot actually become someone else. The heavy influence of interactive components may then be reflecting cognitive maturity as well. Piaget and Inhelder (1969) postulate an affective parallel to cognitive development, and it may be that this is mirrored most strongly in interactive skills.

Male/Female Differences

A most interesting finding in this study is the similarity in male and female behaviors and the dissimilarity in their psychosocial maturity. In none of the behavioral measures (sexual experience, contraceptive effectiveness, number of sexual partners, age at first intercourse) were

statistically significant differences noted. However, although no differences existed in the effectiveness of birth control use for males and females, interesting differences emerged in the way their PSM scores related to that variable. Of the subscales found to be significant in regression equations, only two subscales were common to both males and females, and the order of the equations differed markedly. Tested individually, only the Trust subscale significantly related to male CEFF while Change and Communications subscales correlated with female birth control use. These findings suggest again that the PSM model, as presented and measured in this study, may not have been the most relevant. As noted earlier, the relationship between attitudes and behavior is not always direct and simple. Perhaps, the difference in socialization patterns for males and females allows different attitudes to produce similar behaviors between the sexes. In that case, further study would be necessary to describe how attributes of psychosocial maturity are translated into behavior for each sex. Josselson, et al (1977a, 1977b) have begun to explore this phenomenon, finding that psychosocial maturity had stronger behavioral implications for males than for females. Their findings, however, do not seem to provide explanations for the results of this study.

In this study, as in Josselson's (1977b), females were generally more mature. However, any direct relationship between PSM scores and sexual behavior in this study is questionable, given that the former varied according to gender, but the latter did not. Again, however, the strength of the measurement and the size of the sample are critical and it is impossible to determine to what extent these methodological considerations affected the results.

No gender differences existed in attitudes toward abortion and attitudes toward birth control use. However, females had consistently higher PSM scores and differed from males on several other attitudinal measures. For instance, females expressed more negative feelings regarding pregnancy and, if sexually active, gave a lower assessment of their risk of pregnancy. They were more likely to feel that premarital sex required a love commitment.

These findings may be considered in light of the meaning of pregnancy to adolescent females. Pregnancy has tremendous physical, psychological, and social consequences for the girl that the male has traditionally escaped. Females in this study, being more mature, would be more likely to see the potential impact of pregnancy on their

lives and thus to feel more negatively about it. The need for a more committed sexual relationship may be seen as a form of self protection. If the male loves her, he is more likely to care what happens to her and support her if pregnancy should occur. The lower assessment of pregnancy risk might also be seen as a form of self protection, albeit less adaptive, by decreasing their fear of pregnancy through denial.

Males in this study, being less mature, might be more egocentric, and thus less committed to a relationship and less concerned if a pregnancy should occur. Their generally higher assessment of pregnancy risk may be more realistic, but also is in concert with their relative acceptance of pregnancy should it occur. It is most interesting, however, that in spite of these diverse feelings, the contraceptive practice of males and females did not differ substantially.

Generally, the inclusion of both males and females in this study served to raise more questions than it answered. Although psychosocial maturity may be to some degree related to the sexual behavior and attitudes of adolescents, it seems that the model varies for males and females and it suggested that perhaps further studies should concentrate on one sex or ther other.

The Psychosocial Maturity Inventory

Two issues will be discussed in this section, the response of the subjects to the PSM Inventory and the internal consistency of the measure. The former impacted upon this study by contributing to a substantial attrition from the study and the latter by placing the results obtained in serious question.

The Response of the Subjects

Initially, the investigator had anticipated a possible negative response to the Sexual Attitude and Behavior Questionnaire by virtue of the very personal nature of the instrument. Therefore, the PSM Inventory was administered in the first testing session in hopes that a sufficient commitment to the study would be established so that the subject would be willing to complete the second part as well. The assumption backfired, however, in that the negative response was almost uniformly directed at the PSM Inventory.

Two issues were raised, the first relating to the content of the questions and the second to the style of the question (forced choice, Likert-type items). Subjects felt strongly enough to take the time to write notes, either separately or on the answer sheet, protesting what they considered to be irrelevant questions and a response

format that did not allow them to express their "true" feelings. Many simply turned in their answer sheets incomplete. Typical of some of the notes written were these responses:

> "Some of these questions have no value in determining opinion - all my answers need to be explained or have exeptions (sic), and they clearly do not state my opinion".
>
> "These questions do not affect me at all!! I think that this questionnaire is not my style. Totally PATHETIC!!"
>
> "This is an insult to my mind! I'd rather express my opinions - this is stupid and very unrealistic. Why does any of this matter??"

From a developmental standpoint, it is easy to understand the subjects' dislike for a Likert type response questionnaire. The feeling of uniqueness that characterizes adolescence (Elkind, 1980) makes it difficult to categorize one's responses with everyone elses. The special insights and exceptions that create that uniqueness would need to be explained, making a one word response such as "agree" unacceptable. Although it was explained to these subjects that they were expected to respond with the word that best fit their opinion, realizing that some exceptions exist, the frustration was still more than some could tolerate. It would seem that use of an instrument such as this one among adolescents should be accompanied by a more explicit acknowledgement that they might experience frustration when

their exact feelings could not be expressed. Perhaps provision of space in which they could elaborate upon their responses would diffuse some of the hostility.

The criticism regarding the content of items is more difficult to understand. None of the items seemed to be inflammatory to the investigator. In fact, the items seemed quite innocuous. The investigator was asked to return to the classroom to discuss preliminary results with the subjects. At that time, students were asked what it was about the items that they disliked. The one answer that emerged most frequently was that "the right answer is so obvious". Asked to give an example, one student responded, "Well, nobody's gonna answer that they don't want a Black person to move into their neighborhood or that women shouldn't work". It appears that for some, the egocentricism of youth would not allow consideration of other potential points of view. Elements of social desirability may have been operative here as well. Perhaps a strong reminder should be provided at the beginning of the questionnaire that although some answers may appear obvious, there are varying opinions on almost all issues, and the researcher is interested in everyone's ideas.

In general, it would seem that a long series of Likert like items might not be the most effective method

of data collection for early to middle teens. However, difficulties with this type of testing might be avoided with better preparation of subjects prior to administration of the questionnaire. In addition, subjects might respond more positively if given the opportunity to express their opinions more fully through interviews or space for written comments.

Inter-Item Correlations

Difficulties with the internal consistency of the subscales of the PSM Inventory have been discussed in the preceeding chapter, and will not be dwelled upon here except to emphasize the implications for substantive conclusions. It is impossible to tell whether the difficulty lies within the instrument itself or within the study sample. Although both explanations are plausible, the fact that the authors have not reported similar problems lends credence to the possibility that this particular sample may have responded inconsistently. The general hostility of the subjects to the instrument may have undermined the seriousness and sincerity with which the questionnaire was answered.

Nevertheless, the fact that the subscales did not cohere statistically is important to this study in that substantive conclusions cannot be made. Although some

interesting probabilities and possibilities have emerged from the data, interpretations must be considered speculative until further testing can be done.

Additional Findings

Among the results not directly related to the major research questions and hypotheses, several interesting findings have been discussed. However, three outcomes (age at first intercourse, estimation of peer sexual activity, and the Self Esteem subscale) seemed to have particular bearing on the study of adolescent sexual behavior.

Age at First Intercourse

Subjects in this study seemed to reflect the trend toward earlier sexual intercourse among teens. Almost one-half of the males were sexually active and the average first sexual experience occurred at 11.8 years (with a modal age of 10 years). Females began on the average around 14 years. This finding would seem to lead to several conclusions. First, that at least some of the study of adolescent sexual behavior should concentrate upon the pre-teen years. At 10 years old, children are still in elementary school. Most studies of adolescents and sex focus upon the high school years. A second

consideration is the fact that given the wide developmental span during which sexual activity can begin (approximately 10 to 18 years), different factors influencing sexual activity are probably operative at different developmental stages. Hatcher (1973), reporting from a retrospective, psychoanalytic approach, has noted different motivations for and responses to pregnancy among early, middle and late teens. Perhaps more prospective work focusing on sexual and contraceptive behavior is needed for these stages as well. Finally, it would seem that whatever interventions are devised to help adolescents assume more responsibility for their sexual behavior (especially contraception) should begin at the earliest stages of adolescence.

Estimation of Peer Sexual Activity and Self Esteem

These two findings are presented here togehter in light of their relevance to the interactive component of the conceptual framework for this study. Among sexually active subjects in this study, higher self esteem was significantly related to more effective contraceptive practice. Self esteem, as discussed in Chapter IV, was defined as three items from the Identity subscale which related to significant others perception of oneself.

Estimation of peer sexual activity referred to one's perception of significant others. In both situations, the impact of the referent group can be seen.

Those subjects who had high self esteem scores felt liked and accepted by their peers. The implication of this acceptance is higher self regard which might give the teenager courage to insist upon birth control use in a sexual relationship. Moreover, a teenager who felt liked by peers, might be afraid of losing such acceptance by becoming an unwed mother or father.

Males especially seemed influenced by their perception of peer's sexual activity. Those males who were sexually experienced themselves were more likely to perceive that their peers were as well. However, in both sexes, the tendency was to over-estimate the number who conformed to their personal code of behavior and to under-estimate those who did not. Whether this finding represents projection of one's own standards or misperception of others' is impossible to tell. Nevertheless, adolescents seemed to behave in a fashion that they felt was congruent with their peer group.

These findings again emphasize the interactive influences on sexual behavior. As adolescents move their primary referent group from family to peers, their interaction

with those peers will have an increasingly important role in the determination of their behavior.

Summary

This chapter presented the major conclusions that emerged from this research. The first, that the interactive portion of the conceptual framework may have been more relevant, was supported by the finding that a clear majority of the significant results were tied to the interactive subscales of the Psychosocial Maturity Inventory. The interactive component was also reinforced by two additional findings, that adolescent sexual experience is related to perceptions of peer sexual activity and that adolescents who feel liked and accepted by peers use birth control more effectively. A second conclusion was that sufficient differences exist between males and females that separate models are probably needed to explain their sexual behavior and attitudes. A major question is raised as to whether in looking for predictive variables affecting sexual behavior, different variables must be addressed for males and females. Sexuality is so much a part of one's socialization from birth, and socialization differs so markedly for the sexes, that perhaps no one measure has been or can be developed to predict adolescent sexual behavior. The

tentativeness of the conclusions was underscored by a discussion of the methodological difficulties encountered with the Psychosocial Maturity Inventory.

CHAPTER VI

SUMMARY, IMPLICATIONS AND LIMITATIONS

The sexual behavior and attitudes of adolescents have been the target of much speculation and study in recent years. Concern over the number of teenage pregnancies, their physical, psychological, and social sequela has stimulated research from many disciplines. A variety of theoretical perspectives has guided research in this area, although more recently developmental issues have begun to surface more frequently. Initially, this study was conceived with a developmental base, but further review of the literature and discussion indicated a need to consider societal influences upon development through socialization and interaction. Thus, the conceptual framework for this study was both developmental and interactionist, specifically attempting to tie the developmental stages of Erikson and the interactionist concepts of socialization, role and role-taking. This framework was operationalized in terms of the concept psychosocial maturity, which served as the independent variable.

The relationship of psychosocial maturity to six dependent variables was investigated. These variables were sexual experience, contraceptive effectiveness, attitudes toward abortion, attitudes toward birth control, attitudes

toward premarital sex, and number of sexual partners. Three hypotheses regarding psychosocial maturity was addressed. First, it was hypothesized that psychosocial maturity would be significantly, positively, and uniformly related to contraceptive effectiveness for both males and females. The second and third hypotheses dealt with specific aspects of psychosocial maturity, work orientation and sex role orientation, as related to the contraceptive behavior of female adolescents. It was hypothesized that both would be significantly and positively related to better birth control use.

To explore these relationships and test these hypotheses, the PSM Inventory and a Sexual Attitudes and Behavior Questionnaire was administered to adolescents in a classroom setting. Ninety-five complete questionnaires were obtained to form the final sample. The relationship between the nine subscales of the PSM Inventory and the six dependent variables was investigated through a variety of statistical techniques, including regression analysis, discriminant analysis, and analysis of variance.

Major Findings

With regard to the research questions and hypotheses, some significant relationships were found but in general,

no definitive pattern emerged. None of the three hypotheses was supported. It was noted, however, that a preponderance of the interactive subscales, as opposed to subscales with a more developmental focus, emerged as significant more often. In particular, the Roles, Communication Skills, Tolerance, and Trust subscales seemed to be more often relevant. It was noted that the traits measured in these subscales (empathy, role-taking ability, lack of egocentricism) seemed to require the capacity for formal thought, raising the question of the impact of cognitive development upon adolescent sexual activity.

In addition, marked differences in the responses of males and females were found. These differences seemed to center on areas related to psychosocial maturity and personal beliefs rather than behavior. These findings suggest that the manner in which psychosocial maturity and attitudes were translated into sexual behavior requires further thought. Moreover, it appears that separate conceptual models may be necessary to explore the behavior of male and female adolescents.

Difficulties with the PSM Inventory impacted upon this study in two ways. First, in spite of preparation patterned after the author's recommendation, subjects reacted very negatively to both the content and format of the instrument.

A sizable attrition from the initial sample size was attributed to the hostility generated by this questionnaire. Secondly, analysis of the inter-item correlations within each subscale demonstrated a remarkable lack of cohesiveness for these measures. Only one subscale, Roles, produced a mean inter-item correlation significant at the 0.05 level. Therefore, results concerning the PSM Inventory must be considered tentative at best. Moreover, it should be noted that the reliability of the Attitude Toward Birth Control scale was less than satisfactory. Results related to this variable must also be carefully interpreted.

Formulation of two additional subscales from the PSM Inventory subscales was predictive in one. Three items taken from the Identity subscale (renamed Self Esteem), that reflected subjects' perceptions of their likeableness and popularity, were positively and significantly correlated with contraceptive effectiveness. It was postulated that those who felt liked and valued by their peers would have more confidence to demand contraceptive protection from their partners. The Women's Roles subscale (created from eight sex role items in the Change subscale) did not predict sexual behavior.

The age at first intercourse for this sample was

found to be slightly earlier compared to other samples, with males beginning sexual activity earlier than females. Sexually active adolescents were more likely to over-estimate their peers' level of sexual experience while virgins consistently under-estimated. Higher estimates of peer sexual activity significantly discriminated sexually experienced and virgin males.

On the whole, pregnancy was perceived to be a negative event in adolescence by the entire sample. There was a trend for virgin adolescents to perceive pregnancy more negatively. Sexually experienced adolescents perceived pregnancy less negatively than virgins. The perception of pregnancy risk by the sexually experienced portion of the sample was generally related to the level of contraceptive use. That is, those who used more effective contraception tended to estimate their risk as lower. However, even those using no birth control at all tended to estimate their risk only at about a 50-50 chance. A significant number of those not using birth control at all refused to answer the question, suggesting the inability to consider or deal with future consequences.

It was noted that the findings regarding Self Esteem and estimation of peer sexual activity support the earlier observation of the impact of interaction upon sexual

behavior. Both findings reinforce the importance of the peer referent group upon behavior.

Implications and Suggestions for Further Research

The primary implication of this study falls under the need for further research to verify, clarify and amplify the trends noted here. The inconsistencies noted in the PSM Inventory imply the need for further testing of this instrument on larger and different samples. In addition, more studies are necessary to clarify how these attributes of PSM are manifested behaviorally for each sex.

Another implication of this study is a re-evaluation of the use of Likert-type responses with adolescent subjects, at least for small, limited studies. In the context of a larger study where other means of expression are open to the subject, this format may be more effective. However, where the subject is given only one measure through which to communicate feelings and opinions, another type of data collection may be more useful and less antagonistic.

The early age at first intercourse found for this sample also has important implications. Almost one-half of the males and one-third of the females were sexually experienced. For males, the average age at first intercourse

was 11.8 years (with a modal age of 10) and for female subjects the first sexual experience occurred around 14 years. Clearly, more understanding and research is needed regarding the early and pre-adolescent periods with regard to the attitudes, skills, knowledge, and interactions that will subsequently direct sexual behavior. High school may be is too late.

In spite of the tentative nature of the substantive conclusions of this study, the strong interactional flavor that emerged should be pursued, especially as it may be tied to the cognitive development of the adolescent. A final implication for study falls from the gender differences that were noted. It is suggested that males and females may best be studied through separate conceptual models.

Implications for practice or intervention are limited by the threat to validity created by the lack of internal consistency within the PSM Inventory. However, the male/female differences noted suggest that diverse counseling strategies may need to be developed for adolescent boys and girls.

If indeed, the interactive components of psychosocial maturity are more critical than the more developmental ones, possible counseling strategies may focus upon provision of

skills in role taking and communication. Even if the adolescent is functioning at the concrete level of cognitive development, there is some evidence that cognitive function can be improved. According to Keating (1980), intervention studies have shown that "salient performance factors, such as instruction and practice, have significant effects on performance" (p.236). Role modeling pertinent situations, concretely, and providing the adolescent with skills to communicate needs and thoughts and feelings might facilitate more responsible sexual behavior. The investigator had an opportunity to watch just such role modeling occur in a classroom situation led by the teacher who granted permission to conduct this study. Students were confronted with a sexual situation such as: "You are at the girl's house after school. You have been kissing and touching and things have gotten pretty heavy. You want to do it. She keeps getting you excited but at the last second back down". Questions were then asked of the class:

What do you think of the girls behavior?
Why do you think she would act like that?
How does that make you feel?
How could the girl handle it better?
How could you handle it better?

Role play such as described here would seem to encourage a decline in egocentricism, facilitate empathy and role

taking, and help to provide adolescents with the words necessary to extricate themselves from uncomfortable situations. If in fact interaction impacts as strongly as suggested by the data in this study, counseling or educational sessions may benefit from the addition of this type of focus as opposed to the mere provision of information.

Limitations

The primary limitation of this study is in the size of the sample. Although the total number of 95 was sufficient for some analyses, the number became quite small for others, for instance when considering only sexually experienced females (N = 15). This deficit was quite pronounced for the regression and discriminant analyses in particular, for they require a larger number per independent variable tested. In addition, the sample size limits the ability to accurately assess the internal consistency of the instruments. The character of the sample also limits the generalizability of the results. This sample was drawn from a school system which provides early and explicit sex education and which frequently allows testing from a nearby university. It was impossible to control for or determine the extent to which this sample may have been more informed and test-wise than samples drawn from other populations.

This study would have also been facilitated by a pretest. However, the major measurement tool had been tested extensively by the author with no mention of problems with the cohesion of the subscales, and time constraints after receiving the instrument for testing did not permit that. A pretest would have perhaps identified difficulties with the PSM Inventory, as well as the Attitudes Toward Birth Control scale and the Attitude Toward Premarital Sex question. In particular, if the hostility toward the PSM Inventory had been ascertained early, it might have been diffused in later testing by better preparation of subjects and the provision of other avenues of expression for them. In addition, if difficulties with internal consistency of the subscales had been identified, other measures could have been used or administered concurrently to increase the validity of the results.

Summary

This study was designed to investigate the relevance of a developmental/interactionist conceptual framework to the understanding of adolescent sexual attitudes and behavior. Although the sample was small and difficulties were encountered with the measure used to investigate the relationship, there was some indication that interactive

concepts may have contributed somewhat more than developmental concepts. Problems with Likert-type responses among adolescents were discussed. It was noted that sexual experience occurred early enough among this group to suggest that further research focus upon the early and pre-adolescent. Due to the tenuous nature of the results, implications for clinical practice were limited. However, suggestions for further study were included.

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APPENDIX A

The Psychosocial Maturity Inventory

Request to Participate in a Survey

You are being asked to participatein a survey by Carol Howe, a nurse-midwife and a student at the University of California, San Francisco. You are not required to participate. If you do participate, or if you drop out later, it will not affect your grade in this class. Ms. Howe is conducting the survey to learn more about teenagers, their thoughts and feelings and factors that influence their sexual decision making. She hopes that the results will help nurses, doctors, teachers, and other health care people to understand adolescents so that better counseling and teaching can be offered.

There are some very personal questions included in the survey. These types of questions may make some people uncomfortable. Some people may find that the questions help them to understand and clarify some of their thoughts and feelings. Your name will not appear anywhere on the questionnaire. No one, including Ms. Howe and your teacher, will be able to identify your answers. We hope you will answer very honestly.

There will be two questionnaires to answer. You will be asked to fill out one in class today and one in class tomorrow. Later in the term, Ms. Howe will come to class to discuss the general results of the survey with you.

If you decide not to participate, and do not wish others to know that, you may simply turn in an unanswered questionnaire with the rest of the class and it will be discarded.

If you agree to participate, please turn the page, read the instructions and fill out the survey questionnaire. At the top of each page of the survey is a place for a code number. Please choose any four numbers plus one letter that are meaningful only to you. An example might be the last two numbers of your phone number, the first two humbers of your address, and your first or last initial (for instance, 7962C or 4632H). Write the code number at the top of every page. Then make a note of that number so that you may write it on tomorrow's

questionnaire. This is very important. It will help us to match the questionnaire you do today with the questionnaire you do tomorrow without using your name. After you have finished, place the survey in one of the attached envelopes, sell it, and return the envelope to your teacher.

Thank you very much for your participation.

Student Survey

Part I

This questionnaire is Part I of a study being conducted to learn about the opinions and attitudes of young people. Your cooperation is, of course, voluntary. If you do not wish to participate, you do not have to answer the questionnaire. However, we think you will find the questions interesting and hope you will help. If you have questions or if you come to a problem, raise your hand and your teacher will help you.

Try to go through the questionnaire quickly, without spending too much time on any one question. Answer the questions in order and do not omit any item. Remember, this is not a test. There are no right or wrong answers. We are interested in your opinions. Feel free to answer exactly the way you feel! No one at this school will ever see your answers and your responses will be held in strictest confidence.

Each of you has an answer sheet attached. Please indicate your answer to each item by marking the appropriate oval on the answer sheet with a number 2 pencil. Fill in the response oval completely. Mark only one oval per item. If you change your mind, erase your first mark completely, then make your new mark. When you have finished the questionnaire, look over your answer sheet to make sure no items have been omitted and then turn in both the answer sheet and the questionnaire.

Please mark the answer sheet with the code number you have selected and then begin.

Read each item carefully. Then mark:

A if you AGREE STRONGLY with the item
B if you AGREE SLIGHTLY with the item
C if you DISAGREE SLIGHTLY with the item
D if you DISAGREE STRONGLY with the item

Code No. _____

A = AGREE STRONGLY
B = AGREE SLIGHTLY
B = DISAGREE SLIGHTLY
D = DISAGREE STRONGLY

1. When a job turns out to be much harder than I was told it would be, I don't feel I have to do it perfectly.
2. I find it easy to explain what I think or believe.
3. If a friend whose ideas about God are very different from mine gave me a religious magazine to read, I wouldn't read it.
4. It's not very practical to try to decide what kind of job you want because that depends so much on other people.
5. A man shouldn't cook dinner for his wife and children unless the wife is sick.
6. If you see a coat you think you might like to buy, the sales person should agree to save it for as long as it takes you to decide.
7. I can't really say what my interests are.
8. I would rather use my free time to enjoy myself than to help raise money for a neighborhood project.
9. I find it hard to stick to anything that takes a long time to do.
10. If people are picked in a fair way to be on a trial jury, they are sure to reach a fair decision.
11. It would be hard to write a letter explaining why I should be hired for a job.
12. You should avoid spending too much time with people who are not approved of, even though you think they are really all right.
13. In a group I prefer to let other people make the decisions.
14. We should limit the number of women who can train for jobs usually held by men, such as dentist or engineer.

CHECK TO BE SURE THAT THE LAST OVAL YOU FILLED IN WAS FOR QUESTION NUMBER 14.

Code No. _____

A = AGREE STRONGLY
B = AGREE SLIGHTLY
C = DISAGREE SLIGHTLY
D = DISAGREE STRONGLY

15. If I find something on the sidewalk, it's mine because I found it.

16. I never seem to feel the same about myself from one week to the next.

17. Why work for something that others will enjoy if you won't be alive to enjoy it too?

18. I hate to admit it, but I give up on my work when things go wrong.

19. People can be trusted no matter what they have to win or lose.

20. Even if I know how to do something, I find it hard to teach someone else.

21. I would not mind being friends with a person whose father or mother was in trouble with the law.

22. You can't be expected to make a success of yourself if you had a bad childhood.

23. Women who decide not to be mothers are not doing what they should.

24. If my friend lends me money, he should wait until I pay it back and not ask for it.

25. Most people are better liked than I am.

26. I would only give a large sum of money to medical research on cancer if I knew they would find a cure in my life-time.

27. I seldom get behind in my work.

28. If a man in government isn't honest, he won't get elected more than once.

29. It is hard to talk to someone you don't know.

30. I don't think I could be close friends with a crippled person.

31. Luck decides most things that happen to me.

CHECK TO BE SURE THE LAST OVAL YOU FILLED IN WAS FOR QUESTION NUMBER 31.

Code No. _____

A = AGREE STRONGLY
B = AGREE SLIGHTLY
C = DISAGREE SLIGHTLY
D = DISAGREE STRONGLY

32. Women should not be elected to top government positions.

33. If a salesman is very nice to you, you should try to buy something from him.

34. My life is pretty empty.

35. There is no way to decide ahead of time who you can trust.

36. If I felt strongly about something, like race relations or better medical care for the poor, I would only work for it if there was a chance things could be changed quickly.

37. I tend to go from one thing to another before finishing any one of them.

38. You can be sure people will be honest with you if you are honest with them.

39. In a discussion, I often find it hard to understand what people are trying to say.

40. Hippies should not move into neighborhoods where there are mostly older people and young children.

41. The main reason I'm not more successful is that I have bad luck.

42. Schools should not let new methods of teaching, like TV and tapes, take up too much time in school.

43. If you're a guest in somebody's home and make a phone call that only costs about a dollar, you don't have to offer to pay for it.

44. I can't seem to keep people as friends for very long.

45. It's not really my problem if my neighbors are in trouble and need help.

46. I often don't finish work I start.

CHECK TO BE SURE THE LAST OVAL YOU FILLED IN WAS FOR QUESTION NUMBER 46.

Code No. _____

A = AGREE STRONGLY
B = AGREE SLIGHTLY
C = DISAGREE SLIGHTLY
D = DISAGREE STRONGLY

47. I do not mix well with other people.

48. It would bother me to work for a person whose skin color is different from mine.

49. Someone often has to tell me what to do.

50. I would like to talk to other students all over the world by way of satellite.

51. If you buy a sweater with a tag saying ,"cannot be returned", and it turns out to be too small, you should insist that the store take it back.

52. I'm acting like something I'm not a lot of the time.

53. Never depend on anyone if you can help it.

54. Time you spend helping others get what they want would be better spent trying to get what you want.

55. I often leave my homework unfinished if there are a lot of good TV shows on that evening.

56. Nobody really wants to cheat another person out of something.

57. I often forget to listen to what others are saying.

58. I would not make friends with a person who had very different manners from mine.

59. When things go well for me, it is usually not because of anything I myself actually did.

60. Men should be able to train themselves for jobs usually held by women, such as elementary school teacher, nurse and telephone operator.

61. It's all right that a policeman takes a little better care of those stores where the owner gives him a tip once in a while.

62. I never know what I'm going to do next.

63. It is much more satisfying to work for your own good than to work for the good of a group you belong to.

CHECK TO BE SURE THE LAST OVAL YOU FILLED IN WAS FOR QUESTION NUMBER 63.

Code No. _____

A = AGREE STRONGLY
B = AGREE SLIGHTLY
C = DISAGREE SLIGHTLY
D = DISAGREE STRONGLY

64. I believe in working only as hard as I have to.

65. If a person is on trial in court, the decision will be fair no matter what kind of family he comes from.

66. It is hard to speak your thoughts clearly.

67. I would rather not live in a neighborhood where there are people of different races or skin colors.

68. I feel very uncomfortable if I disagree with what my friends think.

69. Children cannot be happy staying in day care centers while their mothers are at work.

70. If you're in a hurry in a store, others should be willing to let you get ahead of them.

71. I change the way I feel and act so often that I sometimes wonder who the "real" me is.

72. Thre are more good people than bad people.

73. I would not like it if they used some of my tax money to keep up a park that I never use.

74. It's more important for a job to pay well than for a job to be very interesting.

75. If you can trust a person in one way, you know you can trust him in all ways.

76. It is not hard to give a talk in front of other people.

77. I would not mind working closely on a job with a person whose skin color is different from mine.

78. It is best to agree with others, rather than say what you really think, if it will keep the peace.

79. I wound't like it if a lot of girls my age become lawyers, engineers and business managers.

CHECK TO BE SURE THE LAST OVAL YOU FILLED IN WAS FOR QUESTION NUMBER 79.

Code No. _____

A = AGREE STRONGLY
B = AGREE SLIGHTLY
C = DISAGREE SLIGHTLY
D = DISAGREE STRONGLY

80. People who work for the city should not have to pay traffic tickets because they already do so much for the city.

81. Nobody knows what I'm really like.

82. If there is only one copy of a book everyone wants to read, the person who gets it first should be able to keep it as long as he wishes.

83. Very often I forget work I am suppose to do.

84. I am not good at describing things in writing.

85. I wouldn't like to spend the weekend in the home of a friend whose parents don't speak English.

86. I don't know whether I like a new outfit until I find out what my friends think.

87. If we limit the amount of money people can earn, we take away some of their freedom.

88. Your friends should be willing to lend you anything you want.

89. I am not really accepted and liked.

90. If a sign in a part ways "Do not pick the flowers - They are here for all to enjoy", you can pick a few if you have a good personal reason.

91. If I had a choice, I would prefer a blood transfusion from a person of the same skin color as mine.

92. If we don't encourage women to work, we are seriously reducing what the country could accomplish.

93. A person is responsible only for the happiness of his family, relatives and close friends.

CHECK TO BE SURE THE LAST OVAL YOU FILLED IN WAS FOR QUESTION NUMBER 93.

APPENDIX B

The Sexual Attitude and Behavior Questionnaire

Student Survey*

Part II

*This portion of the questionnaire was in two forms, one for males (color coded blue) and one for females, (color coded pink). In this appendix, the minor wording changes are noted in parentheses.

Part II of this survey consists of questions regarding sexual attitudes and decisions. Some questions are very personal. Again, we remind you that your answers cannot be identified with your name. There is no answer sheet, so please answer directly on this questionnaire. You may use either pen or pencil. Except when otherwise instructed, please place a check mark by the appropriate answer.

Please mark each page of the questionnaire with the code number you have selected and then begin.

Code No. _____

1. Age

   1. _____14
   2. _____15
   3. _____16
   4. _____17
   5. _____18
   6. _____Other; Please Specify_____

2. Grade

   1. _____Sophomore
   2. _____Junior
   3. _____Senior

3. Religion

   1. _____Catholic
   2. _____Protestant
   3. _____Jewish
   4. _____Moslem
   5. _____No Preference
   6. _____Other; Please Specify_____

4. Race or Ethnic Background

   1. _____Black
   2. _____White
   3. _____Asian
   4. _____Spanish Surname
   5. _____Other; Please Specify_____

Please answer the following questions for the parent or guardian with whom you live. Please answer for both parents if you live with both.

5. Father's Education

   1. _____Less Than 7th Grade
   2. _____Junior High School
   3. _____Some High School
   4. _____High School Graduate
   5. _____Some College
   6. _____Graduate/Professional Training

Code No. _____

6. Mother's Education

   1. _____Less Than 7th Grade
   2. _____Junior High School
   3. _____Some High School
   4. _____High School Graduate
   5. _____Some College
   6. _____Graduate/Professional Training

7. Please state your father's occupation, if you are living with him.

   _____

8. Please state your mother's occupation, if you are living with her.

   _____

9. The subject of sexual intercourse often arises in a dating situation. Do you feel comfortable discussing sex with your boyfriend (girlfriend)?

   1. _____Yes, Always
   2. _____Sometimes
   3. _____No, Never

Many teenagers have to make decisions about having sex, using birth control, and having a baby while still in high school. In each of the following questions, please check the <u>one</u> statement that best or closest describes how you feel.

10. I believe that

    1. _____Sexual intercourse is just for marriage
    2. _____Sexual intercourse is ok, if you are in love and engaged
    3. _____Sexual intercourse is ok, if you really like the guy (girl)
    4. _____Sexual intercourse does not have to mean an emotional commitment

Code No. _____

11. I believe that

1. _____Abortion is always wrong
2. _____Abortion is only ok of the mother's life is in danger
3. _____Abortion is ok in some special circumstances like rape or the chance of a deformed baby
4. _____Abortion is ok if the girl is too young to have a baby or can't afford to have a baby
5. _____Abortion is ok whenever the woman or couple wants it

12. I believe that birth control is

1. _____Neither partner's responsibility
2. _____My partner's responsibility
3. _____Both the man and the woman's responsibility
4. _____My responsibility

13. If I got pregnant while still in high school,

1. _____It would be the worse thing that could happen to me
2. _____It would be really bad
3. _____It would be ok
4. _____It would be really nice
5. _____It would be the best thing that could happen to me

Code No. _____

For the following statements, please circle the answer (Strongly Agree, Agree, Disagree, Strongly Disagree) that is closest to how you feel about the sentence above it.

14. Birth control really gets in the way of spontaneous love.

Strongly Agree Agree Disagree Strongly Disagree

15. Birth control is wrong because it means you plan to have sex.

Strongly Agree Agree Disagree Strongly Disagree

16. Good girls don't use birth control.

Strongly Agree Agree Disagree Strongly Disagree

17. A couple should use birth control every time they have sexual intercourse, if they don't want to have a baby.

Strongly Agree Agree Disagree Strongly Disagree

18. Abortion will leave a girl with a great many guilt feelings.

Strongly Agree Agree Disagree Strongly Disagree

19. Abortion is a better choice than giving birth to a child you don't want and cannot care for properly.

Strongly Agree Agree Disagree Strongly Disagree

20. Abortion is a bad thing because it is like killing someone.

Strongly Agree Agree Disagree Strongly Disagree

Code No. _____

21. If a girl fools around and gets pregnant, it's her own fault and she should not be able to get an abortion.

Strongly Agree	Agree	Disagree	Strongly Disagree

22. Abortion should be legally available to anyone who really wants it.

Strongly Agree	Agree	Disagree	Strongly Disagree

23. Even if I had an unwanted pregnancy, I could not bring myself to have an abortion.

Strongly Agree	Agree	Disagree	Strongly Disagree

24. Abortion is really safe if it is done in a good hospital.

Strongly Agree	Agree	Disagree	Strongly Disagree

25. Barbara was really upset when she found out she was pregnant. She went to her doctor and he was able to arrange an abortion. Imagine you were a close friend of Barbara. How would you feel about what Barbara Did? (Check One)

1. _____She did the wrong thing. She should have gone on and had the baby.
2. _____She should have had the baby, and then if she couldn't take care of it she could have arranged for an adoption.
3. _____She did the right think if she really didn't want to have a baby.

Code No. _____

26. What are your plans for after high school? (Please indicate all that apply and list them in the order - 1st, 2nd 3rd, etc. - that you think that they will happen).

1. _____Get Married
2. _____Have (Father) a Baby (How many babies do you want?_____)
3. _____Go to College
4. _____Go to Technical School
5. _____Work Until I Get Married
6. _____Work Until I have (Father) a Baby
7. _____Have a Career (As What? _____)
8. _____Other; Please Specify_____

27. Approximately what percent of boys in your class do you think have had sexual intercourse?

1. _____100%
2. _____ 75%
3. _____ 50%
4. _____ 25%
5. _____ 10%
6. _____ 0%

28. Approximately what percent of girls in your class do you think have had sexual intercourse?

1. _____100%
2. _____ 75%
3. _____ 50%
4. _____ 25%
5. _____ 10%
6. _____ 0%

The following questions are about your own personal experience.

29. Have you ever had sexual intercourse?

1. _____Yes
2. _____No

If you answered No to question No. 29, please answer questions No. 30 through No. 42 and hand in your questionnaire. Thank you for your participation.

Code No. _____

If you answered Yes to question No. 29, please turn to page 7 and answer questions No. 43 through No. 56 and then hand in your questionnaire. Thank you for your participation.

30. If you have never had sexual intercourse, please state why. (Please check all that apply)

1. _____I think it's wrong to have sex before marriage
2. _____I haven't met the right guy (girl) yet
3. _____I don't feel ready yet
4. _____I'm afraid of getting (a girl) pregnant
5. _____Other; Please Specify _____

31. If you have not had sexual intercourse yet, do you think you will have sex before you get married?

1. _____Yes
2. _____No
3. _____Don't Know

32. Have you ever discussed sex with either of your parents?

1. _____Yes, With my Mother
2. _____Yes, With my Father
3. _____Yes, With Both Parents
4. _____No, With Neither Parent

33. Other than your parents, is there anyone else with whom you have discussed your questions or feelings about sex? (Please check all that apply).

1. _____A Teacher
2. _____A Doctor
3. _____A Nurse
4. _____A Close Friend (Girl)
5. _____A Close Friend (Boy)
6. _____Other; Please Specify_____

34. Who is the one person who has provided the most information about sex for you?_____

Code No. _____

35. Have you ever been in a situation where your partner wanted to have sexual intercourse and you did not?

1. _____Yes
2. _____No

If so, please explain briefly how you handled the situation. _____

_____

36. Have you ever been in a situation where you wanted to have sexual intercourse but for some reason you felt you shouldn't?

1. _____Yes
2. _____No

If so, please explain briefly how you handled the situation. _____

_____

37. If you were in a situation where both you and your partner wanted to have sexual intercourse, how likely is it that you or your partner would get a birth control method (Pill, Rubber, Foam, Etc.) before you had sex the first time?

1. _____I'm Certain we Would
2. _____I Think we Might
3. _____I Don't Know if we Would
4. _____I doubt if we Would
5. _____I'm Sure we Wouldn't

38. Do you ever feel pressure from your friends to begin to have sexual intercourse?

1. _____Yes
2. _____No

If so, what do you tell them? (briefly) _____

_____

Code No. _____

39. Approximately how often do you go out (date)?

1. _____More Than Once a Week
2. _____Once a Week
3. _____Once Every 2 Weeks
4. _____Once a Month
5. _____Less Than Once a Month

40. Do you think you began to date earlier or later than others in your class?

1. _____Much Earlier
2. _____A Little Earlier
3. _____About The Same
4. _____A Little Later
5. _____Much Later

41. There is a wide range of normal sexual activity other than sexual intercourse, including kissing, touching, etc. Please check all of those activities which you have experienced.

1. _____Holding Hands
2. _____Hugging
3. _____Kissing
4. _____Touching and Kissing, Above the Waist
5. _____Touching and Kissing, Below the Waist
6. _____Masturbation
7. _____Other; Please Specify_____

42. If you and your partner have sexual intercourse approximately once a week for three months <u>without</u> using birth control, what do you think the chances of a pregnancy are?

1. _____Certain
2. _____Likely
3. _____About 50-50
4. _____Not Likely
5. _____Impossible

Code No. _____

What do you think the chances are if you did it only once without birth control?

1. _____Certain
2. _____Likely
3. _____About 50-50
4. _____Not Likely
5. _____Impossible

---

43. How old were you when you first had sexual intercourse?

1. _____10
2. _____11
3. _____12
4. _____13
5. _____14
6. _____15
7. _____16
8. _____17
9. _____Other; Please Specify_____

44. If you have had sexual intercourse before, please state with how many partners.

1. _____One
2. _____Two
3. _____Three
4. _____Four
5. _____Five
6. _____More Than Five

45. How often do you have sexual intercourse?

1. _____Only Once
2. _____Once Every Three Months
3. _____Once a Month
4. _____Twice a Month
5. _____Once a Week
6. _____More Than Once a Week

Code No. _____

46. Do you and your partner use some kind of birth control?

1. _____Always
2. _____Most of the Time
3. _____Once in a While
4. _____Very Seldom
5. _____Never

47. If you have used birth control, which of the following methods have you used most often? (Mark the one used most often "1", the next most often "2", etc., for as many methods as you have used).

1. _____The Pill
2. _____I.U.D. (Intrauterine Device, Loop, Etc.)
3. _____Diaphragm
4. _____Condom (Rubber) and Foam
5. _____Condom Only
6. _____Foam Only
7. _____Withdrawal (Pulling Out)
8. _____Douche (Washing Out Afterwards)
9. _____Rhythm (Safe Period)
10. _____Other; Please Specify _____

48. In the last two months, how many times have you had sexual intercourse?

1. _____Once
2. _____Twice
3. _____Twice a Month
4. _____Once a Week
5. _____More Than Once a Week

49. Of those times you had sexual intercourse in the last two months, how often did you and your partner use birth control?

1. _____Always
2. _____Most of the Time
3. _____Once in a While
4. _____Very Seldom
5. _____Never

Code No. _____

50. If you and your partner used birth control in the last two months, what kind did you use most often? (Please name only one).

1. _____The Pill
2. _____I.U.D. (Intrauterine Device, Loop, Etc.)
3. _____Diaphragm
4. _____Condom (Rubber) and Foam
5. _____Condom Only
6. _____Foam Only
7. _____Withdrawal (Pulling Out)
8. _____Douche (Washing Out Afterwards)
9. _____Rhythm (Safe Period)
10. _____Other; Please Specify _____

51. Did you and your partner use birth control the last time you had sexual intercourse?

1. _____Yes
2. _____No

52. If you and your partner used birth control the last time you had sexual intercourse, what kind did you use?

1. _____The Pill
2. _____I.U.D. (Intrauterine Device, Loop, Etc.)
3. _____Diaphragm
4. _____Condom (Rubber) and Foam
5. _____Condom Only
6. _____Foam Only
7. _____Withdrawal (Pulling Out)
8. _____Douche (Washing Out Afterwards)
9. _____Rhythm (Safe Period)
10. _____Other; Please Specify_____

53. Have you ever been pregnant? (Have you ever gotten a girl pregnant?)

1. _____Yes
2. _____No

If yes, how many times have you been pregnant? (If yes, how many times have you gotten a girl pregnant?)

1. _____Once
2. _____Twice
3. _____Three or More Times

Code No. _____

54. If you have been pregnant, what did you do? (If you have gotten a girl pregnant, what did she do?) If you have had (fathered) more than one pregnancy, please put a "1" by what you (she) did the first time, and "2" by what you (she) did the second time, etc.

1. _____Had an Abortion
2. _____Had the baby and released it for adoption
3. _____Had the baby and kept it

55. If you have been pregnant, did you marry the father of the baby? (If you have gotten a girl pregnant, did you marry her?)

1. _____Yes
2. _____No

56. Please complete the following sentence:

With my present birth control use, I figure the chance of my getting pregnant (of getting a girl pregnant) is...

1. _____Certain
2. _____Very Likely
3. _____About 50-50
4. _____Very Unlikely
5. _____Impossible

Thank you very much for your help.

APPENDIX C

The Psychosocial Maturity Inventory

Individual Subscales

Self Reliance Subscale

Item No.

4. It's not very practical to try to decide what kind of job you want because that depends so much on other people.

13. In a group, I prefer to let other people make the decision.

22. You can't be expected to make a success of yourself if you had a bad childhood.

31. Luck decides most things that happen to me.

41. The main reason I'm not more successful is that I have bad luck.

49. Someone often has to tell me what to do.

59. When things go well for me, it is usually not because of anything I myself actually did.

68. I feel very uncomfortable if I disagree with what my friends think.

78. It is best to agree with others, rather than say what you really think, if it will keep the peace.

86. I don't know whether I like a new outfit until I find out what my friends think.

Work Orientation Subscale

Item No.

1. When a job turns out to be much harder than I was told it would be, I don't feel I have to do it perfectly.
9. I find it hard to stick to anything that takes a long time to do.
18. I hate to admit it, but I give up on my work when things go wrong.
27. I seldom get behind in my work.
37. I tend to go from one thing to another before finishing any one of them.
46. I often don't finish work I start.
55. I often leave my homework unfinished if there are a lot of good TV shows on that evening.
64. I believe in working only as hard as I have to.
74. It's more important for a job to pay well than for a job to be very interesting.
83. Very often I forget work I am suppose to do.

Identity Subscale

Item No.

7. I can't really way what my interests are.
16. I never seem to feel the same about myself from one week to the next.
25. Most people are better liked than I am.
34. My life is pretty empty.
44. I can't seem to keep people as friends for very long.
52. I'm acting like something I'm not a lot of the time.
62. I never know what I'm going to do next.
71. I change the way I feel and act so often that I sometimes wonder who the "real" me is.
81. Nobody knows what I'm really like.
89. I am not really accepted and liked.

Communication Skills Subscale

Item No.

2. I find it easy to explain what I think or believe.

11. It would be hard to write a letter explaining why I should be hired for a job.

20. Even if I know how to do something, I find it hard to each someone else.

29. It is hard to talk to someone you don't know.

39. In a discussion, I often find it hard to understand what people are trying to say.

47. I do not mix well with other people.

57. I often forget to listen to what others are saying.

66. It is hard to speak your thoughts clearly.

76. It is not hard to give a talk in front of other people.

84. I am not good at describing things in writing.

Roles Subscale

Item No.

6. If you see a coat you think you might like to buy, the sales person should agree to save it for you as long as it takes you to decide.

15. If I find something on a sidewalk, it's mine because I found it.

24. If my friend lends me money, he should wait until I pay it back and not ask for it.

33. If a salesman is very nice to you, you should try to buy something from him.

43. If you're a guest in somebody's home and make a phone call that only costs about a dollar, you don't have to offer to pay for it.

51. If you buy a sweater with a tag saying "cannot be returned", and it turns out to be too small, you should insist that the store take it back.

61. It's all right that a policeman takes a little better care of those stores where the owner gives him a tip once in a while.

70. If you're in a hurry in a store, others should be willing to let you get ahead of them.

80. People who work for the city should not have to pay traffic tickets because they already do so much for the city.

88. Your friends should be willing to lend you anything you want.

Trust Subscale

Item No.

10. If people are picked in a fair way to be on a tril jury, they are sure to reach a fair decision.

19. People can be trusted no matter what they have to win or lose.

28. If a man in government isn't honest, he won't get elected more than once.

35. There is no way to decide ahead of time who you can trust.

38. You can be sure people will be honest with you if you are honest with them.

53. Never depend on anyone if you can help it.

56. Nobody really wants to cheat another person out of something.

65. If a person is on trial in court, the decision will be fair no matter what kind of family he comes from.

72. There are more good people than bad people.

75. If you can trust a person in one way, you know you can trust him in all ways.

Social Commitment Subscale

Item No.

8. I would rather use my free time to enjoy myself than to help raise money for a neighborhood project.

17. Why work for something that others will enjoy if you won't be alive to enjoy it too?

26. I would only give a large sum of money to medical research on cancer if I knew they would find a cure in my life-time.

36. If I felt strongly about something, like race relations or better medical care for the poor, I would only work for it if there was a chance things could be changed quickly.

45. It's not really my problem if my neighbors are in trouble and need help.

54. Time you spend helping others get what they want would be better spent trying to get what you want.

63. It is much more satisfying to work for your own good than to work for the good of a group you belong to.

73. I would not like it if they used some of my tax money to keep up a park that I never use.

82. If there is only one copy of a book everyone wants to read, the person who gets it first should be able to keep it as long as he wishes.

90. If a sign in a park says "Do not pick the flowers - They are here for all to enjoy", you can pick few if you have a good personal reason.

93. A person is responsible only for the happiness of his family, relatives and close friends.

Tolerance Subscale

Item No.

3. If a friend whose ideas about God are very different from mine gave me a religious magazine to read, I wouldn't read it.

12. You should avoid spending too much time with people who are not approved of, even though you think they are really all right.

21. I would not mind being friends with a person whose father or mother was in trouble with the law.

30. I don't think I could be close friends with a crippled person.

40. Hippies should not move into neighborhoods where there are mostly older people and young children.

43. It would bother me to work for a person whose skin color was different from mine.

53. I would not make friends with a person who had very different manners from mine.

67. I would rather not live in a neighborhood where there are people of different races or skin colors.

77. I would not mind working closely on a job with a person whose skin color is different from mine.

85. I wound't like to spend the weekend in the home of a friend whose parents don't speak English.

91. If I had a choice, I would prefer a blood transfusion from a person of the same skin color as mine.

Openness to Change Subscale

Item No.

5. A man shouldn't cook dinner for his wife and children unless the wife is sick.

14. We should limit the number of women who can train for jobs usually held by men, such as dentist or engineer.

23. Women who decide not to be mothers are not doing what they should.

32. Women should not be elected to top government positions.

42. Schools should not let new methods of teaching, like TV and tapes, take up too much time in school.

50. I would like to talk to other students all over the world by way of satellite.

60. Men should be able to train themselves for jobs usually held by women, such as elementary school teacher, nurse, and telephone operator.

69. Children cannot be happy staying in day care centers while their mothers are at work.

79. I wouldn't like it if a lot of girls my age became lawyers, engineers and business managers.

87. If we limit the amount of money people can earn, we take away some of their freedom.

92. If we don't encourage women to work, we are seriously reducing what the country could accomplish.

APPENDIX D

Women's Roles and Self Esteem Subscales

Women's Roles Subscale

Item No.

5. A man shouldn't cook dinner for his wife and children unless the wife is sick.

14. We should limit the number of women who can train for jobs usually held by men, such as dentist or engineer.

23. Women who decide not to be mothers are not doing what they should.

32. Women should not be elected to top government positions.

60. Men should be able to train themselves for jobs usually held by women, such as elementary school teacher, nurse and telephone operator.

69. Children cannot be happy staying in day care centers while their mothers are at work.

79. I wouldn't like it if a lot of girls my age became lawyers, engineers and business managers.

92. If we don't encourage women to work, we are seriously reducing what the country could accomplish.

Self Esteem Subscale

Item No.

25. Most people are better liked than I am.

44. I can't seem to keep people as friends for very long.

89. I am not really accepted and liked.

APPENDIX E

Inter-Item Correlations for the Psychosocial Maturity Inventory

Inter-Item Correlations Self Reliance Subscale

	PM104	PM113	PM122	PM131	PM141	PM149	PM159	PM168	PM178	PM186
PM104	1.00000	0.17363	0.11900	0.11650	0.11068	-0.06465	0.15439	0.22731	0.14386	0.20011
PM113		1.00000	0.17160	0.29360	0.20734	0.44452	0.26708	0.27176	0.20288	0.21878
PM122			1.00000	0.25116	0.22350	0.15657	0.02889	0.36518	0.01721	0.07658
PM131				1.00000	0.39581	0.25373	0.40694	0.13748	0.22392	0.26115
PM141					1.00000	0.15002	0.17066	-0.00689	0.20301	0.03094
PM149						1.00000	0.20956	0.28585	0.16092	0.10148
PM159							1.00000	0.29970	0.14003	0.30111
PM168								1.00000	0.18268	0.18219
PM178									1.00000	-0.07286
PM186										1.00000

Inter-Item Correlations Work Orientation Subscale

	PM101	PM109	PM118	PM127	PM137	PM146	PM155	PM164	PM174	PM183
PM101	1.0000	0.11622	0.00393	0.08188	0.04247	0.19612	0.02696	0.19533	0.03388	0.08842
PM109		1.00000	0.32495	-0.19147	0.49018	0.42918	0.10670	0.31018	0.12722	0.28870
PM118			1.00000	-0.17938	0.33999	0.29082	0.26724	0.17764	0.01863	0.18788
PM127				1.00000	-0.16061	-0.27435	-0.08967	-0.17961	-0.12351	-0.16386
PM137					1.00000	0.43588	0.16996	0.24302	0.11299	0.37319
PM146						1.00000	0.18751	0.20726	0.06212	0.15711
PM155							1.00000	0.18767	0.20482	0.30096
PM164								1.00000	0.34814	0.14920
PM174									1.00000	0.07849
PM183										1.00000

Inter-Item Correlations Identity Subscale

	PM107	PM116	PM125	PM134	PM144	PM152	PM162	PM171	PM181	PM189
PM107	1.00000	0.15059	0.14614	0.33385	0.16161	0.16640	0.27576	0.30548	0.30010	0.28167
PM116		1.00000	0.07673	0.22077	0.22656	0.20063	0.22462	0.49234	0.04187	0.24191
PM125			1.00000	0.25291	0.21714	0.12930	0.12061	0.25123	0.09748	0.38944
PM134				1.00000	0.27304	0.24532	0.18566	0.32070	0.17073	0.29636
PM144					1.00000	0.17917	0.02617	0.24922	0.04957	0.29544
PM152						1.00000	0.23991	0.42019	0.13394	0.10870
PM162							1.00000	0.35016	0.26346	0.34857
PM171								1.00000	0.23054	0.35125
PM181									1.00000	-0.02524
PM189										1.00000

Inter-Item Correlations Communication Skills Subscale

	PM102	PM111	PM120	PM129	PM139	PM147	PM157	PM166	PM176	PM184
PM102	1.00000	-0.10141	-0.33349	-0.07079	-0.04254	-0.11121	-0.04659	-0.20639	0.11580	0.01322
PM111		1.00000	0.16045	0.35467	0.18666	0.24268	0.25308	0.40964	-0.12531	0.38308
PM120			1.00000	0.04140	0.25450	0.22263	0.39816	0.35774	-0.11558	0.34286
PM129				1.00000	0.18560	0.30394	0.01196	0.37464	-0.31028	0.36342
PM139					1.00000	0.17259	0.42386	0.31306	-0.03021	0.38923
PM147						1.00000	-0.09349	0.35876	0.18675	0.19749
PM157							1.00000	0.06059	-0.23847	0.26916
PM166								1.00000	-0.14183	0.28352
PM176									1.00000	-0.09572
PM184										1.00000

Inter-Item Correlations Roles Subscale

	PM106	PM115	PM124	PM133	PM143	PM151	PM161	PM170	PM180	PM188
PM106	1.00000	0.05203	0.13019	0.22632	0.24918	0.25564	0.18303	0.13353	0.12210	0.15362
PM115		1.00000	0.34057	0.26885	0.32879	0.29944	0.24657	0.16397	0.30514	0.07522
PM124			1.00000	0.42710	0.26614	0.27049	0.07387	0.15681	0.45601	0.22766
PM133				1.00000	0.28320	0.20238	0.20122	0.11057	0.37991	0.20880
PM143					1.00000	0.24133	0.23654	0.13827	0.51269	0.03895
PM151						1.00000	0.17074	0.18699	0.44211	0.08280
PM161							1.00000	0.09913	0.15610	0.00527
PM170								1.00000	0.23024	0.31513
PM180									1.00000	0.18833
PM188										1.00000

Inter-Item Correlations Trust Subscale

	PM110	PM119	PM128	PM135	PM138	PM153	PM156	PM165	PM172	PM175
PM110	1.00000	0.20942	0.35710	0.04284	0.39799	-0.02033	0.16404	0.27267	-0.06533	0.21654
PM119		1.00000	0.12800	-0.04224	0.25444	-0.12266	0.32238	0.18621	-0.11220	0.32985
PM128			1.00000	-0.03312	0.37447	0.05355	0.23942	0.28259	-0.10419	0.23824
PM135				1.00000	-0.09703	0.27658	0.11783	-0.10451	0.15123	-0.04032
PM138					1.00000	0.03629	0.08414	0.24393	-0.09673	0.32072
PM153						1.00000	-0.12364	0.09676	-0.13767	-0.10990
PM156							1.00000	0.03662	0.01658	0.23345
PM165								1.00000	-0.15677	0.32111
PM172									1.00000	0.08974
PM175										1.00000

Inter-Item Correlations Social Commitment Subscale

	PM108	PM117	PM126	PM136	PM145	PM154	PM163	PM173	PM182	PM190
PM108	1.00000	0.16857	0.11782	0.01167	0.18929	0.16316	0.05106	0.09138	0.13156	0.07094
PM117		1.00000	0.27679	0.27019	0.30318	0.17007	0.34348	0.22805	0.13687	0.21648
PM126			1.00000	0.30281	0.18730	0.18025	0.28875	0.38979	0.12072	0.14899
PM136				1.00000	0.15546	0.06200	0.35127	0.08385	0.00269	0.04911
PM145					1.00000	0.14134	0.37640	0.30012	0.28272	0.48102
PM154						1.00000	0.36003	0.20285	0.15724	0.07816
PM163							1.00000	0.17871	0.13460	0.23059
PM173								1.00000	0.11990	0.35604
PM182									1.00000	0.31924
PM190										1.00000

	PM193
PM108	0.10050
PM117	0.06352
PM126	0.14203
PM136	0.03018
PM145	0.28895
PM154	0.11074
PM163	0.19415
PM173	0.21821
PM182	0.36762
PM190	0.29139
PM193	1.00000

Inter-Item Correlations Tolerance Subscale

	PM103	PM112	PM121	PM130	PM140	PM148	PM158	PM167	PM177	PM185
PM103	1.00000	0.01249	-0.00655	0.21631	0.07254	0.03162	0.19000	0.03810	0.04155	0.04561
PM112		1.00000	0.03689	0.27453	0.21228	0.31756	0.24712	0.44769	-0.13554	0.14692
PM121			1.00000	-0.04099	-0.09873	0.10497	-0.37522	-0.08698	0.23310	0.00768
PM130				1.00000	0.35417	0.09567	0.14926	0.29499	-0.11065	0.08128
PM140					1.00000	0.26828	0.21673	0.28526	-0.04274	0.17614
PM148						1.00000	0.06822	0.35599	-0.13251	0.15845
PM158							1.00000	0.27228	-0.15231	0.36655
PM167								1.00000	-0.17407	0.17681
PM177									1.00000	0.06973
PM185										1.00000

	PM191
PM103	-0.04861
PM112	0.35509
PM121	-0.07309
PM130	0.25075
PM140	0.38645
PM148	0.33450
PM158	0.15491
PM167	0.29260
PM177	-0.19120
PM185	0.14121
PM191	1.00000

Inter-Item Correlations
Openness to Socio-Political Change Subscale

	PM105	PM114	PM123	PM132	PM142	PM150	PM160	PM169	PM179	PM187
PM105	1.00000	0.23583	0.34902	0.17332	-0.03927	-0.12594	-0.17638	0.19230	-0.02512	-0.03180
PM114		1.00000	0.38904	0.39088	-0.00766	-0.23408	-0.17681	0.09225	0.09641	-0.06539
PM123			1.00000	0.30681	0.06631	-0.15162	-0.21025	-0.02004	0.07585	-0.14343
PM132				1.00000	-0.00575	-0.18975	-0.22387	0.39088	0.24351	-0.27491
PM142					1.00000	0.07638	0.08569	0.01125	0.04371	-0.02706
PM150						1.00000	0.10652	-0.02502	-0.17573	-0.07668
PM160							1.00000	0.05590	0.01360	0.26039
PM169								1.00000	0.08201	-0.13801
PM179									1.00000	-0.01767
PM187										1.00000

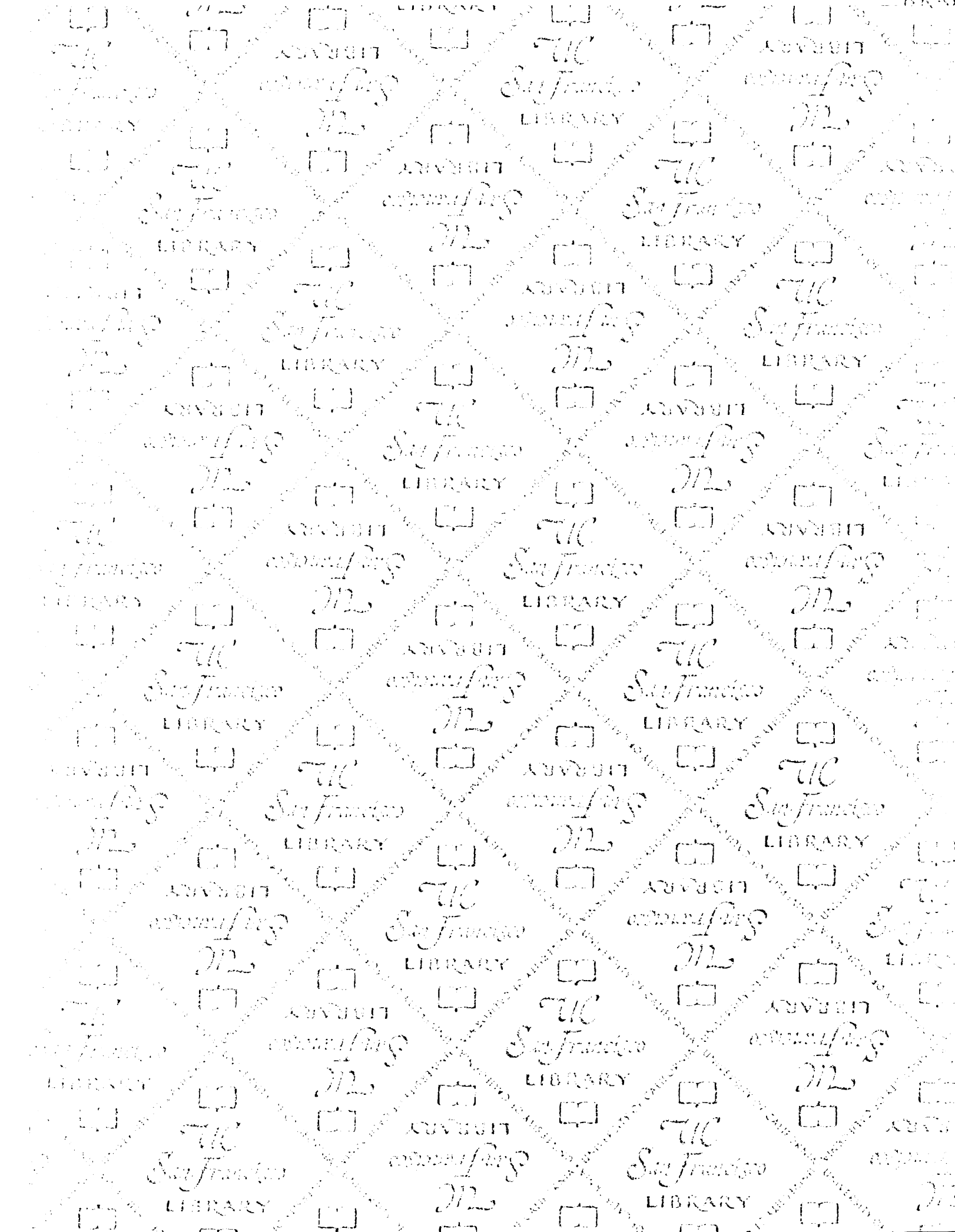
	PM192
PM105	-0.23472
PM114	-0.20743
PM123	-0.29127
PM132	-0.26864
PM142	-0.08826
PM150	0.16720
PM160	0.29236
PM169	0.01559
PM179	-0.28125
PM187	0.17976
PM192	1.00000

APPENDIX F

Scoring for the Contraceptive Effectiveness Variable

Points Assigned for Frequency of Contraceptive Use		Points Assigned for Type of Contraceptive Use	
Questions 46 and 49		Questions 47, 50 and 52	
Always Most of the time	(3 points)	Pill I.U.D. Diaphragm Foam and Condom	(3 points)
Once in a while	(2 points)		
Seldom Never	(1 point)	Comdom only Foam only	(2 points)
		Withdrawal Douche Rhythm	(1 point)
Question 51			
Yes	(3 points)		
No	(1 point)		

*Decisions regarding effective versus less effective or ineffective methods of contraceptive use were based on "Table I: Method Effectiveness: Theoretical and Actual Use Rates" (Fletcher, Steward, Steward, Guest, Stratton & Wright, 1978, p. 20).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