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Examination of Knowledge and Attitudes about Human Sexuality as Predictors of Adolescent Sexual Behavior

Diane Waymire

ABSTRACT

"EXAMINATION OF KNOWLEDGE AND ATTITUDES ABOUT HUMAN SEXUALITY AS PREDICTORS OF ADOLESCENT SEXUAL BEHAVIOR."

by

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This study investigated the variables influencing adolescent sexual behavior. Using cognitive learning theory, social learning theory, and social development as an organizing framework, factors influencing adolescent sexual behavior and the respondent's personal demographics were examined for their contribution to explaining adolescent decision-making about sexual activity.

A convenience sample of high school students from a Riverside county school district provided data for the study. Data was gathered by using a self-administered questionnaire. A total of 55 students from two of the three school sites within the district participated in the study during the winter quarter of 1995.

The findings of the study provide insight into some of the variables affecting adolescent decision-making in association to sexual behavior. Findings indicate that adolescent contraceptive knowledge does not impact the use of contraceptives while engaging in sexual behavior and there is a high level of correlation between adolescent attitude and sexual behavior. This information may point the way to strategies for improving the sex/health education curricula that is provided in the educational environment. Moreover, the findings may lead to the development of change strategies which could influence adolescents sexual behaviors and potential reduction of teen pregnancy.

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EXAMINATION OF KNOWLEDGE AND ATTITUDES ABOUT HUMAN SEXUALITY AS PREDICTORS OF ADOLESCENT SEXUAL BEHAVIOR

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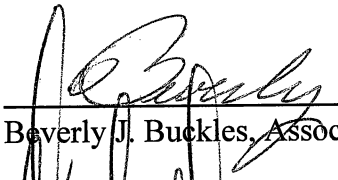
Each person whose signature appears below certifies that this thesis in his/her opinion is adequate, in scope and quality, as a thesis for the degree of Master of Social Work.



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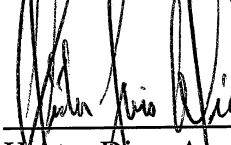

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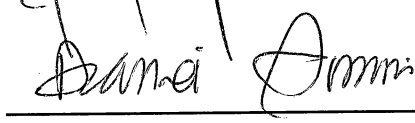

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CHAPTER ONE

Introduction, Problem Statement, and Significance

Introduction

Public concern over adolescent sexual and contraceptive behavior is increasing. This stems from awareness of statistics on adolescent sexual behavior[1] and from clashing ideologies about adolescent fertility control. Although federal education policies support sex/health education, and most states have guidelines for sex/health education, adolescents are becoming sexually active earlier and in greater numbers (Kirby, 1981).

Evidence of this is the continuing increase in adolescent pregnancy. More than 40 percent of women in the United States become pregnant before they reach 20 years of age (Kirby, Short, Collins, Rugg, Kolbe, Howard, Miller Sonenstein, & Zabin, 1994). Query can be raised as to the developmental preparedness of adolescents to act on material presented in sex/health education programs in comparison to their decision-making about sexual behavior.

The study purposes that insight into the adolescent sexual behavior, can be gained by identifying and examining factors associated with sexual knowledge and attitude. The question posed by the study is: Do knowledge and attitudes about human sexuality predict adolescents' sexual behavior?

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[1]The term sexual behavior is used to describe both sexually active and inactive respondents.

Statement of Problem

Sex/health education has been a highly controversial subject over the past decade. Opponents against sex/health education believe that sex/health education should be provided by parents, that giving adolescents information about sexuality will encourage early experimenting sexually, and that adolescents have no access to sexual information other than what is provided to them by adults. However, proponents believe that sex/health education can both increase the amount of information adolescents have about sexuality and alter their sexual behavior, that it can decrease the incidence of sexually transmitted diseases, and that it can reduce the rate of adolescent pregnancy (Kirby, & Scales, 1981; Zastrow & Kirst-Ashman, 1993).

According to Hofferth (1991) sex/health education for adolescents generally have one of two goals: (a) to prevent pregnancy or (b) to alter/prevent its negative consequences. Although most states have guidelines for sex/health education instruction, guidelines for these programs vary greatly. Individual school districts/boards develop guidelines about what should be taught based on the local community needs or particular moral values. The state guidelines do, however, suggest the involvement of parents and community in planning, public review of instructional content, instruction on HIV and AIDS, and parental permission for such instruction (Kirby & Scales, 1981).

As such, considerable controversy exists as to the most appropriate model for adolescent sex/health education, (a) one that promotes a broad view of options and behavior or (b) one that promotes the more traditional view of abstinence. The argument

over which model better serves the needs of today's youth and society grows as adolescents are becoming sexually active earlier and in greater numbers.

Utilizing theories of human development (cognitive development, social learning theory and social development) as conceptual underpinnings, this descriptive-exploratory study begins to meet the need for empirical research examining the knowledge, attitude, and sexual activity of adolescents. The collective consideration of knowledge, attitude, and sexual activity in comparison to type of sex/health education received in this study permits an assessment of the differential importance of these factors as determinants of adolescent sexual behavior.

The potential benefit of this study could be the identification of factors which influence decision-making about sexual activity of adolescents. This identification could lead to the development of change strategies influencing the responsible behaviors and potential reduction of teen pregnancy. The validation of this potential benefit may lay the ground work for longitudinal studies in public and private educational institutions.

Significance

The dramatic increase in the proportion and earlier participation of adolescence in coitus has resulted in over half of all women and 78 percent of all men report having intercourse by the age of nineteen; seventeen percent of girls and 38 percent of boys have had intercourse by age fifteen (Gordon & Gilgun, 1987).

As a result of adolescents participating earlier in sexual intercourse, more than a million American teenagers become pregnant each year, producing one of the highest teenage pregnancy rates of any western industrialized country (Kirby, Short, et al. 1994).

In 1990, the United States birth rate among 15 through 17 year old was 38 per 1,000 females; the birth rate for 18 to 19 year old was 89 per 1,000 females. Among white adolescents ages 15 to 19, the out-of-wedlock birth rate has risen steadily every year since 1970; among black adolescents, it is higher than among whites and has risen since 1981 (Kirby, Short, et al. 1994). Out of the one million pregnancy approximately forty percent are aborted, ten percent end in spontaneous abortions or stillbirths, and fifty percent result in live births (Zastrow & Kirst-Ashman, 1993). Research has also found that the younger the female adolescent is at the time of first pregnancy, the more likely repeat pregnancies will occur (Rubenstein, 1991).

Exacerbating the seriousness of this social problem is the increasing number of adolescents being infected with sexually transmitted diseases (STD). According to Kirby, et al., (1994) among all sexually active people, teenagers have the highest rates of sexually transmitted disease (STD) of any age group. Approximately one in four young people have been infected by and STD by age 21 (Kirby, Short, et al. 1994).

The most serious concerns regarding such diseases involve AIDS. An increasing number of adolescents are becoming infected with the human immunodeficiency virus (HIV). It has been reported that approximately one-fifth of those with AIDS are in their twenties. Because it can take up to ten years to exhibit any symptoms of the disease, exposure to the virus would have taken place in one's adolescent years (Rubenstein, 1991).

These immediate consequences of adolescent sexual activity, in turn, have long-term effects upon the lives of young people. Pregnancy among school-age youth can

reduce their completed level of education, their employment opportunities, and their marital stability, and it can increase their welfare dependency. HIV and other STDs among school-age youth can affect their physical health, their subsequent ability to bear children, and even their chances for a normal productive life (Kirby, Short, et al. 1994; Reis, 1991). Because the incidence of pregnancy and STDs among adolescents is so great, these consequences affect not only the individuals involved and their families, but also overall welfare dependency, unemployment, and medical costs in the United States.

The current trend, for example, is for adolescent mothers to keep their infants and receive Aid to Families with Dependent Children (AFDC). An expenditure of $25 billion dollars for welfare, food stamps, and Medicaid occurs annually for women who gave birth as teenagers (Kirby, Short, et al., 1994; Reis, 1991).

The uncompensated hospital costs for labor and delivery, as well as health maintenance after delivery is a consequence that is shared by the private sectors of society (Reis, 1991). Adolescent pregnancy has an impact on a company's health-benefit costs when the mother to be is a dependent of an employee covered by the health plan. If the teen mother gives birth to a low-weight, sick, or a baby with birth defects the cost can multiply with long-term care impacting the private sectors of society.

Furthermore, it has been shown in recent studies babies born to adolescent mothers have a much greater chance of either being premature or of having a lower than normal birth weight. They are twice as likely to suffer from neurological defects. The mortality rate for these babies is 200 percent higher than that of babies born to older mothers (Bright, 1987).

Even through state guidelines support formal sex/health education controversy exists as to the most appropriate model for adolescent sexual education. The over all goal is to reduce adolescent sexual behavior. The means for accomplishing this goal, however, generates considerable controversy.

The consequences of early adolescent sexual activity have long reaching effect not only on the individual involved and their families, but on society in general. For this reason, insight into the decision-making process about sexual activity of today's youth can be of benefit to society.

CHAPTER TWO

Literature Review

Theoretical Underpinnings

Cognitive Learning Theory. Cognition involves the ability to take in information, process information, store information, and finally retrieve and use information. Cognition involves the ability to learn and to think (Zastrow & Kirst-Ashman, 1993). Cognition implies an understanding of the connection between cause and effect, between action and the consequences of that action. Cognitive strategies are mental plans used by a person to understand self and the environment (Kaplan & Sadock, 1994)

There are six cognitive factors that influence behavior and should be taken into account in order to understand behavior (a) cognitive competencies which consist of knowledge, skills, and abilities, (b) self-encoding which consist of one's self-evaluation and self-conceptualization, (c) expectancies which refers to one's expectations about one's ability to perform, the consequences of one's behavior, and the meaning of the events in one's environment, (d) values which consist of the relative importance one places on the outcomes of situations, (e) goals and plans which are one's personal standards of performance as well as the strategies one develops for achieving them, and (f) self-control strategies which are one's techniques for regulating one's behavior (Newman & Newman 1995).

Jean Piaget, a noted cognitive theorist, suggests that people go through various stages in learning how to think as they develop from infancy into adulthood. Each stage of cognitive development is characterized by certain principles or ways in which an

individual thinks. The stages are continuous and each acts as a foundation for the next (Inhelder & Piaget, 1958; Zastrow & Kirst-Ashman, 1993).

As children are entering into their adolescence they are in a "concrete operational" stage of development. Within this stage what is real and important happens in the present. It is very difficult for young people at this stage to think about the future; they tend to think about events in terms of their own experience "the here and now" (Dacey, 1991; Inhelder & Piaget, 1956; Kaplan & Sadock, 1994).

The final stage of cognitive development is the period of "formal operations". An ability to think abstractly, to reason deductively, define concepts, and to plan ahead is forming. The adolescent is better able to perceive the relation between present actions and future consequences. As adolescents attempt to master new cognitive tasks, they may return to egocentric thought (see themselves as the center of the universe, have a limited point of view, and are unable to take the role of the other person) but on a somewhat higher level than in the past. For example, adolescents may think that they can accomplish everything or can change events by thought alone (Inhelder & Piaget, 1956; Kaplan & Sadock, 1994; Zastrow & Kirst-Ashman, 1993).

Not all adolescents enter the stage of formal operations at the same time or to the same degree. Depending on individual capacity and intervening experience, some may not reach the stage of formal operational thought at all and may remain in the concrete operational mode throughout life (Kaplan & Sadock, 1994).

Social Development. The adolescent's social development is closely related to his/her psychological development, particularly identity formation and the need for

intimacy. Sullivan (1953) viewed interpersonal relations as central to one's individual identity. He posited three stages of adolescent development, which are distinguished by different needs and expressions of interpersonal intimacy; the three stages of development consist of early adolescence, middle adolescence, and late adolescence (Rubenstein 1991). Each stage is unique to developmental tasks that the youth will accomplish.

Early adolescence occurs between the ages of ten and fourteen years. The youth begins to focus on independence and identity issues. Biological changes create concerns with body image, and preoccupation with their physical development compared to their friends. They begin to become sexually curious. They become less interested in family and more concerned with peer group's values and codes of behavior. It is very difficult for young people at this age to think about the future; they feel invulnerable to the usual problems in the world, which can lead to risk-taking behaviors (e.g., having unprotected sex) (Rubenstein,1991).

Middle adolescence occurs between fifteen and seventeen years of age. Independence and identity issues are highlighted and conflicts around these issues may reach their highest level. Youth reject parental values, may test limits, and make independent decisions. Peer culture is influential in determining a life-style that may or may not be in the teen's best interests. As heterosexual relationships begin, they are less concerned about their changing bodies but more concerned about attractiveness to the opposite sex. Ability to think abstractly and plan ahead is developing. The adolescent is better able to perceive the relation between present actions and future consequences. The

adolescent is learning to take responsibility for their behavior, especially in high-risk areas such as sexual activity, driving, and substance use (Rubenstein, 1991).

Late adolescence occurs between the ages of seventeen through twenty years of age. It is a period of strong feelings and emotions with intense opposite-sex relationships. Two major tasks during this period are (a) moving from a dependent to an independent person and (b) establishing an identity. Peers continue to be important, but the young person is able to evaluate peer influence and opinions. Abstract thought is usually developed at this time. Past gains are consolidated, and the older adolescent focuses on and plans for the future (Kaplan & Sadock, 1994; Rubenstein, 1991).

Social Learning Theory. The social learning theory relies on role modeling, identification, and human interactions. A person can learn by observing and imitating the behavior of another person (Bandura, 1986). Children have been found to imitate aggressive, altruistic, helping, and stingy models. They are most likely to imitate models who are prestigious, who control resources, or who themselves are rewarded (Bandura, 1986). If the role model is not someone the person likes, imitative behavior is not likely to occur. The person's choice of a model is influenced by a variety of factors, such as age, sex, status, and similarity to oneself (Kaplan & Sadock, 1994).

Bandura (1986) points out that children not only observe the behavior of a model but watch what happens to the model. When the model's behavior is rewarded, the behavior is more likely to be imitated; when the model's behavior is punished, the behavior is more likely to be avoided. Over time, a person begins to form a mental representation for the situation, the required behavior, and the expected outcome

(Newman & Newman, 1995). Furthermore, Bandura (1986) suggest that self-efficacy is a key element in the cognitive basis of behavior. Self-efficacy is defined as the sense of confidence that one can perform the behavior demanded by a situation. According to Bandura (1989) the decision to engage in a situation, as well as the intensity of effort expended in the situation, depends on a person's confidence of success:

> Those who have a high sense of efficacy visualize success scenarios that provide positive guides for performance and they cognitively rehearse good solutions to potential problems. Those who judge themselves as inefficacious are more inclined to visualize failure scenarios and to dwell on how things will go wrong. Such inefficacious thinking weakens motivation and undermines performance (p. 729).

The concept of self-efficacy clarifies how people adapt when they enter new roles or new situations. The successes and failures we observe in others and the encouragement we receive from others influence our expectations.

Adolescents shape each other's social behaviors by positively responding to specific mannerisms, dress, and the latest slang terms and by ostracizing or ridiculing behaviors that do not meet the norms of their peers (Encyclopedia of Social Work, 1987).

In recent years, researchers have begun to pay more attention to the notion that teens engage in sex for many reasons other that the satisfaction of their sexual drives. There are many nonsexual motives for participation in sexual activity. What has become more apparent is that orgasm becomes a "quick fix" for a wide variety of other problems

(Dacey & Travers, 1991; Hajcak & Garwood, 1988). Among these alternative motives for sex are the desire to:

1. Confirm masculinity/femininity. Having sex with one or more partners is taken as evidence that their sexual identity is intact.

2. Affection. To the youth who gets too little affection from parents, sexual activity provides physical affection.

3. Rebellion against parents or other societal authority figures. Sex becomes a means to get even with parents.

4. To obtain greater self-esteem. Many adolescents feel that if someone is willing to have sex with them, then they are held in high regard.

5. For revenge or a means to degrade a peer. Sex can be used to hurt the feelings of a peer.

6. Vent anger. Sex provides a release of emotions, it is sometimes used to deal with feelings of anger.

7. Alleviate boredom.

8. To ensure fidelity of one's girlfriend/ boyfriend. Many adolescents engage in sex, not because they want too, but because they fear their partner will leave them if they do not comply (Hajcak & Garwood, 1989).

Education Models. The literature review on sex/health curriculum is based upon several theories or models. Length of program implementation and exposure to sex/health education varies in program models. For some programs sex/health education may last only a few weeks: others may last longer and/or exposure to sex/health

education may take place at a particular grade level (Jorgensen, Potts, & Camp, 1993; Kirby, Short, et al., 1994; Mellanby, Phelps, & Tripp, 1992). In addition, sex/health education programs can be divided into three groups. The first group focuses upon abstinence and does not discuss contraception; the second group includes sexuality or AIDS education programs that include both abstinence and contraception (condom information); the third group includes the more comprehensive educational components plus reproductive health services, either at the school or nearby (Kirby, Short, et al., 1994).

Abstinence Programs. Abstinence programs, through literature review, focus upon the importance of abstinence from sexual intercourse; typically abstinence until marriage. Either these programs do not discuss contraception or they briefly discuss failure of contraceptives to provide complete protection against pregnancy and STD. (Kirby, Barth, Leland, & Fetro, 1991; Trudell & Whatley, 1991).

To date, only three studies of school-based abstinence programs have been published in the professional literature. The studies published reveal there is not sufficient evidence to determine if school-based programs that focus only upon abstinence delay the onset of intercourse or affect other sexual or contraceptive behaviors (Kirby, Short, et al., 1994; Kirby, Barth, etal.,1991; Trudell & Whatley, 1991).

Sexuality and AIDS-STD Education Programs. These programs differ from the abstinence programs in that they discuss both abstinence and contraception; the sex education programs typically include discussions of different methods of contraception while the AIDS education programs typically include discussions of condoms.

The most current study was published by Kirby, Short, etal., (1994). Of the eight programs evaluated, five measured the impact of the programs upon the initiation of intercourse. The data strongly support the conclusion that sexuality and AIDS education curriculums that include discussions of contraception in combination with other topics do not hasten the onset of intercourse. These findings should reduce concerns that such instruction may encourage youth to have intercourse. The results also indicate that instruction about contraception does not increase frequency of intercourse, however, it did increase contraceptive use among specific groups of students. It should be noted that data from all eight studies indicate that some, but not all, of these programs are effective in all areas of concern (Kirby, Short, et al., 1994).

Education Plus Reproductive Health Services. Programs based on this model combined both education and reproductive health services to adolescents. Some programs offer students services on campus; others offered services across the street from the school or nearby. Some refer students for contraceptives; others dispensed contraceptives (Kirby, Short, et al., 1994; Zabin, Hirsch, Smith, Street, & Hardy, 1986).

The most current study was by Kirby and colleagues. It evaluated the impact of six school-based clinics located on school campuses in different parts of the country. Each was a comprehensive health clinic which provided a wide range of health services appropriate for adolescents. The data collected from the study in combination with the data from the study by Zabin indicate that providing reproductive health service either on campus or nearby neither hastens the onset of intercourse or increases the frequency.

In addition, they found clinic presence was not significantly related to the pregnancy rate in any of the six school-based clinic sites (Kirby, Short, et al., 1994; Zabin, et al., 1986).

Social Learning and developmental theories establish a basis for realistically evaluating expectations for responsible sexual behavior by adolescents. Knowledge of the ways in which individuals learn and of the characteristic developmental levels and stages of an individual's physical, cognitive, and psychosocial development should be foremost in guiding adolescents toward responsible sexual decision-making. However, research demonstrates that not all school-based sex/health education programs are effective. Therefore, the most effective components of programs need to be combined and implemented widely in school-based sex/health education programs.

CHAPTER THREE

Methodology

Research Problem

This chapter identifies the research methods used to determine which factors influence adolescent sexual behavior. The question posed by the study is: Do knowledge and attitudes about human sexuality predict adolescents' sexual behavior?

Assumptions

1. Knowledge. Insight into the adolescent sexual behavior can be gained by identifying and examining factors associated to sex/health knowledge.

2. Attitude. Insight into the adolescent sexual behavior can be gained by identifying and examining factors associated with sex/health attitude.

3. Sex/health education. Identification of type of sex/health education received can provide insight into the adolescent sexual behavior.

Specification of Interrelationships Between Variables

It is believed that there is an interrelationship between the variables of knowledge, attitude, and sexual activity of adolescents. The intervening variables that can affect the relationship are:

1. parental education.
2. parental occupation.
3. family constellation.
4. type of sexual education.
5. who provided sexual education.

Statement of Hypotheses

The research question for this study is: How does sex and health education influence differences in sexual behavior of adolescents? The statements of hypotheses derived from this question is stated in the null form:

There is no difference in the contribution of knowledge and attitude about human sexuality in explaining the variance in adolescent sexual behavior.

Measurement

This section will present nominal and operational definitions of the variables and discussions of the methods of data collection.

Nominal Definitions

The nominal definitions of concepts providing the context of this study, or appearing in one or more variable, are presented below.

Adolescent. A male or female ranging in age from sixteen through nineteen who is currently attending high school.

Sex/Health Education. Instruction and/or discussion of health education, nutrition, AIDS/HIV and STD prevention, effects of drugs and alcohol, abstinence instruction, contraception instruction, human reproduction, and decision-making.

Attitude. A manner of acting, feeling, or thinking that shows one's disposition or opinion (Webster's New World Dictionary, 1982).

Knowledge. Acquaintance with facts; range of information, awareness, or understanding (Webster's New World Dictionary, 1982).

Parental Education. Level of educational attainment achieved.

Parental Occupation. One's trade, profession, business, or employment.

Family Constellation. A family constellation can be defined as two or more people, whether living together or apart, related by blood, marriage, adoption or commitment to care for one another. In this study it shell be used to describe the circumstances in which the adolescent is living.

Sexual Behavior. Sexual intercourse prior to marriage by adolescents. Can also be defined as "having sex" (putting a male's penis in a female's vagina) "making love" or "going all the way".

Age. The respondents self-reported cumulative years of life. In this study age was controlled through sample selection.

Sex. The gender of the respondents.

Educational Level. Self-reported school grade level. In this study educational level was controlled through sample selection.

Operational Definitions

Knowledge is operationalized by instrumentation developed by ETR (1990) which measures contraceptive knowledge, intentions, and skills to avoid unprotected sex.

Attitude is operationalized by instrumentation developed by Mathtect (1990) which measures attitudes of human sexuality.

Sexual behavior is operationalized by instrumentation developed by Mathtect (1990) which measures self-reported sexual behavior, age of onset of sexual intercourse, frequency of sexual intercourse, use of contraceptives, number of sexual partners, and reasons for non sexual behavior.

Parental Education is operationalized by instrumentation developed by the researcher to measure parental educational attainment achieved.

Parental Occupation is operationalized by instrumentation developed by the researcher to measure parental source of employment.

Family constellation is operationalized by instrumentation developed by the researcher to describe the circumstances in which the adolescent is living.

Type of Sexual Education is operationalized by instrumentation developed by the researcher to measure type of sex/health education received.

Who Provided Sexual Education is operationalized by instrumentation developed by the researcher to measure who and/or how sex education was provided.

Data Collection Procedures

In order to facilitate the study, contact was made with the Assistant Superintendent of Secondary Education for the participating public school district to secure initial permission. Authorization for the research was dependent upon school board approval of (a) research topic, and (b) instrument of measurement, and (c) an age range criteria of 16 to 19 years of age. With school board ratification final permission was in the form of parental consent, and subject willingness to participate.

Data collection for this study was a convenience sample of high school students identified by the participating public school district. As such, the school district authorized data collection to take place in three high school sites. Each high school identified a particular teacher with classroom populations that was representative of the

age range requirement for subjects in this study. Five classes of students were identified at each site. Data collection was completed over three days (one day per site).

The parent of each student in the identified class was mailed two parental permission/consent letters, two student consent letters, a sample questionnaire, and a self-addressed stamped envelope. After discussed between the parent and student, those student permitted and willing to participate in the study mailed one copy of each of the consent letters to P.O. Box 994, Loma Linda, California, 92354. Parents and students were instructed to maintain a copy of each of the consent letters for their records. Prior to the scheluded day of data collection, the investigator gave the identified teacher a list of names taken from the returned informed consents. The list was used to identify students that were released from class to participate in the study.

On the day the research took place the identified teacher released the voluntary participants from class and direct them to a designated research area (a classroom identified by the school district for each site). (This method of data collection was designed by the school district and the IRB committee.)

At the point of data collection the student investigator was present to oversee the research process, to answer questions, and give instructions to participants. Each respondent was informed of the voluntary and anonymous nature of the study, that there are no known risks or specific benefit for participation, and that participation is voluntary which means that they could stop answering questions on the survey at any time. They were told involvement consisted of one 45 minute session. Each respondent was then given a questionnaire which was contained in an envelope and told upon completing the

questionnaire to place the questionnaire back into the envelope, seal the envelope, and return it to the investigator. After turning in the questionnaire each respondent resumed their normal class schedule. The same procedure was used for each of the identified student groups at each of the two school sites.

In the event of any anxiety/stress as a result of the research process a school counselor's name was available.

Instrument Construction

The instrument used in this study is a twelve page questionnaire which has combined three separate questionnaires that were designed and developed by Douglas Kirby, PhD., Director of Research at ETR Associates in Santa Cruz, California.

Knowledge Questionnaire.

The questionnaire used to evaluate a student's knowledge was designed by Dr. Joyce Fetro, Dr. Richard Barth, and Dr. Nancy Leland. The questionnaire was designed to evaluate the impact of innovative skills based pregnancy-prevention sex education program. The majority of the items measure contraceptive knowledge, intentions and skills to avoid unprotected sex, and sexual and contraceptive practices.

The knowledge test is a 20-item test with a True, False, Don't Know format. Items were chosen for their salience to the curriculum and risk-taking behaviors.

Reliability. of a measuring instrument is the degree to which it demonstrates consistent results. The reliability of this questionnaire was pre-tested. The questionnaire was pilot tested with several classrooms of students. Each knowledge item was correlated with the overall knowledge score, and items with low correlations were

removed. Cronbach's alpha, a measure of internal consistency, was used producing a result of .83.

Attitude and Value Scales Questionnaire.

The questionnaire used to evaluate a student's attitude and values was developed by Dr. Douglas Kirby and Dr. Judith Alter for Mathtech, a private research firm, for evaluation of sex education programs.

The Mathtech Attitude and Value Scales includes 14 different scales, each consisting of five 5-point Likert-type items. The responses include strongly disagree, disagree, neutral, agree, strongly agree.

Response Mode and Timing. Respondents should circle the number indicating their agreement/disagreement with each item. Bright adolescents complete all the scales in about 10 minutes; slower students may take a half hour.

Scoring. In front of each item is a + or - indicating whether the item should be positively scored or reverse scored. The mean score for each scale should be determined by adding the responses and dividing by 5. On most scales higher scores represent more favorable attitudes, but on a few scales there may be disagreement about the more socially desirable direction.

Reliability. Reliability was determined by administering the questionnaire to 990 students and calculating Cronbach alphas, (see Table A) a measure of internal consistency. (See appendices for Cronbach alphas for the knowledge and attitude subscales.)

TABLE A

Reliability Coefficients for the Scales in the Mathtech Attitude and Value Scales

Table 1

Reliability Coefficients for the Scales in the Mathtech Attitude and Value Scales

Cronbach's alpha	Scale
.89	Clarity of long-term goals
.73	Clarity of personal sexual values
.81	Understanding of emotional needs
.78	Understanding of personal social behavior
.80	Understanding of personal sexual response
.66	Attitude toward gender roles
.75	Attitude toward sexuality in life
.72	Attitude toward the importance of birth control
.94	Attitude toward premarital sex
.58	Attitude toward the use of force and pressure in sexual activity
.70	Recognition of the importance of the family
.73	Self-esteem
.85	Satisfaction with personal sexuality
.81	Satisfaction with social relationships

Behavior Questionnaire.

The questionnaire, developed at Mathtech, is used to evaluate the behavior of adolescents. The questions do not assess skill in the classroom but, instead, measure the frequency with which respondents actually use important skills in everyday life. The entire inventory was reviewed by psychologists who examined each item for clarity, unidimensionality, and comprehensibility. More than 100 adolescents completed the questionnaire. Their responses indicated that most data were reliable.

Response Mode and Timing. Respondents should circle/indicate the most correct answer for each item. The questionnaire takes adolescents between 15 and 25 minutes. Scoring: Most of the questions measuring skills should be combined into scales.

Reliability. For all items test-retest reliability was determined by administering the questionnaire twice, 2 weeks apart.

Sampling Plan

A convenience sample was used to generate the necessary data for the study. The convenience sample consisted of a population of adolescents ranging in age from sixteen through nineteen who are currently attending high school. The students were members of the identified teacher student population who were selected to participate in the study by the particular school site. The sample was further delimited to students classified as seniors ranging in age from seventeen through nineteen at each of the high school sites.

Response Rate

Each school site provided address labels for the total student population of each identified teacher. The first mailing to one hundred and forty-six (146) potential

respondents in the general sample resulted in a response of thirty-nine (39) permission and assent forms returned. However, on the day of data collection there were only twenty-six (26) respondents who participated in the study.

The second mailing to one hundred and seventy-eight (178) potential respondents in the general sample resulted in a response of forty-two (42) permission and assent forms returned. However, on the day of data collection there were only twenty-nine (29) respondents who participated in the study.

As a result the overall response rate of the general sample was fifty-five (55) or 17%.

Data Analysis

Data collected from returned instruments were coded, verified and entered into a computer system for analysis by the researcher and her thesis advisor. The Statistical Program for the Social Sciences (SPSS) was the statistical program used in the computer analysis of the data.

Because the variables were of a nominal, ordinal, and quasi-interval level of measurement, the analysis used to produce interpretation and meaning were frequency tables and hierarchical multiple regression. Frequency tables are easy to read, and they provide complete and detailed information about the variables. Multiple regression enable one to predict the value of a criterion variable.

Several sets of multiple regression were considered the method of choice in the analyses of hierarchical hypothesis identifying the relationship between the consequent variable, sexual behavior, and antecedent variables knowledge and attitude.

CHAPTER FOUR

Findings, Hypothesis, and Questions Guiding the Statistical Analysis

Findings

The findings in this study are reported for the variables as related to the hypotheses in order to: 1) describe the respondent sample; 2) determine the frequency distribution of the consequent variable Sexual Behavior; and 3) test the stated hypotheses. Additional findings are also presented at the end of this section.

The Respondent Sample. The respondent sample can be described as adolescents 17 and 18 years of age. Respondents' race has not been used as a sample descriptor as the limited number of respondents in some of the categories would have allowed for identification of the individuals completing the survey, thus eliminating anonymity. Sample descriptors have been largely organized around the gender and sexual behavior (i.e., sexually active versus sexually inactive) of respondents. Table 1 provides the frequency distribution of these two dichotomized variables. All subsequent descriptive tables build upon this construct.

Tables 2, 3, and 4 illustrate the distribution of respondents by gender and sexual active with family constellation, parents' education and parents' occupation respectively.

Computed Knowledge Scores for Sexually Active and Inactive Respondents. The computed scores ranged from 7 to 28 with a mean of 19.06, a standard deviation of 4.63 and a mode of 22. The frequency distributions of itemized knowledge scores are presented in Table 5, followed by the computed scores in Table 6 and Figure 1. Tables 7

and 8 present the frequency distributions of the computed knowledge scores for sexually active and inactive respondents by gender. (See also the Appendices for additional figures supporting this analysis.)

TABLE 1
Frequency Distributions of Respondents by Sexual Behavior and Gender

Respondents' Gender by Category of Sexual Behavior	Frequency Distribution of Sexual Behavior		
	Frequency	Percent	Cum. Percent
Sexually Active Respondents			
Female	23	42.0	42.0
Male	14	25.4	67.4
Sexually Inactive			
Female	13	23.6	91.0
Male	5	9.0	100.0

Note: A X^2 measuring the association between gender and sexual behavior was not significant at the .05. level.

TABLE 2
Frequency Distribution of Respondent Sample by Gender and Sexual Behavior with Family Constellation

Family Constellation	Gender of Respondent			
	Female (N=36)		Male (N=19)	
	Active (N=23)	Inactive (N=13)	Active (N=14)	Inactive (N=5)
Family Constellation				
Biological Father	21	11	9	5
Biological Mother	10	6	9	3
Stepmother	0	0	1	0
Stepfather	7	3	2	1
Grandmother	1	0	0	0
Grandfather	1	0	0	0
Other Family	5	1	4	1
Not Family	2	1	1	0

Note: Data in this table was collected as multiple response. No significance was found between any pair of dichotomized variables represented in this table.

TABLE 3
Frequency Distribution of Respondent Sample by Gender and Sexual Behavior with Parents' Education

Parents' Education	Gender of Respondent						
	Female (N=36)				Male (N=19)		
	Active (N=23)		Inactive (N=13)		Active (N=14)		Inactive (N=5)
	N	%	N	%	N	%	N%
Father							
-Non High School Graduate	2	8.7	1	9.1	0	---	0---
-High School Graduate	8	34.8	2	18.2	2	16.7	0---
-Vocational School or Training	1	4.3	0	---	0	---	0---
-Started College	2	8.7	1	9.1	4	33.3	120.0
-Graduated from College	4	17.4	5	45.5	3	25.0	360.0
-Attended Graduate School	2	8.7	1	9.1	2	16.7	120.0
-Don't Know	4	17.4	1	9.1	1	8.3	0---
-Missing Data	---	---	2	15.4	2	14.3	0---
Mother							
-Non High School Graduate	0	---	1	9.1	2	16.7	0---
-High School Graduate	6	26.1	4	36.4	3	25.0	120.0
-Vocational School or Training	4	17.4	1	9.1	1	8.3	0---
-Started College	6	26.1	3	27.3	4	33.3	0---
-Graduated from College	2	8.7	2	18.2	0	---	360.0
-Attended Graduate School	2	8.7	0	---	1	8.3	120.0
-Don't Know	3	13.0	0	---	1	8.3	0---
-Missing Data	0	---	2	15.4	2	14.3	0---

Note: No significance was found between any pair of dichotomized variables represented in this table.

TABLE 4
Frequency Distribution of Respondent Sample by Gender and Sexual Behavior with Parents' Occupation

Parents' Occupation	Gender of Respondent			
	Female (N=36)		Male (N=19)	
	Active (N=23)	Inactive (N=13)	Active (N=14)	Inactive (N=5)
Father				
-Business	4	2	5	0
-Government	2	0	2	1
-Self Employed	5	0	1	0
-Retail	0	0	0	0
-Manual Labor	5	3	1	1
-Other	7	6	3	3
-Missing Data	0	2	2	0
Mother				
-Business	3	1	1	0
-Government	2	1	3	1
-Self Employed	2	2	1	1
-Retail	0	2	1	0
-Office Work	2	1	4	1
-Other	14	4	3	2
-Missing Data	0	2	1	0

Note: Items listed as other include teacher, pilot, medical professional, and homemaker. Significance was not found between father's or mother's occupation and the sexual behavior of respondents at the .05 level, when analyzed through a Chi Square. The reader will note that a first order correlation (Spearman's r) was found between father's occupation and sexual behavior on the correlation matrixes produced for this study.

TABLE 5
Frequency Distributions of the Itemized Knowledge Scores for Sexually Active and Inactive Active

Knowledge Items	Frequency Distribution of Itemize Knowledge Scores	
	Frequency	Percent
A teenage girl cannot get pregnant the first time she has sex.	54	98
Teenagers who use withdrawal (pulling the penis out before the guy comes) do not have to worry about pregnancy.	53	96.4
The birth control pill is as effective as abstinence (not having sex) in preventing pregnancy.	43	78
Latex condoms are better than animal-skin condoms for preventing sexually transmitted diseases including AIDS.	32	58.2
The best way to use a condom (rubber) is to leave some space at the tip for the sperm.	37	67.3
Teenage boys who have sex many times without using birth control will probably get a girl pregnant.	51	92.7
The correct way to use a contraceptive sponge is to put it in the vagina no more than 24 hours before having sex.	33	60
To use a condom (rubber) correctly, a person must hold it on the penis while pulling out of the vagina.	25	45.5
The contraceptive sponge will not work if you have sex more than once.	18	32.7
A girl can prevent pregnancy by douching (washing out the vagina) immediately after having sex.	44	80
Using a condom (rubber) whenever you have sex with someone with a sexually transmitted disease will probably protect you from getting the disease.	43	78.2
It is legal for teenagers to buy contraceptive foam, cream, jelly, sponges, or condoms at a drugstore without a prescription.	39	70.9
A teenage girl can get pregnant any time during the month.	17	39.9
Teenagers can get birth control pills from family planning clinics and doctors without parent's knowledge..	43	78.2
.Contraceptive foam, jelly, or cream can be put in the vagina many hours before you have sex.	14	25.5
Using condoms (rubbers) is the most effective way of all methods to avoid pregnancy and STDs	33	60.0
.If a girl forgets to take her birth control pill for three days she is still protected from getting pregnant.	17	30.9
Contraceptive foam, jelly, cream, and sponges provides some protection against some STDs.	17	30.9
A girl is protected from becoming pregnant as soon as she starts taking the pill.	39	70.9
The condom (rubber) is more effective than the contraceptive sponge at preventing STDs.	37	67.3

Computed Knowledge Scores for Sexually Active Respondents ranged from 7 to 28 with a mean of 19.08, a standard deviation of 4.65 and a mode of 17 as indicated by Table 6 and Figure 2. Computed Knowledge Scores for Sexually Inactive Respondents ranged from 7 to 28 with a mean of 19.0, a standard deviation of 4.73 and a mode of 18 as indicated by Table 6 and Figure 3.

TABLE 6
Frequency Distributions of the Computed Knowledge Scores for Sexually Active and Inactive Active Respondents

Range of Computed Knowledge Scores	Frequency Distributions of Computed Knowledge Scores		
	Frequency	Valid Percent	Cum Percent
Score Values (Total Possible=29 points)			
7	2	3.6	3.6
12	3	5.5	9.1
13	2	3.6	12.7
14	1	1.8	14.5
15	4	7.3	21.8
16	1	1.8	23.6
17	6	10.9	34.5
18	5	9.1	43.6
19	4	7.3	50.9
20	5	9.1	60.0
21	4	7.3	67.3
22	7	12.7	80.0
23	2	3.6	83.6
24	3	5.5	89.1
25	2	3.6	92.7
26	2	3.6	96.4
28	2	3.6	100.0
29	0	---	---

Note: The Knowledge Test was a true, false test. True questions were weighted with a value of 1, whereas false questions received a weighed value of 2 for a total possible correct of 29 points.

FIGURE 1

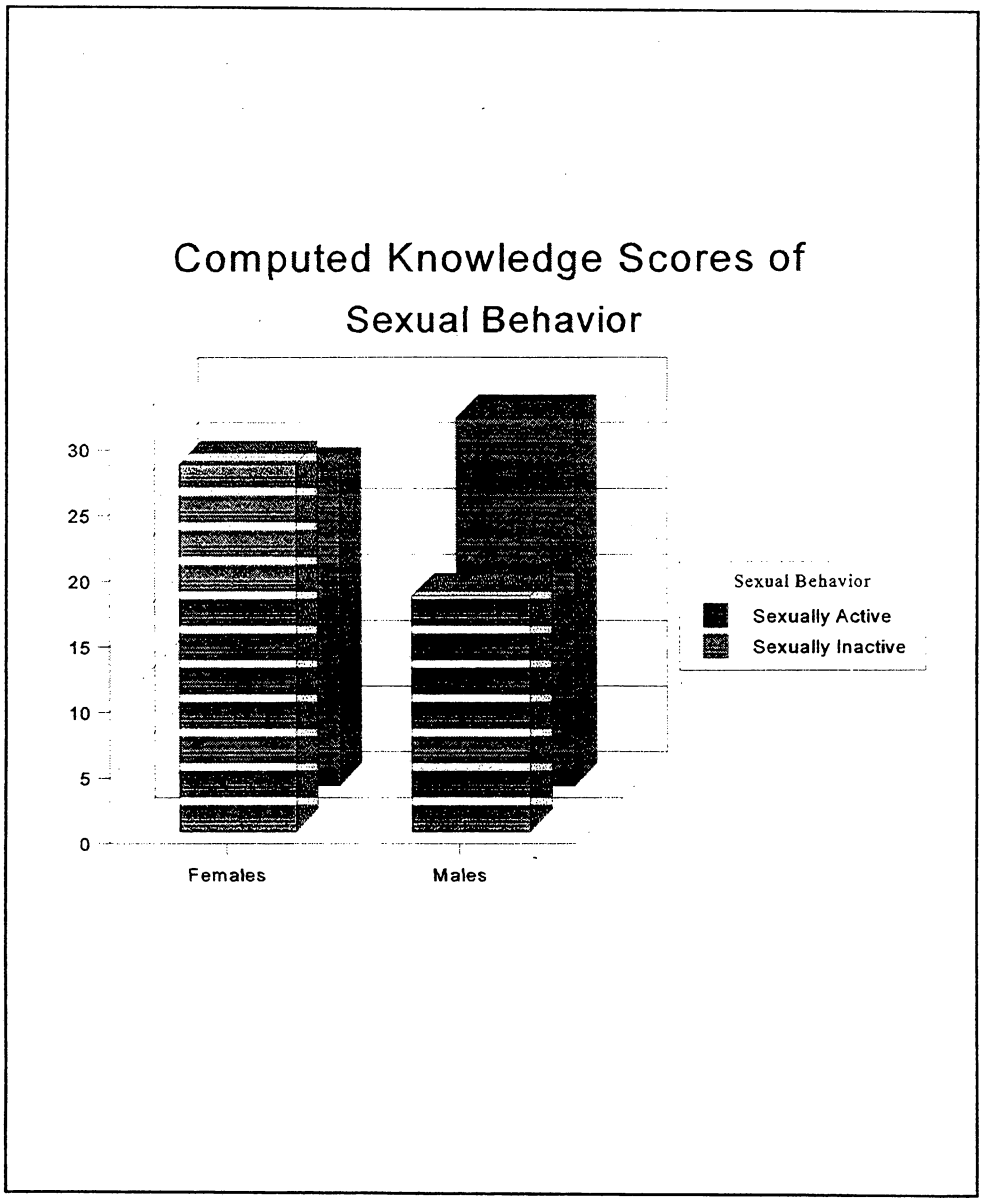

Computed Knowledge Scores of Sexual Behavior
30
25
20
15
10
5
0
Females
Males
Sexual Behavior
Sexually Active
Sexually Inactive

TABLE 7
Frequency Distributions of the Computed Knowledge Scores for Sexually Active and Inactive Female Respondents

Range of Computed Knowledge Scores	Frequency Distributions of Computed Knowledge Scores				
	Female Active (N=23)		Female Inactive (N=13)		
	Frequency	Valid Percent	Frequency	Valid Percent	Cum Percent
Score Values					
7	1	4.3	0	00.0	2.7
12	2	8.7	1	7.7	11
13	1	4.3	0	00.0	13.7
14	0	00.0	0	00.0	13.7
15	2	8.7	0	00.0	19.4
16	0	00.0	0	00.0	19.4
17	4	17.4	0	00.0	30.5
18	2	8.7	2	15.4	41.6
19	3	13.0	1	7.7	52.7
20	2	8.7	2	15.4	63.9
21	2	8.7	1	7.7	72.2
22	2	8.7	3	23.1	86.1
23	1	4.3	1	7.7	91.6
24	1	4.3	1	7.7	97.2
25	0	00.0	0	00.0	97.2
26	0	00.0	0	00.0	97.2
28	0	00.0	1	7.7	100.0
29	0	00.0	0	00.0	----

Note: The Knowledge Test was a true, false test. True questions were weighted with a value of 1, whereas false questions received a weighed value of 2 for a total possible correct of 29 points.

TABLE 8
Frequency Distributions of the Computed Knowledge Scores for Sexually Active and Inactive Male Respondents

Range of Computed Knowledge Scores	Frequency Distributions of Computed Knowledge Scores				
	Male Active (N=14)		Male Inactive (N=5)		
	Frequency	Valid Percent	Frequency	Valid Percent	Cum Percent
Score Values					
7	0	00.0	1	20.0	5.2
12	0	00.0	0	00.0	5.2
13	1	7.1	0	00.0	10.5
14	1	7.1	0	00.0	15.8
15	1	7.1	1	20.0	26.3
16	0	00.0	1	20.0	31.5
17	1	7.1	1	20.0	36.8
18	0	00.0	1	20.0	47.3
19	0	00.0	0	00.0	47.3
20	1	7.1	0	00.0	52.6
21	1	7.1	0	00.0	57.9
22	2	14.3	0	00.0	68.4
23	0	00.0	0	00.0	68.4
24	1	7.1	0	00.0	73.7
25	2	14.3	0	00.0	84.2
26	2	14.3	0	00.0	94.7
28	1	7.1	0	00.0	100.0
29	0	00.0	0	00.0	----

Note: The Knowledge Test was a true, false test. True questions were weighted with a value of 1, whereas false questions received a weighed value of 2 for a total possible correct of 29 points.

Computed Attitude Scores for Sexually Active and Inactive Respondents[2].

Attitudes toward sexual behavior were measured by six subscales (Understanding Personal Sexual Responses, Attitude Toward Sexuality in Life, Attitude Toward Premarital Intercourse, Use of Pressure and Force in Sexual Activity, Personal Cost of Pregnancy, and Personal Cost/Benefits of Birth Control). The computed scores for the resulting variable Attitude Toward Sexuality ranged from 83 to 131 (145 possible) with a mean of 102.76 and a standard deviation of 12.86 as indicated by Figure 2.

Computed Attitude Scores for Sexually Active Respondents. The computed scores for the variable Attitude Toward Sexuality for sexually active respondents ranged 83 to 127 with a mean of 99.73 and a standard deviation of 12.34 as indicated by Figure 3. Whereas, the Computed Attitude Scores for Sexually Inactive Respondents The computed scores for the variable Attitude Toward Sexuality for sexually inactive respondents ranged 93 to 131 with a mean of 109.00 and a standard deviation of 11.98 as indicated by Figure 4.

---

[2]Computed attitude scores reflect a modification in the original scores for attitude as four subscales (Clarity of Life Goals, Self-Esteem, Satisfaction with Social Relationships and Living One's Religious Values) were held constant, as these reflect potentially intervening concepts effecting attitudes toward sexuality. These four subscales combine to create the variable General Attitude Toward Life. The computed value of this variable for all respondents ranged from 39 to 79 (highest score possible=80), with a mean of 57.86 and a standard deviation of 10.58. The computed values of this variable for sexually active respondents ranged from 39 to 79, with a mean of 55.00 and a standard deviation of 8.72; whereas the computed values for sexually inactive respondents ranged from 42 to 78, with a mean of 63.72 and a standard deviation of 11.87. The computed values for sexually inactive respondents are higher at the seventy-fifth percentile (76) as compared with sexually active respondents (60) indicating a higher range of computed values for the variable General Attitude Toward Life.

Distribution of Behavior Scores. This section presents the distribution of behavior scores for sexually active and inactive respondents. The distribution of behavior scores for sexually inactive respondents provided information regarding the reasons for sexual inactivity. Table 9 illustrates a ranked order comparison[3] by gender of the most frequently cited reasons for remaining sexually inactive.

Computed Scores for Sexually Active Respondents. Respondents that self-identified as sexually active were asked to complete a series of questions regarding their use of contraceptives with their first sexual experience; most recent sexual experience; overall reasons for using contraceptives; and high risk sexual behaviors of this respondent group. Tables 10, 11, and 12 present this data respectively.

[3]Computed scores for "Reasons for Remaining Sexually Inactive" were based upon a multiple response questioning to comprehensive list of possible alternatives.

FIGURE 2

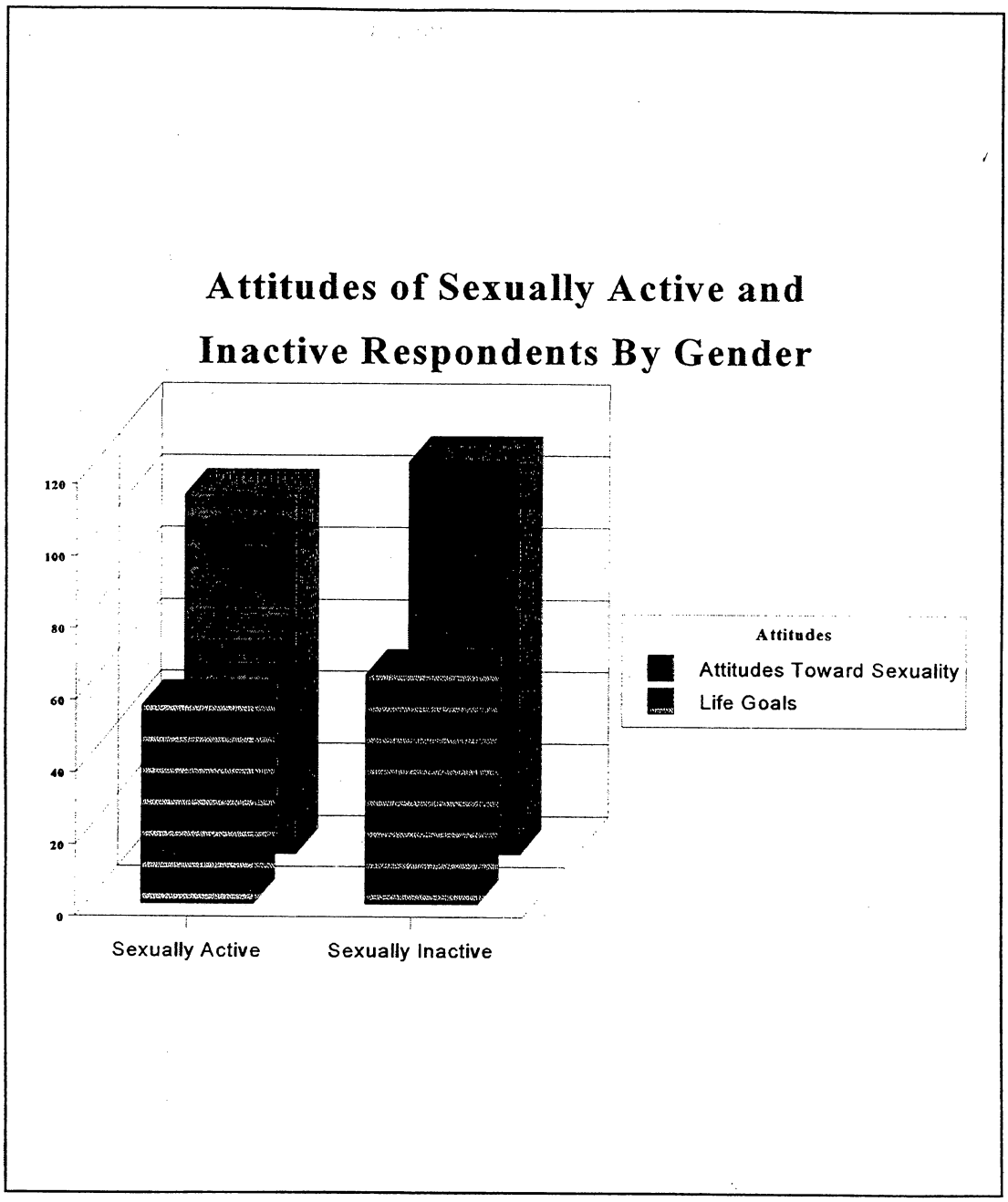

Attitudes of Sexually Active and Inactive Respondents By Gender
120
100
80
60
40
20
0
Sexually Active
Sexually Inactive
Attitudes
Attitudes Toward Sexuality
Life Goals

FIGURE 3

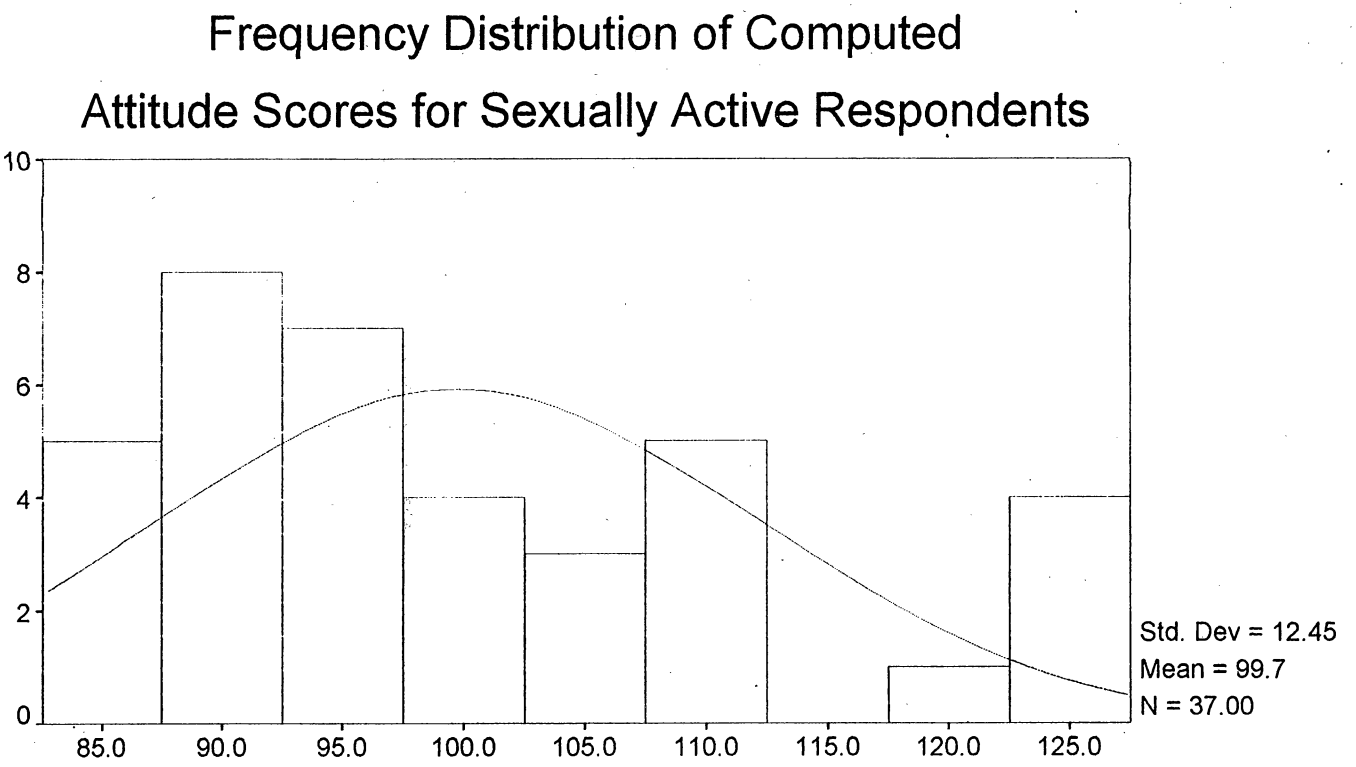

Frequency Distribution of Computed
Attitude Scores for Sexually Active Respondents
10
8
6
4
2
0
85.0
90.0
95.0
100.0
105.0
110.0
115.0
120.0
125.0
Std. Dev = 12.45
Mean = 99.7
N = 37.00
Computed Attitude Scores

FIGURE 4

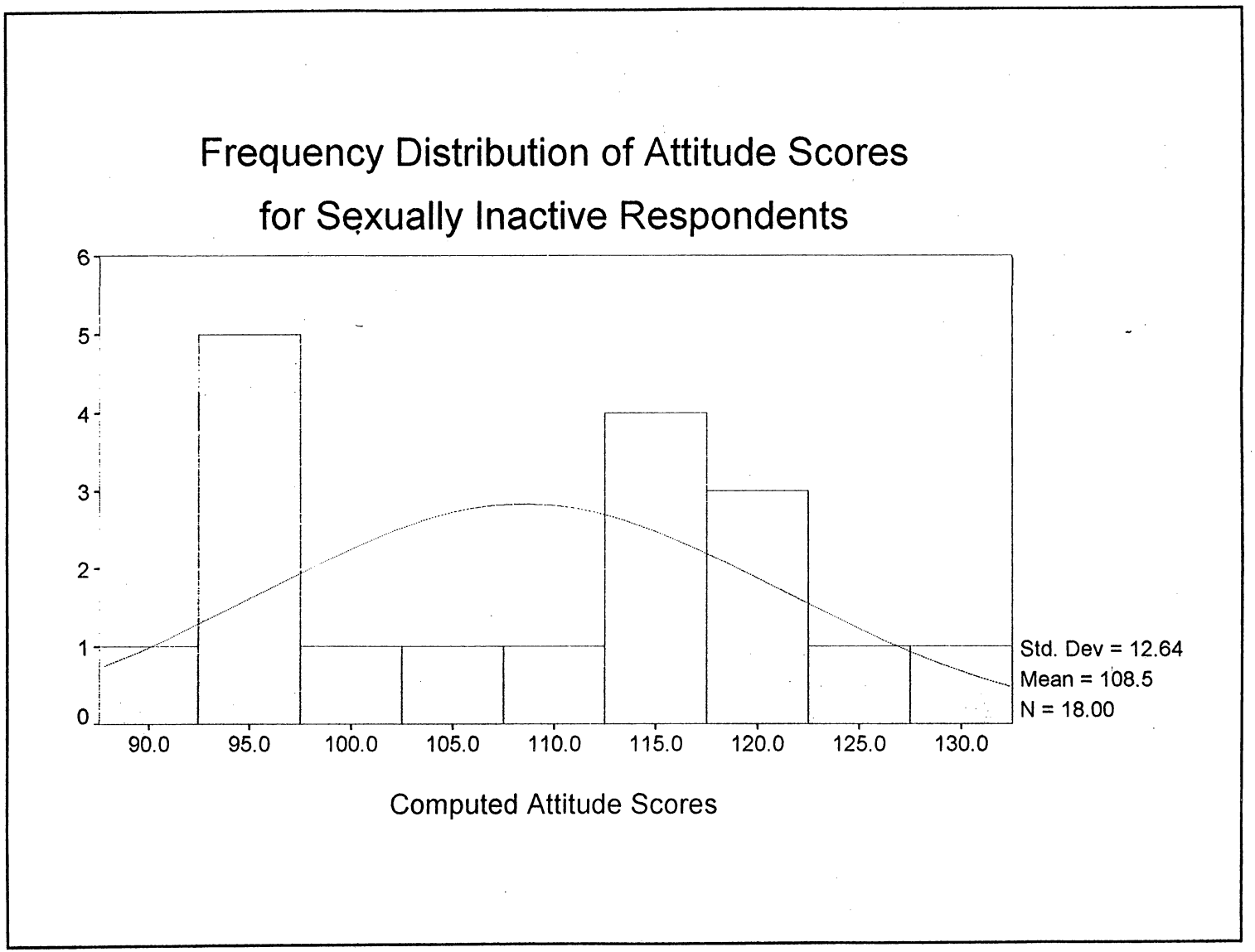

Frequency Distribution of Attitude Scores
for Sexually Inactive Respondents
6
5
4
3
2
1
0
90.0
95.0
100.0
105.0
110.0
115.0
120.0
125.0
130.0
Std. Dev = 12.64
Mean = 108.5
N = 18.00
Computed Attitude Scores

TABLE 9
Multiple Response Data for Sexually Inactive Respondents by Gender and Reasons for Remaining Sexually Inactive

Respondents' Reasons for Remaining Sexually Inactive	Gender of Respondents			
	Female (N=23)		Male (N=14)	
	N	%	N	%
I think it is wrong to have sex before marriage.	9	.69	2	.4
My church says it is wrong to have sex before marriage.	6	.46	2	.4
I am not ready to have sex.	12	.92	3	.6
I am waiting for the right person to have sex with.	9	.69	3	.6
I am waiting until I get married.	9	.69	2	.4
I am waiting until I am older.	8	.66	3	.6
I do not want to get pregnant or get someone pregnant.	13	100	4	.8
I do not want to get a disease.	13	10	4	.8
I do not want to get AIDS.	12	.92	4	.8
My friends think it is wrong to have sex at our age.	2	.15	1	.077
My parents would be upset if I had sex and they found out.	4	.31	2	.4
I would be embarrassed to get birth control protection to use.	1	.077	0	0
I do not have a boy/girlfriend to have sex with.	9	.69	3	.2
I do not know where to get birth control protection to use.	1	.077	0	0
I would be embarrassed to use birth control protection.	0	0	0	0
I do not have enough money to buy birth control protection.	0	0	0	0
I think using birth control protection would make me sick or mess up my body.	1	.077	1	.2
Other reasons.	4	.31	2	.4

Note: All data represents multiple response

TABLE 10
Multiple Response Data for Sexually Active Respondent's by Gender and Reasons for Not Using Birth Control Protection

Reasons for Not Using Contraceptives	Gender of Respondents	
	Female	Male
I didn't know about birth control protection.	0	0
I didn't care if I got pregnant/got my partner pregnant.	2	1
I wanted to get pregnant/get my partner pregnant.	2	0
I just didn't think I would get pregnant/get my partner pregnant.	12	4
I thought I was too young/ my partner was too young to get pregnant.	0	0
I didn't think I had sex often enough to get pregnant/get my partner pregnant.	1	0
I didn't expect to have sex, it was not planned.	12	6
I thought it was wrong to use birth control protection.	0	0
I thought it was wrong to plan for sex.	0	1
I thought birth control was my partner's responsibility.	1	0
My partner didn't want me to use birth control protection.	2	1
I was waiting until I was closer to my boyfriend/girlfriend.	1	0
I thought my parents had to be told.	0	0
I was afraid my family would find out if I used birth control protection.	1	1
I thought birth control protection was dangerous to use.	1	1
I thought you weren't allowed to get birth control until you were older.	0	0
I thought birth control protection cost too much.	2	2
I didn't know where to go to get birth control protection.	2	0
It was too hard to get all the way to a clinic to get birth control protection.	3	0
I felt uncomfortable going to a strange clinic.	5	0
I was afraid to be examined.	6	0
I thought birth control protection would reduce the pleasure of sex.	5	3
I thought birth control protection would be messy to use.	0	0
I just didn't get around to it.	5	3
Other	2	2

Note: Data is reported as multiple responses.

TABLE 11
Multiple Response Data for Sexually Active Respondents by Gender and Reasons for Using Birth Control Protection

Reasons for Using Birth Control Protection	Gender of Respondents			
	Female (N=23)		Male (N=14)	
	N	%	N	%
I did not want to get pregnant/get my girlfriend pregnant.	20	.88	10	.72
I did not want to get a disease.	16	.70	7	.5
I did not want to get AIDS.	15	.65	6	.43
My friends use protection and told me to use it.	1	.05	1	.07
A friend gave me protection to use.	2	.09	4	.29
My girl/boyfriend wanted us to use protection.	12	.52	7	.5
My mother told me to use protection.	9	.39	3	.21
My father told me to use protection.	5	.22	4	.29
Someone at a clinic told me to use protection.	3	.13	2	.14
I knew that I was going to have sex and I was prepared.	12	.52	9	.64
Other Reasons.	2	.09	10	.07

Note: Data is reported as multiple responses.

TABLE 12
High Risk Sexual Behaviors of Sexually Active Respondents by Gender

High Risk Sexual Behaviors	Gender of Respondents	
	Female	Male
Protection Used During First Sexual Experience	17	10
Sex Without Protection	20	9
Sex While Under the Influence of Drugs or Alcohol	10	4
Multiple Partners in Life Time		
One	8	5
Two	6	1
Three	4	3
Four-Five	3	4
Six-Seven	1	
Eight-Ten	1	
More than Ten	0	1
Multiple Partners in Last 3 Months		
One	15	9
Two	2	2
Three		
Four-Five		1
Six-Seven		
Eight-Ten		
More than Ten		
Results of High-Risk Sexual Behaviors		
Caused lst Pregnancy	4	2
Caused 2nd Pregnancy	1	0
Teenage Parent	1	1
Sexually Transmitted Diseases	0	0

Note: Data in this table is reported as multiple response.

Hypotheses and Questions Guiding the Statistical Analysis.

Statement of Hypothesis: There will be no difference in the contribution of knowledge and attitudes about human sexuality in explaining the variance in adolescents' sexual behavior.

This statement of hypothesis was tested statistically analyzing the relationship of the antecedent variables to the consequent variable in order to answer two analysis questions. The questions are followed by the appropriate analysis.

Question 1: Is there a first order correlation between each antecedent variable and the consequent variable that is independent of the potentially contaminating variables (i.e., father's educational achievement, mother's educational achievement, father's occupation, mother's occupation, family constellation, gender, types of sex-health education through school, and types of sex-health education through personal-other?

Data relevant to this question are presented in Table 16. This table includes only the variables found to have a first order correlation with the consequent variable Sexual Behavior. Therefore, these variable were believed to be potential contaminants and thus mechanisms established for control of these variables were necessary in subsequent analysis.

TABLE 13
First Order Correlations Between Potentially Contaminating Variables and the Consequent Variable Sexual Behavior

Potentially Contaminating Variables	Correlations	Probability ($p<.05$)
Father's Occupation	.30	.03
Sex-Health Education Through Religious Instruction from Parents	-.38	.005
STD Instruction Through School	-.28	.04
Sex-Health Instruction by Religious Organization	-.35	.01

Question 2: Do knowledge and attitudes about human sexuality predict adolescents' decisions regarding sexual behavior? That is, what is the multiple correlation coefficient between the antecedent variables and the consequent variable when considered collectively in a regression equation?

Data relevant to this question are found on Tables 14 (see Figure 5), 15 (see Figure 6, and 16 (see Figure 7). As the reader will note, three multiple regression equations were completed. The reader will note that in the use of multiple regression analysis "we usually construct a regression equation with as few predictor variables as possible, while at the same time maximizing the amount of variance accounted for in the criterion variable. This means, then, that we may begin our analysis with a large set of variables, but we eliminate those that account for a trivial amount of the variation in the

criterion variable (Craft, p. 161, 1990)." As such, the multiple regression analyses for this study began with a multi-factor regression equation and then, through subsequent elimination of trivial factors derived at the final regression equation found in Table 16.

TABLE 14
Variance in Respondents' Sexual Behavior as Explained by Predictor Variables

Variables in Regression Equation N=55, p<.05	B	SE B	Beta	Sig. T
Sex-Health Education Through Religious Instruction by Parents	-.175	.166	-.165	.30
Sex-Health Instruction by Religious Organization	-.275	.199	-.216	.17
STD Instruction through school	-.265	.118	-.290	.03
Occupation of Father	.064	.027	.283	.02
Attitudes About Human Sexuality	.009	.004	.0275	.03
Knowledge	-.021	.014	-.202	.13

Total Variance Explained:
Multiple R 59149
R Square .34986
F= 394628
Sig.= .0031

FIGURE 5

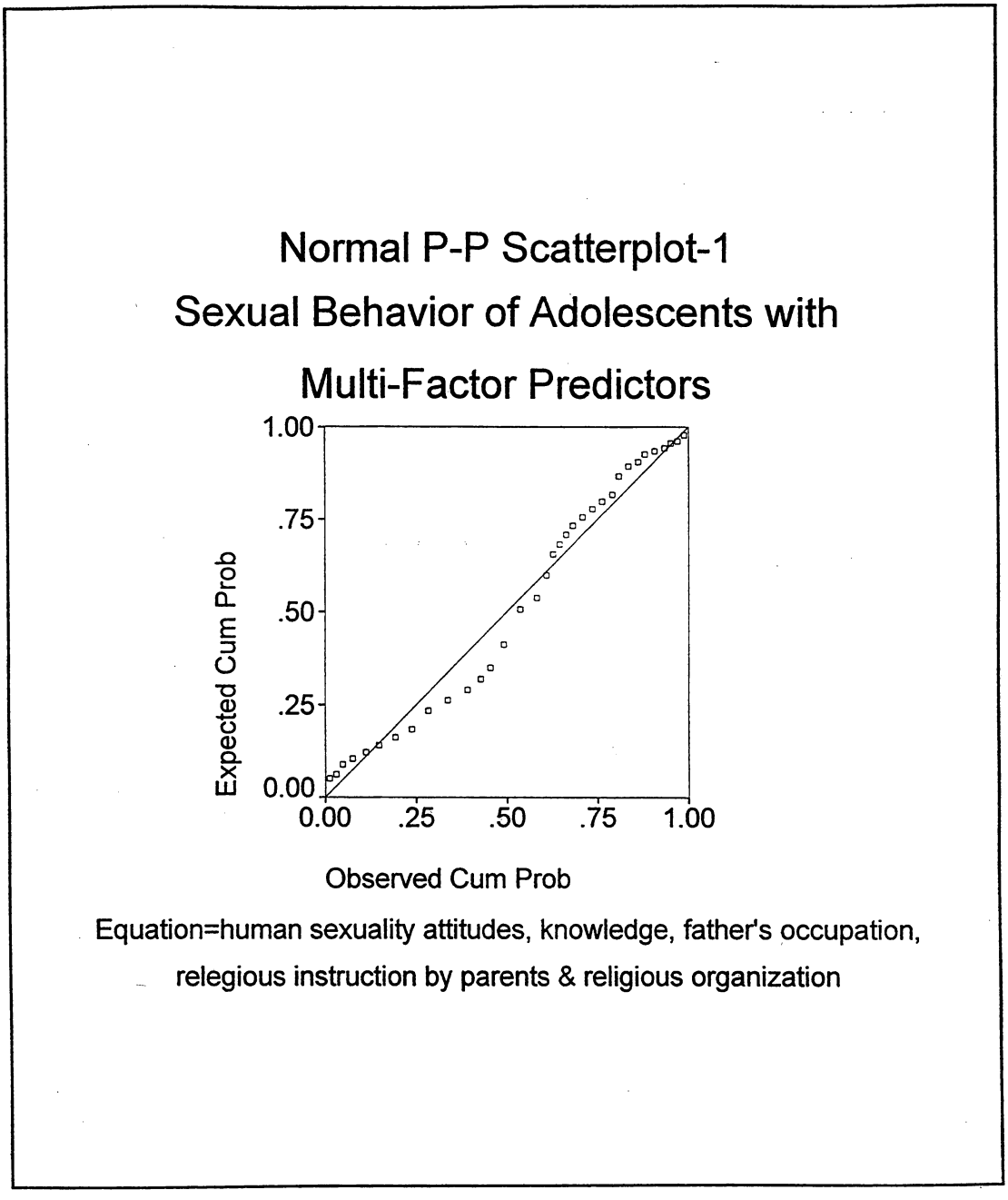

Normal P-P Scatterplot-1
Sexual Behavior of Adolescents with
Multi-Factor Predictors
Expected Cum Prob
1.00
.75
.50
.25
0.00
0.00
.25
.50
.75
1.00
Observed Cum Prob
Equation=human sexuality attitudes, knowledge, father's occupation,
relegious instruction by parents & religious organization

TABLE 15
Variance in Respondents' Sexual Behaviors as Explained by Predictor Variables

Variables in Regression Equation N=55, p<.05	B	SE B	Beta	Sig T
Sex-Health Education Through Religious Instruction by Parent	-.564	.200	-.499	.01
Attitudes About Human Sexuality	.035	.016	.405	.03
Knowledge	-.693	1.631	-.046	.80

Total Variance Explained:
Multiple R .63
R Square .40
F= 4.22846
Sig.=(p<.05) .0189

TABLE 16
Variance in Respondents' Sexual Behaviors as Explained by Predictor Variables

Variables in Regression Equation N=55, p<.05	B	SE B	Beta	Sig T
Attitudes About Human Sexuality	.0356	.015	.413	.027
Sex-Health Education Through Religious Instruction by Parents	-.565	.196	-.500	.009

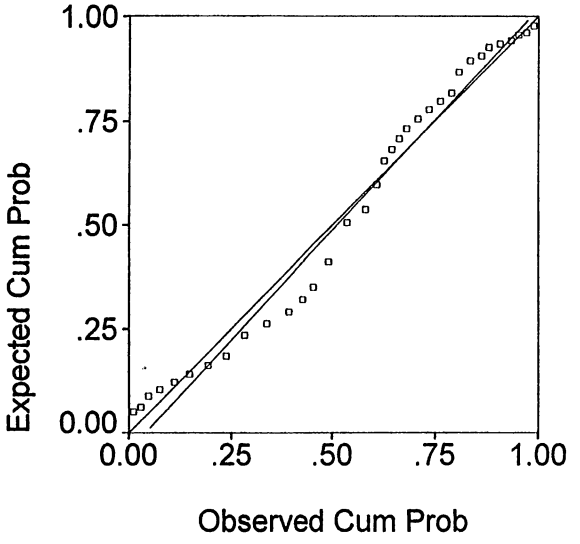
Total Variance Explained:
Multiple R .63108
R Square .39827
F= 6.61870
Sig.=(p<.05) .0062

FIGURE 7

Normal P-P Scatterplot-3

Sexual Behavior of Adolescents with

Multi-Factor Predictors



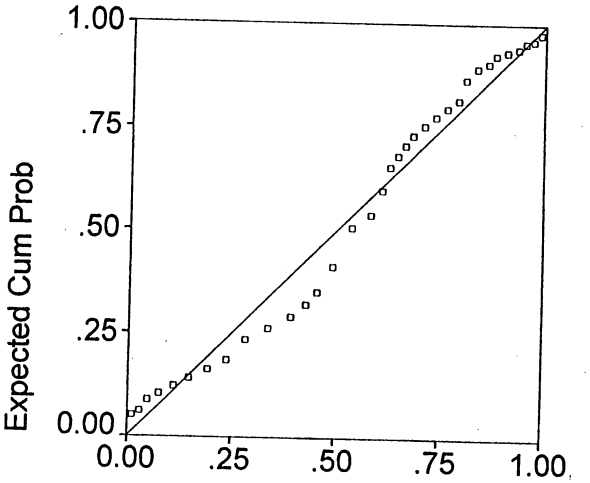
Equation=human sexuality attitudes and religious instruction by parents

FIGURE 6

Normal P-P Scatterplot-2

Sexual Behavior of Adolescents with

Multi-Factor Predictors



Equation=human sexuality attitudes, religious instruction by parents and knowledge

The reader will note the amount of variance explained by the multiple regression equations in Tables 14-16 were all significant at the .05 level ($p<.05$). Thus, the null hypothesis was rejected, concluding that there is a difference between knowledge and attitudes about human sexuality as predictors of adolescents' sexual behavior. The reader will further note, that while knowledge is not a significant (i.e., $p<.05$) of adolescents' sexual behavior, whereas adolescents' attitudes were found to significantly ($p<.05$) predict sexual behavior.

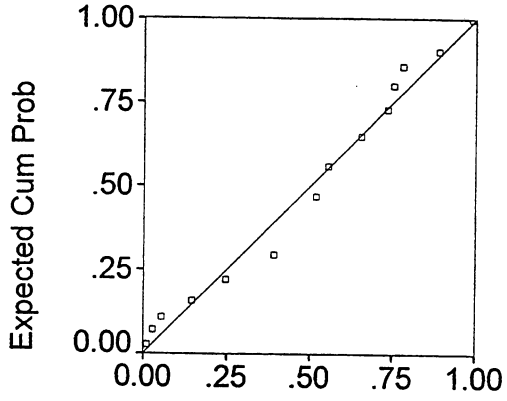
As adolescents' attitudes toward sexuality were found to significantly ($p<.05$) predict sexual behavior one additional regression equation was completed to assess the amount of variance explained by each of the attitude subscales. Table 17 (see Figure 8) illustrates that only one of the six subscales, Attitude Toward Premarital Intercourse, significantly influenced the variance in adolescents' sexual behavior.

TABLE 17
Variance in Respondents' Sexual Behaviors as Explained by Attitude Subscales

Variables in Regression Equation	B	SE B	Beta	Sig T
Attitude Toward Premarital Intercourse	.036	.012	.404	.003
Personal Cost of Pregnancy	.015	.016	.110	.362
Use of Pressure and Force in Sexual Activity	.028	.015	.266	.061
Attitude Toward Sexuality In Life	-.014	.018	-.109	.425
Understanding Personal Sex Response	-.026	.017	-.217	.130
Benefits of Birth Control	.018	.016	.169	.248

Total Variance Explained:
Multiple R .63681
R Square .40553
F= 5.54743
Sig.=(p<.05) .0002

FIGURE 8



Attitude subscales

(see Table 17)

TABLE 18
Identification of Significant Associations Between Predictor Variables

Dichotomized Variables	X^2	DF	Probability ($p<.05$)
Instruction in Contraception by Instruction in HIV/AIDS	51.54243	4	.001
Instruction in Effects of Drugs & Alcohol by in Instruction in HIV/AIDs	20.46647	2	.001
Instruction in Effects of Drugs & Alcohol by in Instruction in STD	17.51020	2	.001
Instruction in Contraception by Instruction in STD	47.98734	4	.001
Instruction in Abstinence by Instruction in STD	25.20175	4	.001
Instruction in Contraception by Sex Education Other Family Member	19.22714	4	.001
Sex Education Through Religious Instruction by Parents by Instruction Through Religious Organization	19.69697	1	.001
Other sex education by None at all	55.93988	1	.001
Sex education by Reading Material by Talking with Friends	5.28909	1	.0214
Sex Education By Adult Other by Talking with Friends	12.02956	2	.0024

CHAPTER FIVE

Interpretations, Implications and Conclusions

The research findings for this study are summarized and discussed in light of a review of the research methodology, description of the respondent sample, overall findings and interpretations, summary of additional findings, and study limitations. Implications, suggestions for future research and conclusions complete the chapter.

Review of the Research Methodology

This study examined the predictors influencing sexual behavior of adolescents. A convenience sample of high school students within the Riverside county provided the data for the study. Data was gathered with a 12 page questionnaire which included measures of sexual behavior, contraceptive knowledge, and sexuality attitude variables identified as likely to influence the sexual behavior of adolescents.

Description of the Respondent Sample

Data for the consequent variables, sexual behavior, is first presented on Table 1 which provides frequency distributions of the respondents by sexual behavior and gender. As one can see by frequency distributions out of the total respondent population of 55 there were 37 sexually active respondents and 18 sexually inactive respondents. Specifically, out of the total respondent population 67% were sexually active and 33% were sexually inactive.

By interdigitating gender into a review of the frequency distributions of the sample, one can see that out of the 55 respondents 36 were females (65%). Out of the

total 36 females respondents 23 were sexually active and 13 were sexually inactive. Specifically, out of the total female respondents 64% were sexually active. In comparison, the frequency distributions of males (N=19 or 35% of the total sample) 74% were sexually active. These findings would support the public's concern over the high rate of adolescent sexual behavior and the negative effects (Kirby, 1981; Kirby, Short, & et al, 1994).

In addition to basic descriptive statistics specific to the respondents, a number of other environmental factors were considered to gain additional insight into differences in sexual behavior. Although there is limited agreement as to which environmental factors may influence adolescent sexual behavior, this study included family constellation, and parents' education and occupation. Additional rationale regarding the inclusion of each variable can be found with the following interpretation of findings.

Data about the family constellations of respondents was collected as a possible indicator of environmental stability and adolescent supervision. In review of this resulting information it was found that most respondents appear to live with one or more of their biological parents. The most common step family constellation is the biological mother with a stepfather. As no significant associations were found between gender and family constellation or gender and sexual behavior, the distribution of respondents' family constellations can only be used to provide descriptive insight into the immediate sample.

The next descriptive analysis of the respondent sample considers the breakdown of respondents by gender, sexual behavior and parents' educational achievements

(see Table 3). One might think that the level of parents' educational achievement could influence adolescents' decision-making regarding sexual behavior. As such, the reader will note that the educational achievement for respondents' fathers and mothers are broadly distributed across all categories, i.e., .89 percent have completed a high school education; .51 percent have either attended a vocational training school or start college; .40 have graduated from college; .18 percent have attended graduate school. In addition, 9 respondents (16%) are unaware of their parents' level of educational achievement. Regardless of the broad distribution of parents' educational achievement, no significant associations were found between this factor and respondents' gender or sexual behavior. Thus, this information can only be used to provide an additional view of the demographic makeup of the respondent sample.

Data about the occupations of respondents' parents was also collected as a possible indicator of the socioeconomic environment of the family constellation. Table 4 provides a summary of these findings. As the reader will note, .31 percent of the parents have occupations classified as business; .24 percent of the parents can be classified as working for the government; .22 percent were designated as self-employed; .05 percent were identified as employed in retail; .33 percent in moderate to low skilled jobs; and .76 percent identified their parents' occupation as other (e.g. health professionals, teaching, and other various professional occupations). Although there was no significance association found between father's or mother's occupation when considered in a Chi Square with sexual behavior, father's occupation was found to have a first order

correlation (.30) with the consequent variable. As such, father's occupation was considered to be a potentially contaminating variable. This finding is addressed as a part of question 1 in the next section of this chapter.

Overall Findings and Interpretations

Question 1: Is there a first order correlation between each antecedent variable and the consequent variable that is independent of the potentially contaminating variables (i.e., father's educational achievement, mother's educational achievement, father's occupation, mother's occupation, family constellation, gender, types of sex-health education through school, and types of sex-health education through personal-other?

The analysis of this question began with an assessment of the existence of first order correlations between variables perceived to be potentially contaminating (producing alternative explanations for the findings) and the consequent variable Sexual Behavior. As the reader will note, (see Table 13) this analysis indicated correlations between the consequent variable sexual behavior, and father's occupation (.03); sex/health education through religious instruction from parents (.005); STD instruction through school, (.04); and sex/health instruction by religious organization, (.01). As such, mechanisms were applied in subsequent analysis to control for the potentially contaminating effects of these variables.

Tables 6, 7, & 8 identify the frequency distributions of the antecedent variable, Knowledge by Sexual Behavior and Gender. These frequency scores reflect the results of the knowledge test/instrument administered as a part of the data collection procedures

for this study. This test used true-false response categories to measure respondents' contraceptive knowledge (ETR, 1990). The findings identified a computed scores ranging from 7 to 28 for the total respondent population. The sexually active female respondents had a computed scores ranging from 7 to 24 while the range of computed scores for sexually inactive respondents was 12 to 28, suggesting a higher level of contraception knowledge for sexually inactive females. The sexually active male respondents had a computed scores ranging from 7 to 28 while the range of computed score for the sexually inactive males was 7 to 18, suggesting a lower level of contraception knowledge for sexually inactive males.

Question 2: Do knowledge and attitudes about human sexuality predict adolescents' decisions regarding sexual behavior? That is, what is the multiple correlation coefficient between the antecedent variables and the consequent variable when considered collectively in a regression equation?

Data relevant to this question are found on Tables 14, 15, and 16. The three multiple regression equations completed reflect contemporary thought in the use of multiple regression analysis, i.e., beginning with an equation that includes all antecedent variables and those considered potentially contaminating by virtue of their first order correlation/s with the consequent variable. In Table 14 the reader will note that three variables were found to be significant predictors of sexual behavior, i.e., the antecedent variable, attitudes about sexual behavior (.03); and two potentially contaminating variable, STD instruction through school (.03) and father's occupation (.03). No

significance was found for the antecedent variable knowledge (.13), and two other variables considered to be potential contaminants, sex/health education through religious instruction by parents (.30) and sex/health instruction by religious organization (.17). This initial analysis reveals that only one of the study's antecedent variables, attitudes about human sexuality, can be considered a predictor of adolescents' sexual behavior.

Table 15 indicates the results of the subsequent analysis in order to eliminate trivial effects of other variables. The reader will note that none of the variables found to have significance in Table 14 were included in the regression equation depicted in Table 15. Multiple regression equations were completed for each of these significance variables with the consequent variable sexual behavior. However, in each incidence no significance was found when considered alone with the consequent variable sexual behavior, suggesting still further the trivial amount of variance explained by each. Rather, Table 15 depicts an additional attempt to examine the predictive nature of both antecedent variables when considered with the potentially contaminating variable which had the highest original correlation and significance with the consequent variable, i.e., sex/health education through religious instruction by parent. The relevance of this decision is illustrated in Table 15 as the reader will note that only the antecedent variable attitudes about human sexuality and the potentially contaminating variable sex/health educations through religious instruction by parents were found to have significance in explaining the variance in adolescents' sexual behavior. Knowledge of contraceptives was again found to have no significance in explaining the variance in adolescents' sexual behavior.

Subsequently, the researcher eliminated all trivial and nonsignificant antecedent and potentially contaminating variables from the regression equation (see Table 16). The results of this final equation continue to support the importance of attitudes about human sexuality in explaining the variance of adolescents' sexual behavior.

This findings supports the literature and research by Kirby, Short, et al (1994) and that knowledge does not change behavior. Rather the primary explanation for differences in adolescents' sexual behavior is associated with their attitudes about human sexuality. This finding supports the controversial belief that sex/health education should include content on consequences of life choices if is to have significance in changing adolescents' behavior and potentially effect the rate of teenage pregnancy and the other negative consequences of high-risk sexual behaviors. Table 17 supports this finding, as it indicates that Attitude toward Premarital Intercourse is the primary factor explaining the variance in adolescents' sexual behavior.

Additional Findings

Additional analysis was conducted in this study to determine if any of the component factors contained within the antecedent variables knowledge and attitudes or demographic variables possessed significant associations with each other. Thus, Chi Squares were completed wherever significant correlations were found between dichotomized variables on the correlation matrix (see Table 18). The following interpretations are offered for each set of dichotomized variables.

Instruction in Contraception by Instruction in HIV/AIDS; Instruction in Contraception by Instruction in STD; and Instruction in Abstinence by Instruction in STD.

The significant association between each of these pairs of dichotomized variables appear to be an artifact of federal, state, and local education policy mandating the inclusion of content on sexually transmitted diseases in sex/health education instruction. The instruction in contraception in this incidence represents the recommended use of condoms to prevent the spread of disease. Information on contraceptives in this context is taught as the second alternative to abstinence and thus considered approved content in most communities.

Instruction in Effects of Drugs & Alcohol by in Instruction in HIV/AIDs and Instruction in Effects of Drugs & Alcohol by in Instruction in STD.

The significant association within each of these pairs of dichotomized variables appears to be associated with instruction regarding high-risk behaviors. This may reflect the a recognition by adolescents that their decision-making is compromised in the presences of mind altering substances. There is no evidence, however, to support that the content reflected in these dichotomized variables is necessary taught together within any course or institution.

Instruction in Contraception by Sex Education Other Family Member; Sex Education By Adult Other by Talking with Friends ; Sex education by Reading Material by Talking with Friends; and Other Sex Education by None at All.

Although no specific family members were identified in the first pair of variables, the significant association may suggest that adolescents seek out 'safe' family members from which to learn about contraceptive, i.e., brothers, sister, cousins, other family members close in age or someone having a special relationship with the adolescent. Likewise, the significant association between sex education by reading materials with talking with friends may suggest that adolescents seek out peers when searching for information about sex. The last pair of dichotomized variables may conversely suggest that some adolescents gain their knowledge about human sexuality solely through the media.

Sex Education Through Religious Instruction by Parents by Instruction Through Religious Organization.

The significant association between these two dichotomized variables reflects a logical relationship, both conceptually and literally. This finding for the sample studied may suggest that in some families attitudes and behaviors regarding human sexuality are closely associated with religious values.

Limitations of the Study

It is important to recognize the limitations of this research effort. This was a descriptive-exploratory study using a "one-time" self-administered instrument for data collection at two different sites.

The issue of informed consent is always paramount in research involving human subjects. Because the study involved the use of minors and was addressing a sensitive topic it was important that all respondents were willing and informed participants. It was also necessary to obtain permission from the parent or guardian of any minor participating in the study as directed by the participating school district as well as the Institutional Review Board (IRB). However, the IRB requested the parent and student permission and informed consent letters to be mailed home and returned by mail to the university. The returning of permission and consent letters by mail limited the number of respondents. The successful mailing of a consent letter does not ensure that a parent or guardian actually received the letter, it does not ensure that the letter was read, nor that the content of the letter was discussed with their child. Therefore, a passive consent procedure would appear to have ensured a larger number of respondents. A passive consent procedure would involve mailing a letter to the parents, describing the research process, and asking the parents to respond only if they did not want their child to participate. At the time of data collection the student participation would be solely based on assent or willingness to participate (Phillips, 1994).

In the state of California, students who are eighteen years of age can legally sign for themselves at school. However, due to the sensitivity of the research topic this was not permitted, nor clarified in the permission and consent letters mail to the parents and students. Thus resulting in a smaller number of subjects. The smaller number of subjects reduced the potential for more sophisticated and meaningful quantitative analysis. Lastly, self-report of sexual activity by adolescents must be viewed with caution due to the difficulty in verifying the validity or reliability of these highly personal self-reports.

Implications

The findings of this study have implications for education development, policies, and further research in sex/health education.

Education development. Much of the debate surrounding adolescent sexuality focuses on the morality of sexual behavior, a difficult issue on which to build consensus and send a clear message. The issue is complicated by the flaunting of sexuality in the media and the lack of role models for teenagers who abstain from sexual activity or practice responsible sexual behavior. Adolescents are caught in society's ambivalence regarding sexuality and the gap that often exists between knowledge, attitude, and behavior.

There have been many sex/health education programs developed throughout the United States. The goals of the sex/health education programs are to reach adolescents early with information on how and/or why to delay sexual activity, to increase teenagers' awareness of pressures to become sexually active, to reinforce their ability to say no, and

to build assertiveness skills. Most of these models utilize a curriculum and class teaching method to achieve their goals and target young adolescents. Comprehensive sex/health education is part of an effort to equip adolescents with the basic skills needed to function effectively in society.

Comprehensive, age-appropriate sex/health education that is culturally sensitive with equal gender emphasis needs to be coordinated and implemented for grades K-12 as part of an extensive health curriculum. Core standards should be developed for both the content and the instructors' qualifications (Faulkenberry, Vincent, Janes, & Johnson, 1987).

Comprehensive sex/health education should include the following components: health curriculum, sexual abstinence, family planning and reproductive health, including specific information on the consequences of teenage pregnancy; STDs, including AIDS; life-planning skills, including ways to strengthen self-esteem; sexual abuse prevention; substance education; communication, interpersonal relationships and decision making; and the influence of the media and society on sex roles (Brindis, 1990).

A core curriculum can be integrated into a horizontal and vertical format. Vertical presentation would involve materials being presented in kindergarten through twelfth grades. The horizontal presentation would be the integration of sexual education in various classes such as biology or life science courses; however, the integration can also be adapted into social sciences and English classes. Content should be developmentally appropriate to students at each grade level (Kirby & Scales, 1981).

Well-trained health educators or teachers are a crucial component. Specific credentialing for sex education teachers, requiring formal course-work in human sexuality, should be developed for both primary and secondary teachers.
In addition, more consistency and regularity for in-service training should be made available in order to keep teachers current with what is changing sexual realities for youth, reduce the myths and incorrect information about human sexuality, as well as current policy in sex/health education (Brindis, 1990; Kirby & Scales, 1981).

Sex/health education policies. The federal government until very recently has played virtually no role in sex/health education policy. Conversely, with rising rates of teen pregnancy during the 1970s and the advent of HIV/AIDS in the 1980s, the federal government came under pressure to address these matters as critical public health issues. However, the federal government has not chosen to support or even specifically address sex/health education; their primary focus has been on disease prevention (Richards & Daley, 1994). Moreover, since federal efforts related to sex/health education fall under the rubric of "education policy" the government's efforts have revolved around technical assistance, program evaluation, information clearinghouses, and personnel training for state and local agencies. Thus, there is no real leadership in the area of sex/health education by the federal government (Richards & Daley, 1994).

Since the federal government's role in sex education is limited, individual states have taken more initiative. All states either require or recommend HIV/AIDS education. Forty-six states either recommend and/or mandate sex education (Kirby & Scales, 1981;

Richards & Daley, 1994). Unfortunately there are some points of concern regarding how states have and are presently addressing sex/health education. One of the primary concerns is the lack of states mandates or recommendations to address the problems resulting from early sexual activity of adolescents (Richard & Daley, 1994).

Furthermore, even after state recommendation, the type of sex/health education that is taught is determined by the local government, local community groups, and/or local school board. Thus, opponents of sex/health education, regardless of the benefit, may control the type of factual information, instruction materials, and teaching strategies of a more comprehensive model of sex/health education.

Federal and statewide policies are needed to provide direction while addressing the concerns of early sexual behavior of today's youth. Individuals and communities throughout the United States must (a) utilize accountability for resolution, (b) decrease the barriers toward implementation of effective sex/health education programs, and (c) develop curricula that provides accurate and informative information for the needs of today's youth.

Further research. This study has produced implications for further research in several areas:

1. adolescent attitude formation in affiliation to sexual behavior;
2. investigation into which sex/health education curriculums are particularly important in reducing risk-taking behaviors;

3. to determine whether sex education curriculums emphasizing abstinence until marriage effectively delay the onset of intercourse and whether they are more or less effective than curriculums that include both abstinence and contraception instruction;

4. to determine teacher's attitude/opinion toward providing sex education instruction. Barindis (1990) points out that many teachers often feel external pressure from parents, the community, and the school administration in association to the level of information they can impart to the student on this topic.

Conclusions

As public awareness of the problem of adolescent pregnancy and its personal and social costs increases, so does the debate about methods of addressing the problem. Many believe that delaying the initiation of sexual activity is the only acceptable method and that strategies should include only programs that emphasize abstinence. Others argue that additional methods should be developed to reach young people who are sexually active and address decision-making skills in association to the use of contraception. Obviously, adolescents are functioning within a complex environment which exposes them to many different theories of sex/health education which in turn effects their knowledge, attitude, and sexual behavior. Thus, policy and program development is necessary in order to reduce the risk-taking behavior of today's youth.

This research represents an undertaking towards identification of those factors which are predictors of adolescent sexual behavior. This identification could lead to the development of change strategies influencing the responsible behaviors and potential reduction of teen pregnancy. The validation of this potential benefit may lay the ground work for additional studies in public and private educational institutions.

APPENDICES

REFERENCES

Bandura, A. (1986). Social foundations of thought & action. New Jersey: Prentice-Hall.

Bandura, A., & Walters, R. (1963). Social learning and personality development. New York: Holt, Rinehart & Winston, Inc.

Brindis, C. (1990). Reducing Adolescent Pregnancy. Family Life Educator. pp. 3-57, Fall.

Craft, J. (1990). Statistics And data analysis for social workers. Illinois: Peacock Publishers.

Dacey, J., & Travers, J. (1991). Human development across the lifespan. Iowa:Wm. C. Brown.

Guralnik, D. (Ed.). (1982). Webster's new world dictionary. (2nd College Ed.). New York: Simon & Schuster.

Hajcak, F., & Garwood, P. (1988). Quick-fix sex: Pseudosexuality in adolescents. Adolescence, 23, 755-760.

Hofferth, S. (1991). Programs for high rish adolescents: What works? Evaluation and Program Planning. 14, 3-16.

Inhelder, B & Piaget, J. (1958). The growth of logical thinking. France: Basic Books, Inc.

Jorgensen, S. (1991). Project taking charge: An evaluation of an adolescent pregnancy prevention program. Family Relations. 40, 373-380.

Jorgensen, S., Potts, V., & Camp, B. (1993). Project taking charge: Six-month follow-up of a pregnancy prevention program for early adolescents. Family Relations. 42, 401-406.

Kaplan, H., Sadock, B., & Grebb, J. (1994). Synopsis of psychiatry: Behavioral Sciences Clinical Psychiatry (7th ed.). Maryland: Williams & Wikins.

Ketterlinus, R., Lamb, M., & Nitz, K. (1991). Developmental and ecological sources of stress among adolescent parents. Family Relations. 40, 435-441.

Kirby, D., & Scales, P. (1981). An analysis of state guidelines for sex education Instruction public schools. Family Relations.30, 229-237.

Kirby, D., Varth, R., Leland, N., & Fetro, J. (1991). Reducing the risk: Impact of a new curriculum on sexual risk-taking. Family Planning Perspectives. 23, 253-263.

Kirby, D., Short, L., Collins, J., Rugg, D., Kolbe, L., Howard, M., Miller, B., Sonenstein, F., & Zabin, L. (1994). School-based programs to reduce sexual risk behaviors: A review of effectiveness. Public Health Report, 109, 339-360.

Mellanby, A., Phelps, F. & Tripp, J. (1992). Sex education: More is not enough. Journal of Adolescence. 15, 449-466.

Minahan, A. (Ed.) Encyclopedia of social work (18th ed., Vols. 1-2). Maryland: NASW.

Newman, B & Newman, P. (1995). Development through life. New York: Brooks/Cole Pub. Co.

Olsen, J. Weed, S., Nielsen, A., & Jensen, L. (1992). Students evaluation of sex education programs advocating abstinence. Adolescence. 27, 369-380.

Phillips, S. (1994). Asking the sexitive question: The ethics of survey research and teen sex. IRB, 16, 1-7.

Reis, J. (1991). Cost and benefits of deferred teenage births. Evaluation and Program Planning.14, 63-73.

Richares, C., & Daley, D. (1994). Politics and policy: Behind sex education in the United States. Family Life Educator. 11-17.

Roosa, M. (1991). Adolescent pregnancy programs collection: An introduction. Family Relations, 40, 370-372.

Rubenstein, E. (1991). An overview of adolescent development, behavior, and clinical intervention. Families In Society, 220-225.

Steitz, J. & Munn, J. (1993). Adolescents and aids: Knowledge and attitude. Adolescence. 28, 609-619.

Sullivan, H. (1953). The interpersonal theory of psychiatry. New York: W. W. Birtib & Co.

Whatley, M. & Trudell, B. (1993). Teen-aid: Another problematic sexuality curriculum. Journal of Sex Education and Therapy, 19, 251-271.

Whatley, M. & Trudell, B. (1991). Sex respect: A problematic public school sexuality curriculum. Journal of Sex Education & Therapy, 17, 125-140.

Zabin, L., Hirsch, M., Smith, E., Streett, R., & Hardy, J. (1986). Adolescent pregnancy-prevention program. A model for research and evaluation. Journal of Adolescent Health Care, 7, 77-78.

Zastrow, C., & Kirst-Ashman, K. (1993). Understanding human behavior and the social environment. Chicago: Nelson-Hall.

LOMA LINDA UNIVERSITY

Office of Sponsored Research

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FAX: (909) 478-4131

March 7, 1995

Beverly Buckles, DSW
Department of Social Work
Graduate School
Loma Linda University

Dear Dr. Buckles:

LLU Project ID#95032

The protocol and consent form for the study entitled "Examination of Knowledge and Attitudes About Human Sexuality as Correlates to Sexual Behavior" was reviewed by the Institutional Review Board of Loma Linda University at its regular meeting held February 8, 1995.

The actions of the review are as follows:

- The subjects are at minimum risk.
- The protocol is approved from February 8, 1995 to February 7, 1996.

We are enclosing for your information a copy of an article which identifies some of the concerns and issues that IRBs have been addressing when reviewing studies such as this one.

The enclosed consent form has been validated with the IRB approval stamp. This now becomes your official consent form for the dates specified and should be used as a master copy for enrolling subjects.

If there are any modifications to the proposed research protocol, please notify the Board in writing. If you have any questions, please feel free to contact us.

You are required to provide a progress report on this study in one year indicating the number of subjects enrolled.

Sincerely yours.

C. William Saukel
Chairman
Institutional Review Board

/l
Encl.

MORENO VALLEY UNIFIED SCHOOL DISTRICT

BUSINESS ADDRESS: 25634 Alessandro Boulevard, Moreno Valley, CA 92553
MAILING ADDRESS: 13911 Perris Boulevard, Moreno Valley, CA 92553

TELEPHONE: (909) 485-5600

January 9, 1995

Dear Ms. Waymire:

You have requested and been granted permission to conduct a research study within the high schools of Moreno Valley Unified. Three school will participate: Canyon Springs, Moreno Valley, and Valley View. You will work with a teacher and the 150 students in five classes at each school. You will be responsible for presenting the study to students within each of the fifteen classes. These students must return signed parent permission slips in order to participate in the study.

I will assist you and the school in arranging dates and times for the conduct of your study. Please contact this office if you have any questions.

Sincerely,

Dan Reed

Dan Reed

Coordinator, Research and Evaluation

MORENO VALLEY UNIFIED SCHOOL DISTRICT
Department of Research and Evaluation

Request for Approval of Research

Applicant Diane Waymire Home Address
2278 E. Devonshire #D Hemet, CA Phone (909) 658-5647
University Status Graduate Student Department Social Work
Campus Address Loma Linda University, Graduate School Phone (909) 478-8550
Title and Purpose of Study Sexual/Health Education and its Correlates to Sexual Behavior

To determine if sex/health education influences decision making regarding the sexual activities of adolescents.

Design of Study: (Procedures, methods, techniques, instruments. Copies of any tests, questionnaires, etc., other than commonly used instruments must be submitted with this application.)

The school district will identify a particular teacher with a student population that is representative of the age range criteria of 16 to 18, at each high school site, for participation in the study. Only students with parental consent may participate in the study. Participants will be given a self-administered questionnaire to complete. I will be present to answer questions and/or give instruction for each group of participants.

Approximate total individual pupil time involved, length of sessions, spacing of sessions, amount of time during regular school hours or after school.

Student involvement will be 45 minutes in length during regular school hours for one session.

Data needed from school records.

None

Describe other special needs of study (equipment, etc.)

It will be necessary for each school site to provide a special area for research to be conducted.

Approximate beginning date of data collection: February

Approximate ending date February

Date anticipated that abstracts/prints of research will be provided to the District (copies of all studies are required).

August

Copies to district:

Benefits to district: Benefit to district will be (a) review of health education program provided to student population, and (b) insight into student sexual behavior.

Signature of Researcher

Students complete the following:

Faculty Sponsor _____ Phone _____

Plans for use of data (thesis, dissertation, etc.) _____

Signature of Faculty Sponsor _____

(The above signatures indicates that the Faculty Sponsor or Instructor of the course for which the study is conducted, is familiar with the project and has approved the plan.)

LOMA LINDA UNIVERSITY

Child's Permission to Participate in Research: "Examination of Knowledge and Attitude About Human Sexuality as Correlates to Adolescent Sexual Behavior."

Informed Consent

Dear Parents:

I am conducting a study for my Master's of Social Work degree at Loma Linda University. Your child's class is invited to participate simply because they are all in the age range of 16 through 19 years old. This research study asks questions about knowledge, attitudes and sexual behavior.

If you agree that your child may participate he/she will be given a survey which will take about 45 minutes to complete. (A sample of questions from this survey has been enclosed for your review.) Those who have permission to participate will be released from class to complete the survey in a classroom assigned for this purpose. I will be at this separate location to give instructions. Once your child has completed the survey, I will give him\her an envelope in which to place the survey form. The envelope is sealed by your child and then returned to me. As there is no identifying information about your child on the survey or the envelope, your child's answers will be kept strictly anonymous. Your child's participation is voluntary which means that he/she can stop answering questions on the survey at any time.

There are no known risks or specific benefits to your child as a participant. There is no cost to you if you agree to have your child participate in this study. The results of this study will provide information in review of sex/health education in Moreno Valley Unified School District.

The complete instrument is available for inspection at the district office with Mr. Dan Reed. If you have any questions regarding this study, please contact the Department of Social Work, Beverly Buckles, DSW, Loma Linda University (478-8548) or Mr. Dan Reed, Department of Research and Evaluation, Moreno Valley Unified School District (485-5600, ext. 2235).

If you have complaints about this study, you may contact Jean Fankhanel, an impartial third party not associated with this study at Loma Linda University Medical Center, 824-4647.

Thank you for your time and cooperation

Sincerely,

Diane Waymire, MSW Candidate
Department of Social Work
Graduate School
Loma Linda University

LOMA LINDA UNIVERSITY
INSTITUTIONAL REVIEW BOARD
APPROVED 3/7/95 VOID AFTER 3/6/96
#95031 CHAIR

Page 1-Informed Consent

I give permission for _____ to participate in this study and have kept a copy of this consent form for my records.

I understand that there is no cost to me for allowing my child to participate in this study. _____(Initial)

I understand that my child's grades and attendance record will not be affected in any way as a result of his/her participation. _____(Initial)

_____ _____

Signature of Parent Date

Please sign and return one copy of this two page letter by _____, in the self-addressed stamped envelope provided. Retain the second signed copy for your records.

LOMA LINDA UNIVERSITY
INSTITUTIONAL REVIEW BOARD
APPROVED 3/7/95 DATE AFTER 3/6/96
#95032 CHAIR

Page 2-Informed Consent

LOMA LINDA UNIVERSITY

Students Permission to Participate in Research: "Examination of Knowledge and Attitudes About Human Sexuality as Correlates to Adolescent Sexual Behavior."

Informed Consent

Dear Student:

I am conducting a study for my Master's of Social Work degree at Loma Linda University. Your class has been invited to participate simply because you are all in the age range of 16 through 19 years old. This research study asks questions about knowledge, attitudes and sexual behavior.

If you and your parents agree that you may participate you will be given a survey which will take about 45 minutes to complete. Those who have permission to participate will be released from class to complete the survey in a classroom assigned for this purpose. I will be at this separate location to give you instructions. Once you have completed the survey I will give you an envelope in which to place the survey form. The envelope is sealed by you and then returned to me. As there is no identifying information about you on the survey or the envelope your answers will be kept strictly anonymous. Your participation is voluntary which means that you can stop answering questions on the survey at any time.

There are no known risks or specific benefits to you as a participant. There is no cost to you to participate in this study. The results of this study will provide information in review of sex/health education in Moreno Valley Unified School District.

Thank you for thinking about helping me.

Sincerely,

Diane Waymire, MSW Candidate
Department of Social Work
Graduate School
Loma Linda University

(Please initial)

I am willing to participate in this study and have kept a copy of this consent form. _____

I understand that there is no cost to me or my parents for participating in this study. _____

I understand that my grades or attendance record will not be affected in any way as a result of my participation. _____

_____ _____

Signature of Student Participant Date

Please give one signed copy of this letter to your parents to mail to me by _____ in the enclosed envelope. You should keep the other signed copy for future reference or give it to your parents.

LOMA LINDA UNIVERSITY
INSTITUTIONAL REVIEW BOARD
APPROVED 3/7/95 VOID AFTER 3/6/96
#95032 CHAIR _____, M.D.

SAMPLE QUESTIONS

KNOWLEDGE TEST QUESTIONS (20 questions in this section.)

For each statement below, mark an (X) beside:
T if you know the statement is TRUE,
F if you know it is FALSE, or
DK if you DON'T KNOW or aren't sure whether the statement is true or false.

1. ___ T ___ F ___ DK — A teenage girl cannot get pregnant the first time she has sex.

2. ___ T ___ F ___ DK — Teenage boys who have sex many times without using birth control will probably get a girl pregnant.

3. ___ T ___ F ___ DK — A teenage girl can get pregnant any time during the month.

ATTITUDE AND VALUE SCALES (45 questions in this section)

Circle: 1 = if you strongly disagree with the statement.
2 = if you somewhat disagree with the statement.
3 = if you felt neutral about the statement.
4 = if you somewhat agree with the statement.
5 = if you strongly agree with the statement.

	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
1. I have a good understanding of my own sexual feelings and reactions.	1	2	3	4	5
2. Unmarried people should not have sex.	1	2	3	4	5
3. People should not pressure others to have sex with them.	1	2	3	4	5
4. I would much rather make the effort to use birth control than take chances.	1	2	3	4	5

BEHAVIOR QUESTIONS (25 questions in this section)

1. Have you ever had sexual intercourse (made love, gone all the way)?
   __a. Yes
   __b. No

2. If sexually active please check below ALL the reasons why you have used birth control protection.
   __a. I did not want to get pregnant/get my girlfriend pregnant.
   __b. I did not want to get a disease.
   __c. I did not want to get AIDS.
   __d. My friends use protection and told me to use it.
   __e. A friend gave me protection to use.
   __f. My girl/boyfriend wanted us to use protection.
   __g. My mother told me to use protection.
   __h. My father told me to use protection.
   __i. Someone at a clinic told me to use protection.
   __j. I knew that I was going to have sex and I was prepared.
   __k. Other reason _____

INVESTIGATOR'S SCRIPT

Thank you for agreeing to assist me with data collection for my MSW thesis. The title of my study is "Examination of Knowledge and Attitudes About Human Sexuality as Correlates to Adolescent Sexual Behavior."

Because your parents have given permission and you have agreed to participate, I am going to review a few things with you before you begin answering questions on the survey.

1) Your class has been invited to participate simply because you are all in the age range of 16 through 19 years old. This research study asks questions about knowledge, attitudes and sexual behavior. The results of this study will provide information in review of sex/health education in Moreno Valley Unified School District.

2) There are no known risks or specific benefits to you as a participant. There is no cost to you to participate in this study. The results of this study will help to teachers to understand the information that should be included in health/sex education classes for students your age.

3) Your participation is voluntary which means that you can stop answering questions on the survey at any time. You will take about 45 minutes to complete the questionnaire. Answer each question to the best of your ability. Once you have completed the survey I will give you an envelope in which to place the survey form. The envelope is sealed by you and then returned to me. As there is no identifying information about you on the survey or the envelope your answers will be kept strictly anonymous.

Again, thank you for helping me.

ETR KNOWLEDGE TEST

For each statement below, mark an (X) beside:
T if you know the statement is TRUE,
F if you know it is FALSE, or
DK if you DON'T KNOW or aren't sure whether the statement is true or false.

1. ___ T ___ F ___ DK — A teenage girl cannot get pregnant the first time she has sex.

2. ___ T ___ F ___ DK — Teenagers who use withdrawal (pulling the penis out before the guy comes) do not have to worry about pregnancy.

3. ___ T ___ F ___ DK — The birth control pill is as effective as abstinence (not having sex) in preventing pregnancy.

4. ___ T ___ F ___ DK — Latex condoms are better than animal-skin condoms for preventing sexually transmitted diseases including AIDS.

5. ___ T ___ F ___ DK — The best way to use a condom (rubber) is to leave some space at the tip for the sperm.

6. ___ T ___ F ___ DK — Teenage boys who have sex many times without using birth control will probably get a girl pregnant.

7. ___ T ___ F ___ DK — The correct way to use a contraceptive sponge is to put it in the vagina no more than 24 hours before having sex.

8. ___ T ___ F ___ DK — To use a condom (rubber) correctly, a person must hold it on the penis while pulling out of the vagina.

9. ___ T ___ F ___ DK — The contraceptive sponge will not work if you have sex more than once.

10. ___ T
___ F
___ DK
A girl can prevent pregnancy by douching (washing out the vagina) immediately after having sex.

11. ___ T
___ F
___ DK
Using a condom (rubber) whenever you have sex with someone with an STD will probably protect you from getting the disease.

12. ___ T
___ F
___ DK
It is legal for teenagers to buy contraceptive foam, cream, jelly, sponges, or condoms at a drugstore without a prescription.

13. ___ T
___ F
___ DK
A teenage girl can get pregnant any time during the month.

14. ___ T
___ F
___ DK
Teenagers can et birth control pills from family planning clinics and doctors without parent's knowledge.

15. ___ T
___ F
___ DK
Contraceptive foam, jelly, or cream can be put in the vagina many hours before you have sex.

16. ___ T
___ F
___ DK
Using condoms (rubbers) is the most effective way of all methods to avoid pregnancy and STDs.

17. ___ T
___ F
___ DK
If a girl forgets to take her birth control pill for three days she is still protected from getting pregnant.

18. ___ T
___ F
___ DK
Contraceptive foam, jelly, cream, and sponges provides some protection against some STDs.

19. ___ T
___ F
___ DK
A girl is protected from becoming pregnant as soon as she starts taking the pill.

20. ___ T
___ F
___ DK
The condom (rubber) is more effective than the contraceptive sponge at preventing STDs.

ATTITUDE AND VALUE SCALES

The questions below are not a test of how much you know. We are interested in what you believe about some important issues. Please rate each statement according to how much you agree or disagree with it. Everyone will have different answers. Your answer is correct if it describes you very well.

Circle: 1 = if you **strongly disagree** with the statement.
2 = if you **somewhat disagree** with the statement.
3 = if you fell **neutral** about the statement.
4 = if you **somewhat agree** with the statement.
5 = if you **strongly agree** with the statement.

	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
1. I don't know what I want out of life.	1	2	3	4	5
2. I have a good idea of where I am headed in the future.	1	2	3	4	5
3. I know what I want out of life.	1	2	3	4	5
4. I have a clear picture of what I would like to be doing in the future.	1	2	3	4	5
5. I know what my long range goals are.	1	2	3	4	5
6. I do not know much about my own physical and emotional sexual response.	1	2	3	4	5
7. I have a good understanding of my own sexual feelings and reactions.	1	2	3	4	5
8. I know how I react in different sexual situations.	1	2	3	4	5
9. I am confused about my reactions in sexual situations.	1	2	3	4	5
10. When I'm in a sexual situation I get confused about my feelings.	1	2	3	4	5
11. Sexual relationships create more problems than they are worth.	1	2	3	4	5
12. Sexual relationships make life too difficult.	1	2	3	4	5
13. A sexual relationship is one of the best things a person can have.	1	2	3	4	5
14. A sexual relationship only brings trouble to people.	1	2	3	4	5
15. Sexual relationships provide an important and fulfilling part of life.	1	2	3	4	5
16. Unmarried people should not have sex.	1	2	3	4	5
17. People should not have sex before marriage.	1	2	3	4	5
18. It is all right for two people to have sex before marriage.	1	2	3	4	5
19. people should have sex only if they are married.	1	2	3	4	5
20. It is all right for two people to have sex before marriage.	1	2	3	4	5

21. No one should pressure another person into sexual activity.	1	2	3	4	5
22. It is all right to pressure someone into sexual activity.	1	2	3	4	5
23. People should not pressure others to have sex with them.	1	2	3	4	5
24. It is all right to demand sex from a girlfriend or boyfriend.	1	2	3	4	5
25. Overall I am satisfied with myself.	1	2	3	4	5
26. I feel I do not have much to be proud of.	1	2	3	4	5
27. At times I think I am no good at all.	1	2	3	4	5
28. I feel that I have many good personal qualities.	1	2	3	4	5
29. I wish I had more respect for myself.	1	2	3	4	5
30. Getting pregnant (getting my girlfriend pregnant) would really mess up my life.	1	2	3	4	5
31. If I got (my girlfriend) pregnant now my life would be a lot harder.	1	2	3	4	5
32. If I got (my girlfriend) pregnant I (we) would be in real trouble.	1	2	3	4	5
33. It would be ok with me if I got (my girlfriend) pregnant.	1	2	3	4	5
34. It would be a big problem if I got (my girlfriend) pregnant.	1	2	3	4	5
35. I would much rather make the effort to use birth control than take chances.	1	2	3	4	5
36. If I have sex it is extremely important that my partner and I use birth control.	1	2	3	4	5
37. If I have sex using birth control is more trouble than it is worth.	1	2	3	4	5
38. If I have sex using birth control is worth the effort.	1	2	3	4	5
39. If I have sex using birth control is too much of a hassle.	1	2	3	4	5
40. I am very happy with my friendships.	1	2	3	4	5
41. I don't have enough friendships.	1	2	3	4	5
42. My friendships are not as good as I would like them to be.	1	2	3	4	5
43. I wish my friendships were better.	1	2	3	4	5
44. I feel good having as many friends as I have.	1	2	3	4	5
45. I try hard to live my life according to may religious beliefs.	1	2	3	4	5

BEHAVIOR QUESTIONS

INSTRUCTIONS: For each statement below, mark an (X) next to each correct response.

Sexual intercourse means having sex (that is, putting a male's penis in a female's vagina). Sometimes people call this "making love" or "going all the way".

1. Have you ever had sexual intercourse (made love, gone all the way)?

__a. Yes
If YES, do not answer # 2.
Go to #3.

__b. No
If NO, go to #2.
Do not answer #3 *through* #25.

2. If you have NEVER had sexual intercourse (made love, done it) please CHECK ALL the reasons why you have not.

__a. I think it is wrong to have sex before marriage.
__b. My church says it is wrong to have sex before marriage.
__c. I am not ready to have sex.
__d. I am waiting for the right person to have sex with.
__e. I am waiting until I get married.
__f. I am waiting until I am older.
__g. I do not want to get pregnant or get someone pregnant.
__h. I do not want to get a disease.
__i. I do not want to get AIDS.
__j. My friends think it is wrong to have sex at our age.
__k. My parents would be upset if I had sex and they found out.
__l. I would be embarrassed to get birth control protection to use.
__m. I do not have a boy/girlfriend to have sex with.
__n. I do not know where to get birth control protection to use.
__o. I would be embarrassed to use birth control protection.
__p. I do not have enough money to buy birth control protection.
__q. I think using birth control protection would make me sick or mess up my body.
__r. Other reason _____

DO NOT ANSWER # 3 *THROUGH* #25.

3. How old were you the first time you had sexual intercourse?

___10 or younger
___11 years old
___12 years old
___13 years old
___14 years old
___15 years old
___16 years old
___17 years old
___18 years old
___19 or older

4. Think about the ***first time*** you had sexual intercourse. Did you or your partner use or do something to stop a pregnancy from happening?

___a. Yes
If YES,
go to #5

___b. No
If NO, do not answer #5.
Go to #6.

5. What did you or your partner use or do to stop a pregnancy from happening the ***first time*** you had sexual intercourse?

___a. Used birth control pills with a condom (rubber, safe)
___b. Used birth control pills alone
___c. Used a condom (rubber, safe) alone
___d. Had sex during the safe time of the month (rhythm)
___e. Pulled out before sperm came out (withdrawal)
___f. Other (please explain_____)

6. During the ***last four weeks***, how many times have you had sexual intercourse?

___ 0 times
___ 1-2 times
___ 3-5 times
___ 6-10 times
___ more than 10 times

7. When was the ***last time*** you had sex?

___a. During the last month
___b. 2-6 months ago
___c. 7-12 months ago
___d. Over 12 months ago
___e. I don't remember

8. Think about the *last time* you had sexual intercourse. Did you or your partner use or do something to stop a pregnancy from happening?

__a. yes
IF YES, *go to #9.*

__b. No
If NO, do not answer #9. *Go to #10.*

9. What did you or your partner use or do to stop a pregnancy from happening the *last time* you had sexual intercourse?

__a. Used birth control pills with a condom (rubber, safe)
__b. Used birth control pills alone
__c. Used a condom (rubber, safe) alone
__d. Had sex during the safe time of the month (rhythm)
__e. Pulled out before sperm came out (withdrawal)
__f. Other (please explain_____)

10. Thinking back over *all the times* you have had sexual intercourse *in the last year* how often have you or your partner(s) used or done something to stop a pregnancy from happening?

__a. Never (0%)
__b. Some of the time (1% - 40%)
__c. About half the time (41% - 60%)
__d. Most of the time (61% - 99%)
__e. Every time (100%)

11. Please check below ALL the reasons why you have used birth control protection.

__a. I did not want to get pregnant/get my girlfriend pregnant.
__b. I did not want to get a disease.
__c. I did not want to get AIDS.
__d. My friends use protection and told me to use it.
__e. A friend gave me protection to use.
__f. My girl/boyfriend wanted us to use protection.
__g. My mother told me to use protection.
__h. My father told me to use protection.
__i. Someone at a clinic told me to use protection.
__j. I knew that I was going to have sex and I was prepared.
__k. Other reason _____

12. Have you *ever* had sex *without* using birth control protection?
__a. Yes
__b. No

13. Have you ever had sexual intercourse when you or your partner were using drugs and/or alcohol?

__a. Yes
__b. No

14. Please CHECK below ALL the reasons why you did not use protection.

__a. I didn't know about birth control protection.
__b. I didn't care if I got pregnant/got my partner pregnant.
__c. I wanted to get pregnant/get my partner pregnant.
__d. I just didn't think I would get pregnant/get my partner pregnant.
__e. I thought I was too young/my partner was too young to get pregnant.
__f. I didn't think I had sex often enough to get pregnant /to get my partner pregnant.
__g. I didn't expect to have sex, it was not planned.
__h. I thought it was wrong to use birth control protection.
__i. I thought it was wrong to plan for sex.
__j. I thought birth control was my partner's responsibility.
__k. My partner didn't want me to use birth control.
__l. I was waiting until I was closer to y boyfriend/girlfriend.
__m. I thought my parents had to be told.
__n. I was afraid my family would find out if I used birth control protection.
__o. I thought birth control protection was dangerous to use.
__p. I thought you weren't allowed to get birth control until you were older.
__q. I thought birth control protection cost too much.
__r. I didn't know where to go to get birth control protection.
__s. It was too hard to get all the way to a clinic to get birth control protection.
__t. I felt uncomfortable going to a strange clinic.
__u. I was afraid to be examined.
__v. I thought birth control protection would reduce the pleasure of sex.
__w. I thought birth control protection would be messy to use.
__x. I just didn't get around to it.
__y. Other (Please explain. _____)

FOR FEMALES ONLY–MALES GO TO #19

15. Have you ever been pregnant?

__a. Yes
If YES,
go to #16

__b. No
If NO, do not answer #16 *through* #18.
Go to #23.

16. How old were you when you had your *first* pregnancy?

___14 or younger
___15 years old
___16 years old
___17 years old
___18 years old
___19 or older

17. Are you pregnant right now?

___a. Yes
___b. No

18. Have you ever had a baby?

___a. Yes
Do not answer #19 *through* #22.
Go to #23.

___b. No
Do not answer #19 *through* #22.
Go to #23.

FOR MALES ONLY -- FEMALES TO #23

19. Have you ever gotten someone pregnant?

___a. Yes
If YES,
go to #20

___b. No
If NO, do not answer
#20 *through* #22.
Go to #23.

___c. I don't know.
Do not answer #20 *through* #22.
Go to #23.

20. How old were *you* when you *first* got someone pregnant?

___14 or younger
___15 years old
___16 years old
___17 years old
___18 years old
___19 or older

21. Is your partner pregnant right now?

___a. Yes
___b. No
___c. I don't know.

22. Did your partner have a baby?

___a. Yes
___b. No
___c. I don't know.

FOR MALES AND FEMALES

23. With how many people have you had sexual intercourse in your life?

___ 0 people
___ 1 person
___ 2 people
___ 3 people
___ 4-5 people
___ 6-7 people
___ 8-10 people
___ more than 10 people

24. With how many people have you had sexual intercourse in the last three months?

___ 0 people
___ 1 person
___ 2 people
___ 3 people
___ 4-5 people
___ 6-7 people
___ 8-10 people
___ more than 10 people

25. Have you ever been told by a doctor or nurse that you have a sexually transmitted disease such as herpes, warts, gonorrhea, chlamydia, or HIV infection?

___a. Yes
___b. No

BACKGROUND INFORMATION

1. How old are you?

___13 or younger
___14
___15
___16
___17
___18
___19 or older

2. What is your sex?

___ Female
___ Male

3. How do you describe yourself?

___ White
___ Black
___ Hispanic
___ Asian or Pacific Islander
___ American Indian or Alaskan Native
___ Other

4. What grade are you in?

___ 9th grade
___ 10th grade
___ 11th grade
___ 12th grade

5. Whom do you live with now? (MARK ALL THAT APPLY.)

___ Mother
___ Father
___ Stepmother
___ Stepfather
___ Other family members
___ Grandmother
___ Grandfather
___ Other (not family)

6. Educational achievement of father? (MARK HIGHEST LEVEL)

___ Did not graduate from high school
___ Graduated from high school
___ Went to vocational school or got other training
___ Started college
___ Graduated from college
___ Went to graduate school
___ I don't know

7. Educational achievement of mother? (MARK HIGHEST LEVEL)

___ Did not graduate from high school
___ Graduated from high school
___ Went to vocational school or got other training
___ Started college
___ Graduated from college
___ Went to graduate school
___ I don't know

8. What is your father's occupation?

___ Business man
___ Government
___ Self-employed
___ Retail
___ Manual labor
___ Other

9. What is your mother's occupation?

____ Business woman	____ Retail
____ Government	____ Office work
____ Self-employed	____ Other

10. Since the beginning of the 6th grade, have you received instruction in school on:

	Yes	No	Don't Remember
a. health education	____	____	____
b. selecting health products and services?	____	____	____
c. nutrition and choosing healthy foods?	____	____	____
d. effects of drugs and alcohol?	____	____	____
e. abstinence (delaying sexual activity)?	____	____	____
f. contraception (methods of birth control)?	____	____	____
g. HIV/AIDS prevention?	____	____	____
h. STD (Sexually Transmitted Diseases)?	____	____	____
i. Suicide prevention?	____	____	____

11. Have you been provided with sex education (MARK ALL THAT APPLY)?

____ By talking with my parents.
____ By reading materials my parents provided.
____ Through religious instruction by parents.
____ Through religious instruction by religious organization.
____ By talking with other family members.
____ By reading material other family members provided.
____ By talking with friends.
____ By reading material.
____ By an adult other than teacher, relative, or religious leader.
____ Other _____
____ None at all.

12. I identify myself as:

____ Catholic
____ Born-again Christian
____ Jewish
____ Mormon
____ Protestant
____ Other_____
____ No Religion

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
K1	16.9636	20.2579	.0599	.5287	.5259
K10	17.3273	17.1131	.4059	.4872	.4643
K11	18.1455	19.8673	.1171	.3605	.5209
K12	18.2182	19.0626	.3007	.4109	.5003
K13	18.3091	19.9212	-.0378	.2686	.5592
K14	18.1455	19.2007	.3016	.5184	.5023
K15	18.3636	17.9024	.2133	.3938	.5039
K16	18.3273	20.1131	.0267	.3673	.5311
K17	18.3091	19.4768	.0157	.6185	.5479
K18	17.8727	18.3354	.1176	.7270	.5289
K19	17.5091	17.1805	.3231	.6056	.4782
K2	17.0000	18.8519	.4515	.5535	.4904
K20	18.2545	18.8599	.3384	.5654	.4952
K3	17.3636	18.4949	.1794	.6550	.5110
K4	18.3455	19.5266	.1595	.3624	.5156
K5	18.2545	19.8970	.0840	.4356	.5244
K6	17.8364	18.8061	.0455	.5092	.5501
K7	18.3273	18.6687	.3658	.6432	.4906
K8	18.4727	19.6242	.1346	.3218	.5185
K9	18.2727	17.6465	.2429	.4260	.4969

Reliability Coefficients 20 items

Alpha = .5264 Standardized item alpha = .6043

RELIABILITY ANALYSIS - SCALE (ALPHA)

		Mean	Std Dev	Cases
1.	K1	1.9636	.2697	55.0
2.	K10	1.6000	.8074	55.0
3.	K11	.7818	.4168	55.0
4.	K12	.7091	.4584	55.0
5.	K13	.6182	.9328	55.0
6.	K14	.7818	.4168	55.0
7.	K15	.5636	.9382	55.0
8.	K16	.6000	.4944	55.0
9.	K17	.6182	.9328	55.0
10.	K18	1.0545	1.0438	55.0
11.	K19	1.4182	.9167	55.0
12.	K2	1.9273	.3778	55.0
13.	K20	.6727	.4735	55.0
14.	K3	1.5636	.8336	55.0
15.	K4	.5818	.4978	55.0
16.	K5	.6727	.4735	55.0
17.	K6	1.0909	1.1101	55.0
18.	K7	.6000	.4944	55.0
19.	K8	.4545	.5025	55.0
20.	K9	.6545	.9471	55.0

N of Cases = 55.0

Statistics for Scale	Mean	Variance	Std Dev	N of Variables
	18.9273	20.4761	4.5251	20

Item Means	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.9464	.4545	1.9636	1.5091	4.3200	.2307

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.0709	-.4918	.4671	.9588	-.9498	.0270

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	A1	3.1636	1.5842	55.0
2.	A2	4.1273	.9823	55.0
3.	A3	4.2909	1.4488	55.0
4.	A4	3.9273	1.1362	55.0
5.	A5	3.9636	1.1541	55.0

N of Cases = 55.0

Statistics for Scale	Mean	Variance	Std Dev	N of Variables
	19.4727	22.1428	4.7056	5

Item Means	Mean	Minimum	Maximum	Range	Max/Min	Variance
	3.8945	3.1636	4.2909	1.1273	1.3563	.1878

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.4872	.0273	.7229	.6956	26.4923	.0603

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
A1	16.3091	16.5138	.2423	.2121	.8742
A2	15.3455	15.0081	.8106	.7175	.6909
A3	15.1818	14.2256	.5324	.5553	.7618
A4	15.5455	14.6970	.7065	.6151	.7068
A5	15.5091	14.1805	.7628	.6360	.6879

Reliability Coefficients 5 items

Alpha = .7873 Standardized item alpha = .8261

RELIABILITY ANALYSIS - SCALE (ALPHA)

		Mean	Std Dev	Cases
1.	A10	2.9273	1.5258	55.0
2.	A6	2.9091	1.3914	55.0
3.	A7	4.1818	1.0017	55.0
4.	A8	3.9818	1.0272	55.0
5.	A9	2.9636	1.4652	55.0

N of Cases = 55.0

Statistics for Scale	Mean	Variance	Std Dev	N of Variables
	16.9636	15.8135	3.9766	5

Item Means	Mean	Minimum	Maximum	Range	Max/Min	Variance
	3.3927	2.9091	4.1818	1.2727	1.4375	.4011

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.1808	-.2608	.6336	.8944	-2.4295	.1102

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
A10	14.0364	8.6653	.5366	.5428	.3884
A6	14.0545	9.1636	.5596	.4530	.3827
A7	12.7818	13.7293	.1456	.1960	.6083
A8	12.9818	15.4626	-.0872	.2508	.6940
A9	14.0000	8.8889	.5469	.4466	.3849

Reliability Coefficients 5 items

Alpha = .5805 Standardized item alpha = .5246

RELIABILITY ANALYSIS - SCALE (ALPHA)

		Mean	Std Dev	Cases
1.	A11	3.0909	1.2949	55.0
2.	A12	3.0182	1.2692	55.0
3.	A13	3.1455	1.1772	55.0
4.	A14	3.0000	1.1386	55.0
5.	A15	3.7455	1.1092	55.0

N of Cases = 55.0

Statistics for Scale	Mean	Variance	Std Dev	N of Variables
	16.0000	12.8519	3.5849	5

Item Means	Mean	Minimum	Maximum	Range	Max/Min	Variance
	3.2000	3.0000	3.7455	.7455	1.2485	.0964

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.1940	-.0996	.6413	.7409	-6.4364	.0568

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
A11	12.9091	8.3805	.3728	.4389	.4546
A12	12.9818	8.4626	.3763	.4836	.4527
A13	12.8545	9.7562	.2325	.2578	.5387
A14	13.0000	8.6667	.4309	.2109	.4251
A15	12.2545	10.4896	.1576	.2252	.5745

Reliability Coefficients 5 items

Alpha = .5497 Standardized item alpha = .5461

RELIABILITY ANALYSIS - SCALE (ALPHA)

		Mean	Std Dev	Cases
1.	A16	2.8727	1.4280	55.0
2.	A17	2.9455	1.4066	55.0
3.	A18	3.2545	1.4301	55.0
4.	A19	2.8909	1.4866	55.0
5.	A20	3.2727	1.4587	55.0

N of Cases = 55.0

Statistics for Scale	Mean	Variance	Std Dev	N of Variables
	15.2364	28.1468	5.3054	5

Item Means	Mean	Minimum	Maximum	Range	Max/Min	Variance
	3.0473	2.8727	3.2727	.4000	1.1392	.0398

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.4269	.1337	.9603	.8266	7.1806	.1040

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
A16	12.3636	18.1616	.6529	.6848	.7195
A17	12.2909	18.8027	.6038	.6753	.7361
A18	11.9818	19.8700	.4888	.9238	.7727
A19	12.3455	18.1562	.6141	.6077	.7318
A20	11.9636	19.8505	.4745	.9238	.7777

Reliability Coefficients 5 items

Alpha = .7881 Standardized item alpha = .7884

RELIABILITY ANALYSIS - SCALE (ALPHA)

		Mean	Std Dev	Cases
1.	A21	4.6545	.9664	55.0
2.	A22	2.7273	1.9856	55.0
3.	A23	4.5636	1.3712	55.0
4.	A24	2.8545	1.9189	55.0

N of Cases = 55.0

Statistics for Scale	Mean	Variance	Std Dev	N of Variables
	14.8000	19.9407	4.4655	4

Item Means	Mean	Minimum	Maximum	Range	Max/Min	Variance
	3.7000	2.7273	4.6545	1.9273	1.7067	1.1060

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.2684	.0323	.8594	.8271	26.5916	.0874

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
A21	10.1455	17.7562	.1535	.1196	.6970
A22	12.0727	8.2539	.6788	.7425	.3194
A23	10.2364	15.4431	.2429	.1456	.6687
A24	11.9455	8.8673	.6468	.7389	.3570

Reliability Coefficients 4 items

Alpha = .6353 Standardized item alpha = .5947

RELIABILITY ANALYSIS - SCALE (ALPHA)

		Mean	Std Dev	Cases
1.	A25	4.2909	1.0124	55.0
2.	A26	3.1636	1.6416	55.0
3.	A27	2.8909	1.5357	55.0
4.	A28	4.3273	.8618	55.0
5.	A29	3.2545	1.7870	55.0

N of Cases = 55.0

Statistics for Scale	Mean	Variance	Std Dev	N of Variables
	17.9273	17.7354	4.2113	5

Item Means	Mean	Minimum	Maximum	Range	Max/Min	Variance
	3.5855	2.8909	4.3273	1.4364	1.4969	.4544

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.1803	-.0845	.6610	.7454	-7.8258	.0535

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
A25	13.6364	15.9764	.0907	.2101	.5831
A26	14.7636	9.7394	.5174	.4573	.3313
A27	15.0364	10.8135	.4519	.4718	.3893
A28	13.6000	15.7259	.1853	.2532	.5473
A29	14.6727	10.9650	.3023	.1426	.5039

Reliability Coefficients 5 items

Alpha = .5442 Standardized item alpha = .5238

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	A30	4.2000	1.1287	55.0
2.	A31	4.7273	.5918	55.0
3.	A32	4.1273	1.0896	55.0
4.	A33	3.1636	1.7188	55.0
5.	A34	4.0364	1.3603	55.0

N of Cases = 55.0

Statistics for Scale	Mean	Variance	Std Dev	N of Variables
	20.2545	12.6377	3.5550	5

Item Means	Mean	Minimum	Maximum	Range	Max/Min	Variance
	4.0509	3.1636	4.7273	1.5636	1.4943	.3182

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.2645	-.1374	.6005	.7379	-4.3713	.0865

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
A30	16.0545	8.0896	.5099	.4303	.2880
A31	15.5273	10.3279	.5152	.4910	.3953
A32	16.1273	8.4835	.4675	.3980	.3229
A33	17.0909	10.6768	-.0884	.0277	.7511
A34	16.2182	7.9515	.3696	.2765	.3665

Reliability Coefficients 5 items

Alpha = .4967 Standardized item alpha = .6427

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	A35	4.4364	.9768	55.0
2.	A36	4.3273	1.0193	55.0
3.	A37	3.0364	1.6551	55.0
4.	A38	4.3636	1.2818	55.0
5.	A39	3.1818	2.0646	55.0

N of Cases = 55.0

Statistics for Scale	Mean	Variance	Std Dev	N of Variables
	19.3455	18.8229	4.3385	5

Item Means	Mean	Minimum	Maximum	Range	Max/Min	Variance
	3.8691	3.0364	4.4364	1.4000	1.4611	.4855

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.2424	-.0674	.7652	.8327	-11.3485	.0769

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
A35	14.9091	14.9731	.3830	.5988	.4710
A36	15.0182	14.0923	.4824	.6223	.4251
A37	16.3091	12.2916	.3267	.2737	.4765
A38	14.9818	15.2404	.1938	.2593	.5464
A39	16.1636	10.5098	.3026	.2937	.5245

Reliability Coefficients 5 items

Alpha = .5435 Standardized item alpha = .6154

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	A40	4.4545	.8124	55.0
2.	A41	3.1091	1.4360	55.0
3.	A42	2.9818	1.4968	55.0
4.	A43	3.0182	1.4465	55.0
5.	A44	4.0909	1.2213	55.0

N of Cases = 55.0

Statistics for Scale	Mean	Variance	Std Dev	N of Variables
	17.6545	15.5636	3.9451	5

Item Means	Mean	Minimum	Maximum	Range	Max/Min	Variance
	3.5309	2.9818	4.4545	1.4727	1.4939	.4773

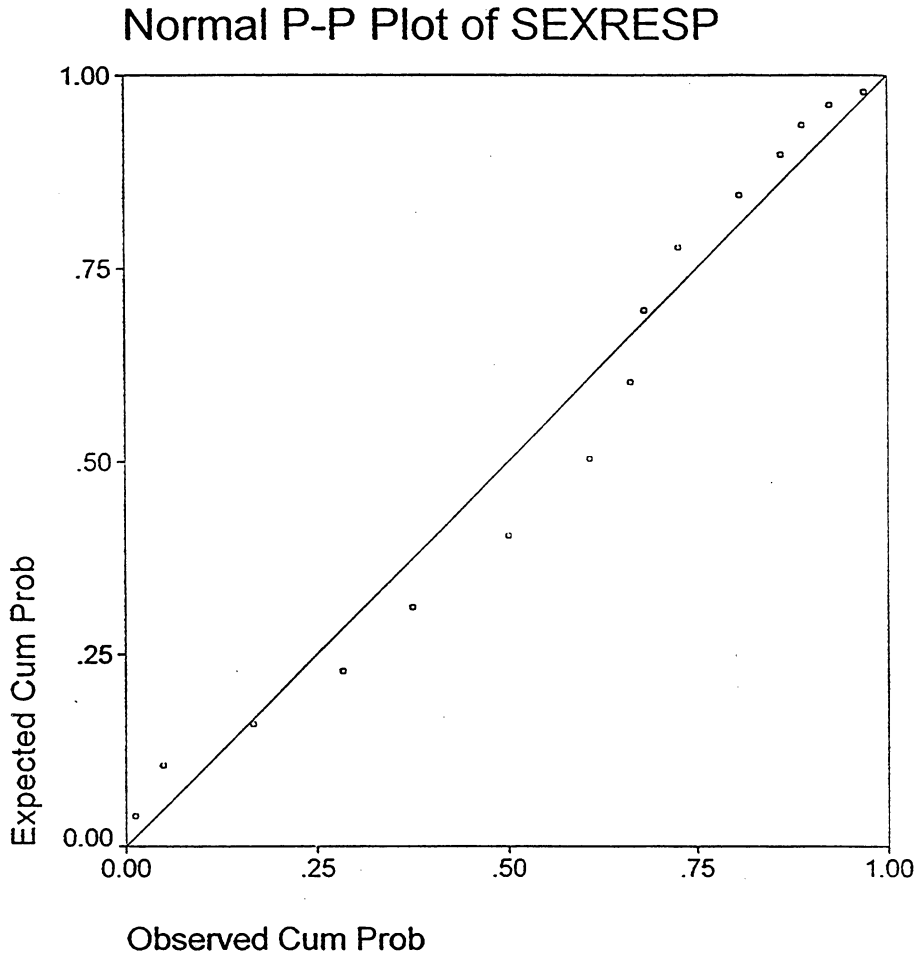
Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.1598	-.2020	.7272	.9292	-3.5991	.1010

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
A40	13.2000	15.3111	-.0641	.1387	.6466
A41	14.5455	9.5488	.4454	.4401	.4279
A42	14.6727	7.5946	.6944	.6767	.2263
A43	14.6364	9.1246	.4974	.5473	.3903
A44	13.5636	13.6579	.0459	.0720	.6446

Reliability Coefficients 5 items

Alpha = .5636 Standardized item alpha = .4874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.50
.25
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Expected Cum Prob
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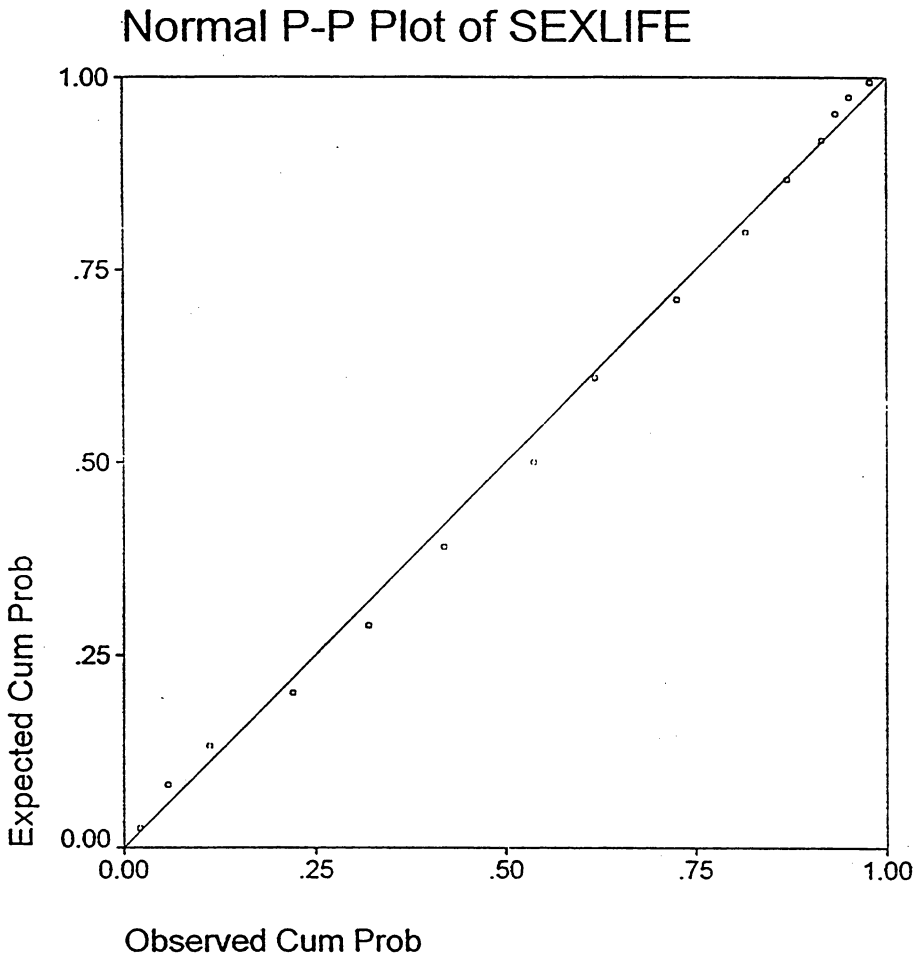
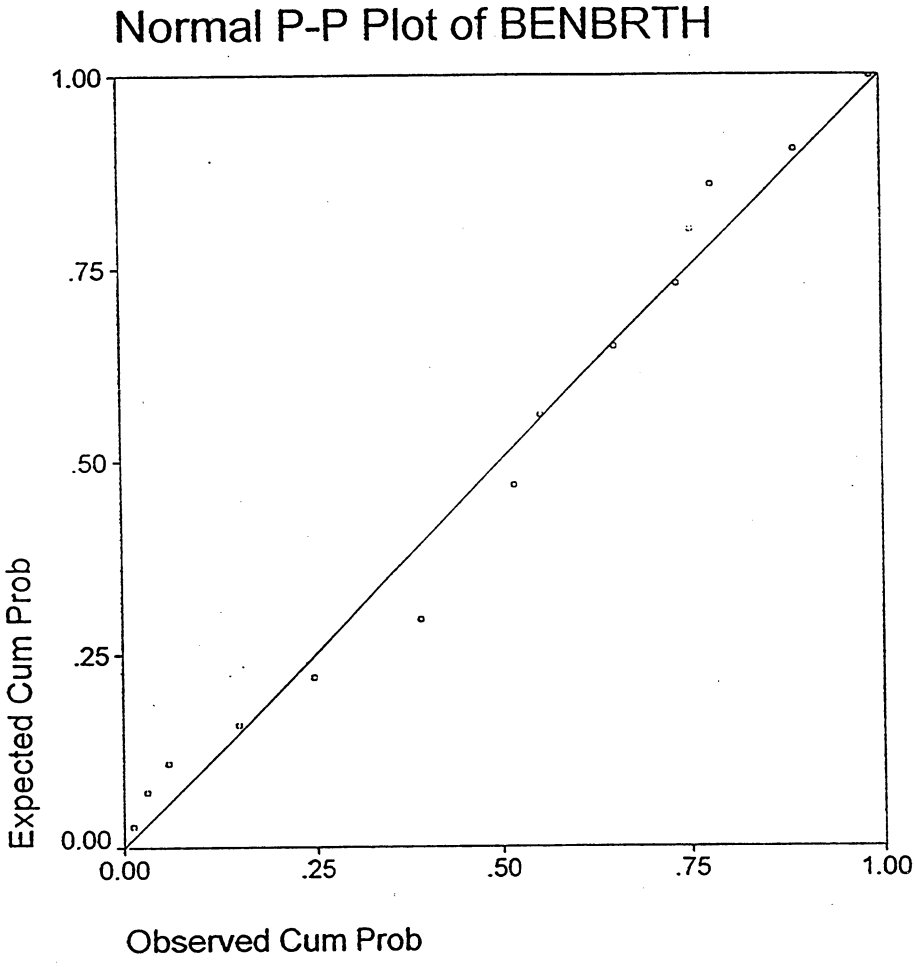
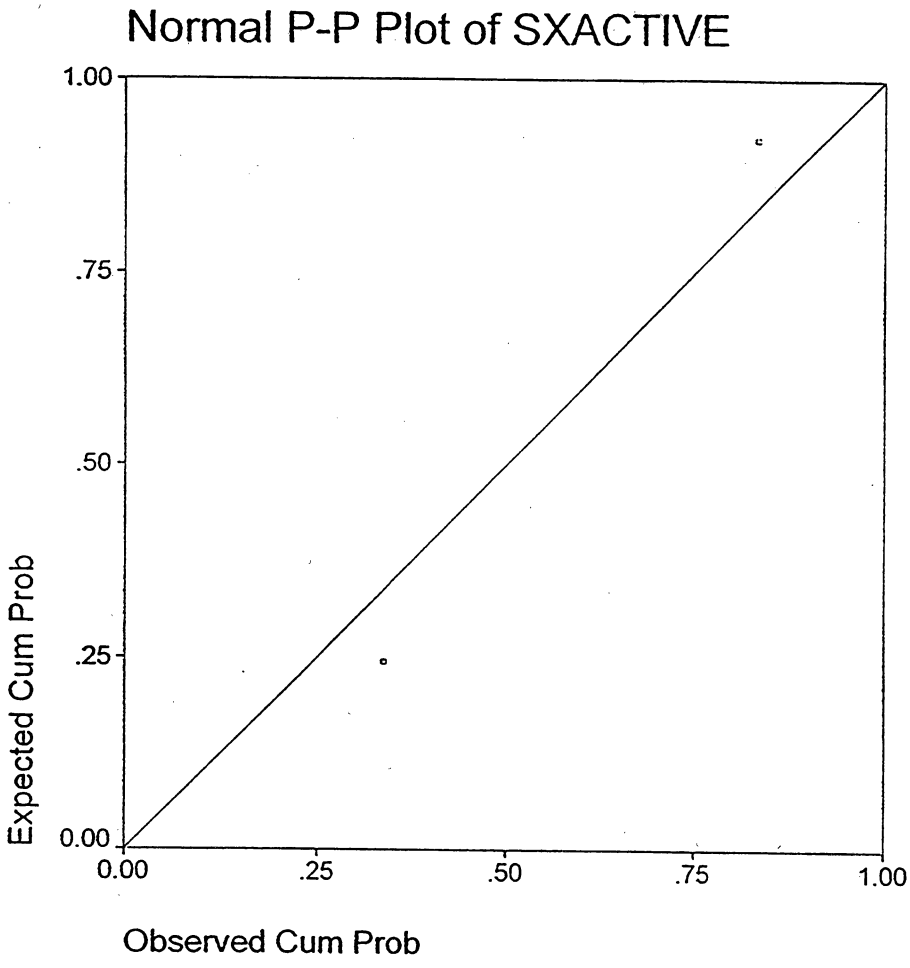
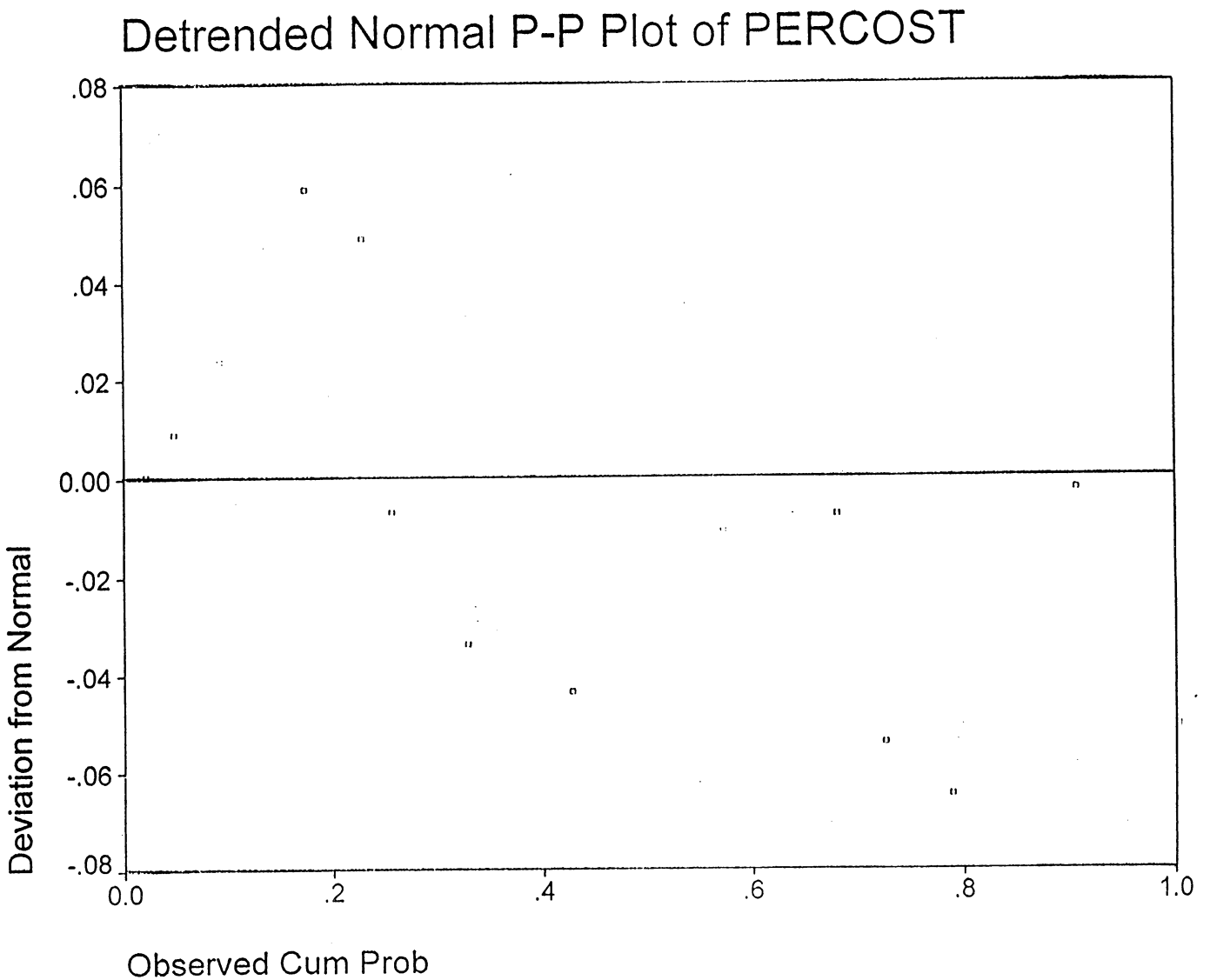
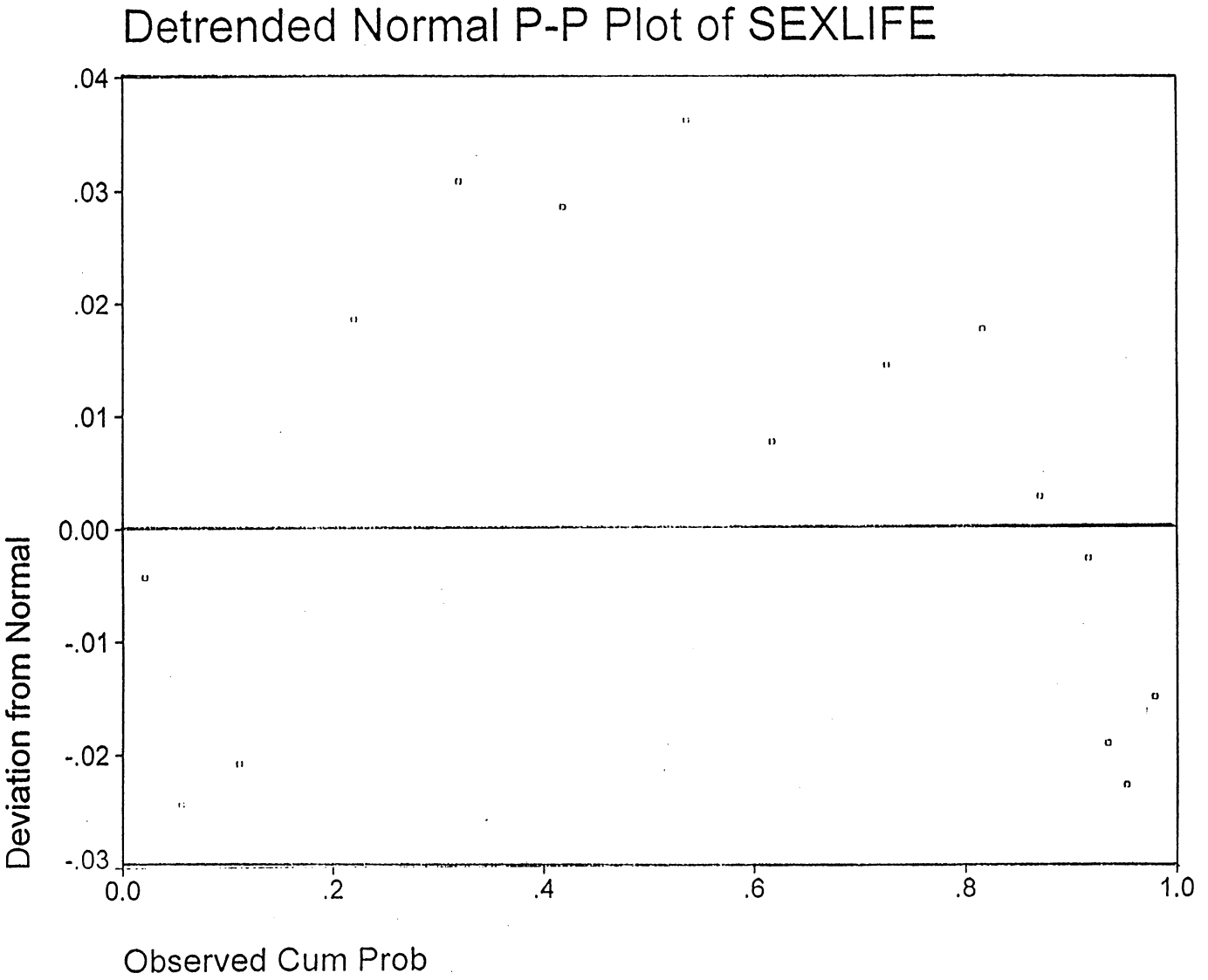
.25
.50
.75
1.00
Observed Cum Prob

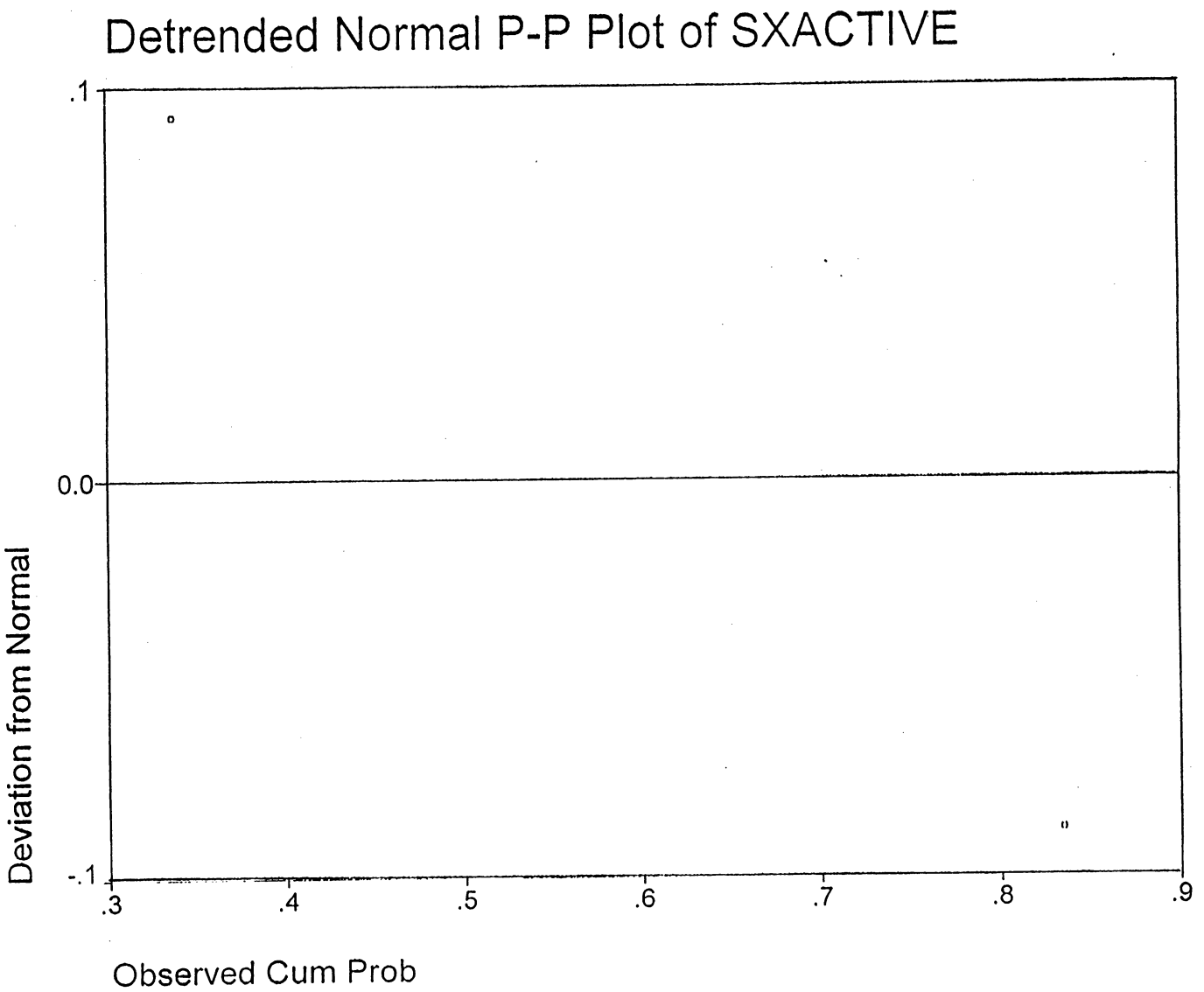

Normal P-P Plot of SEXLIFE
Expected Cum Prob
Observed Cum Prob
0.00
.25
.50
.75
1.00

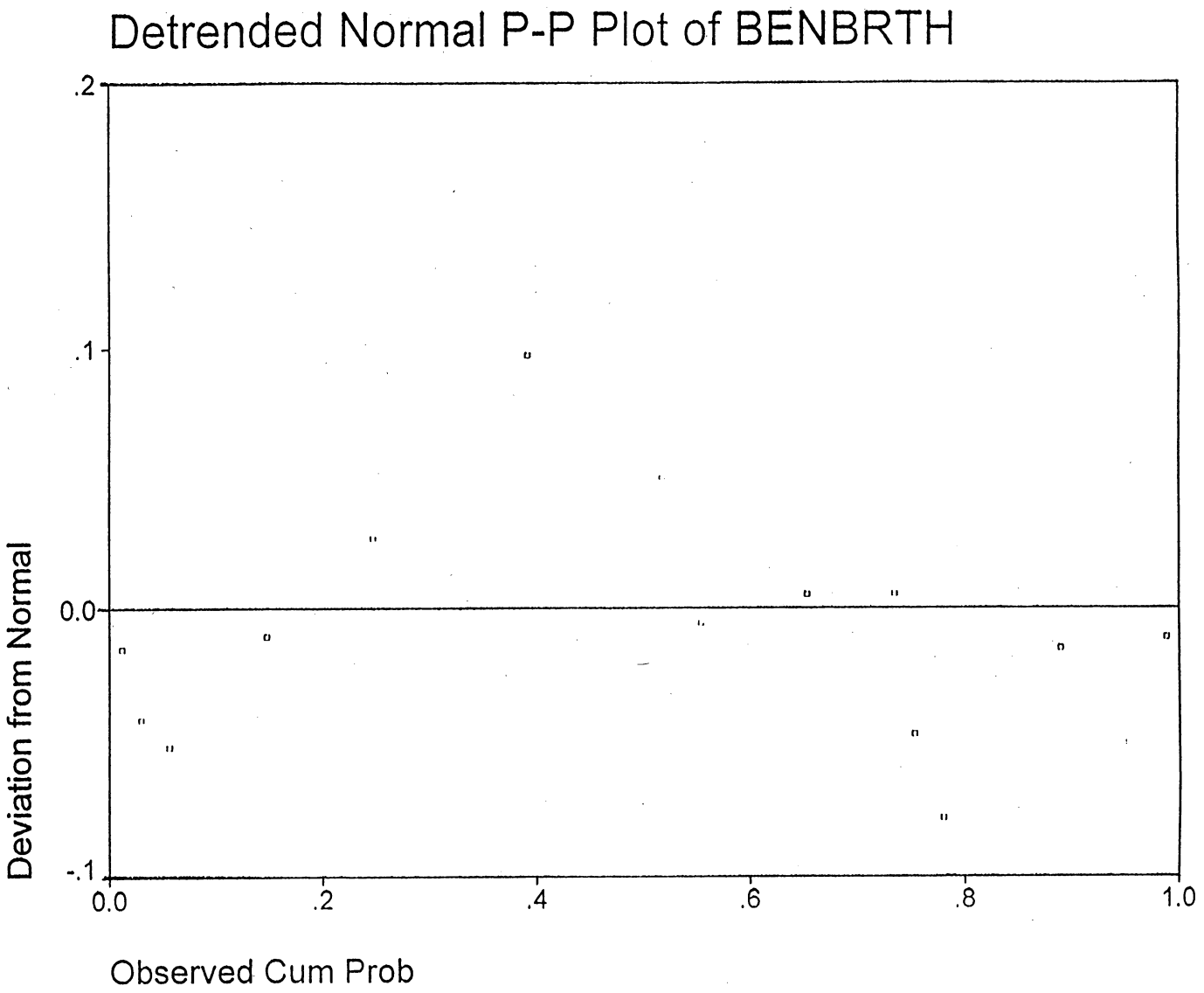

Normal P-P Plot of BENBRTH
1.00
.75
.50
.25
0.00
Expected Cum Prob
0.00
.25
.50
.75
1.00
Observed Cum Prob

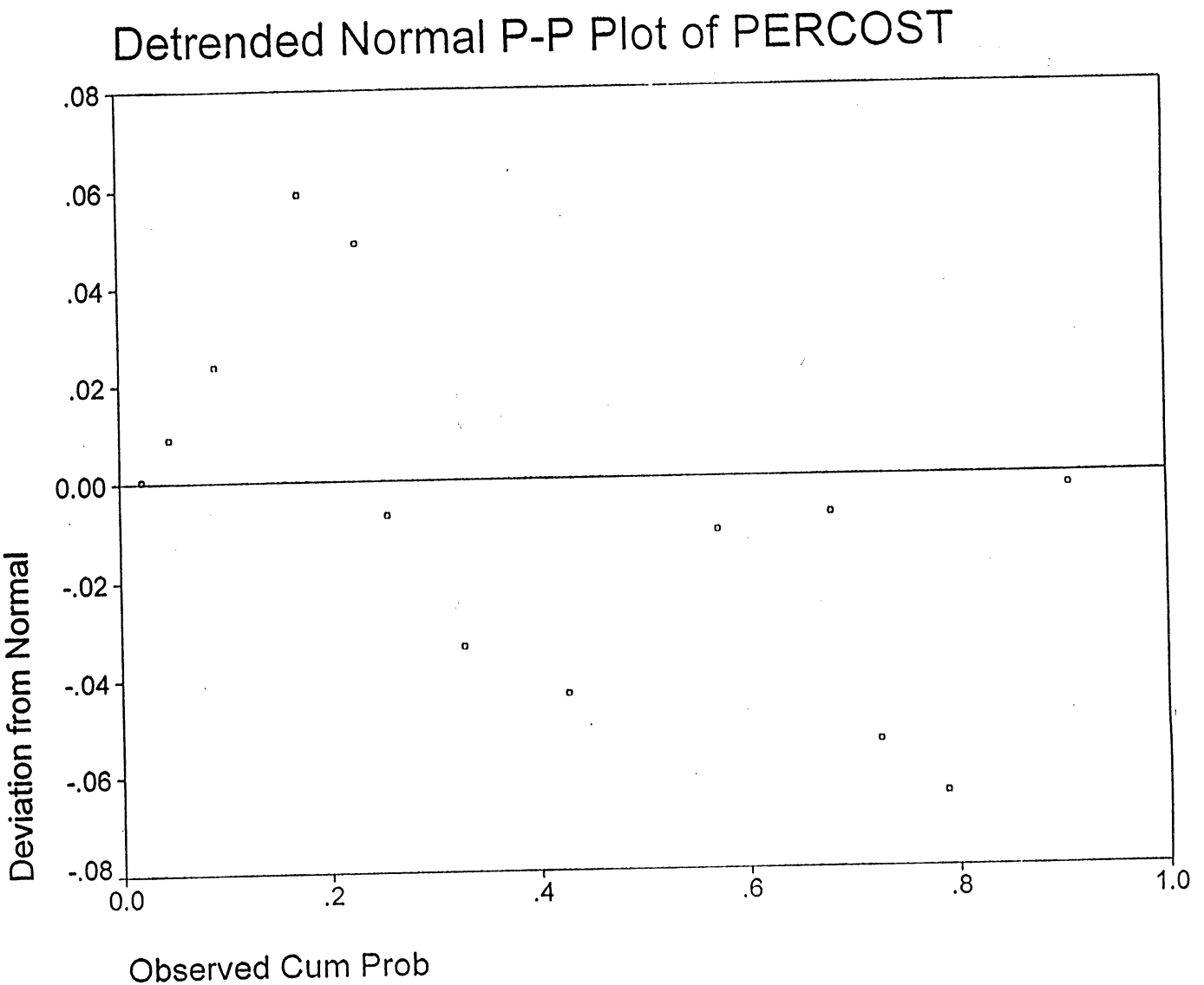

Normal P-P Plot of SXACTIVE
Expected Cum Prob
Observed Cum Prob
0.00
.25
.50
.75
1.00

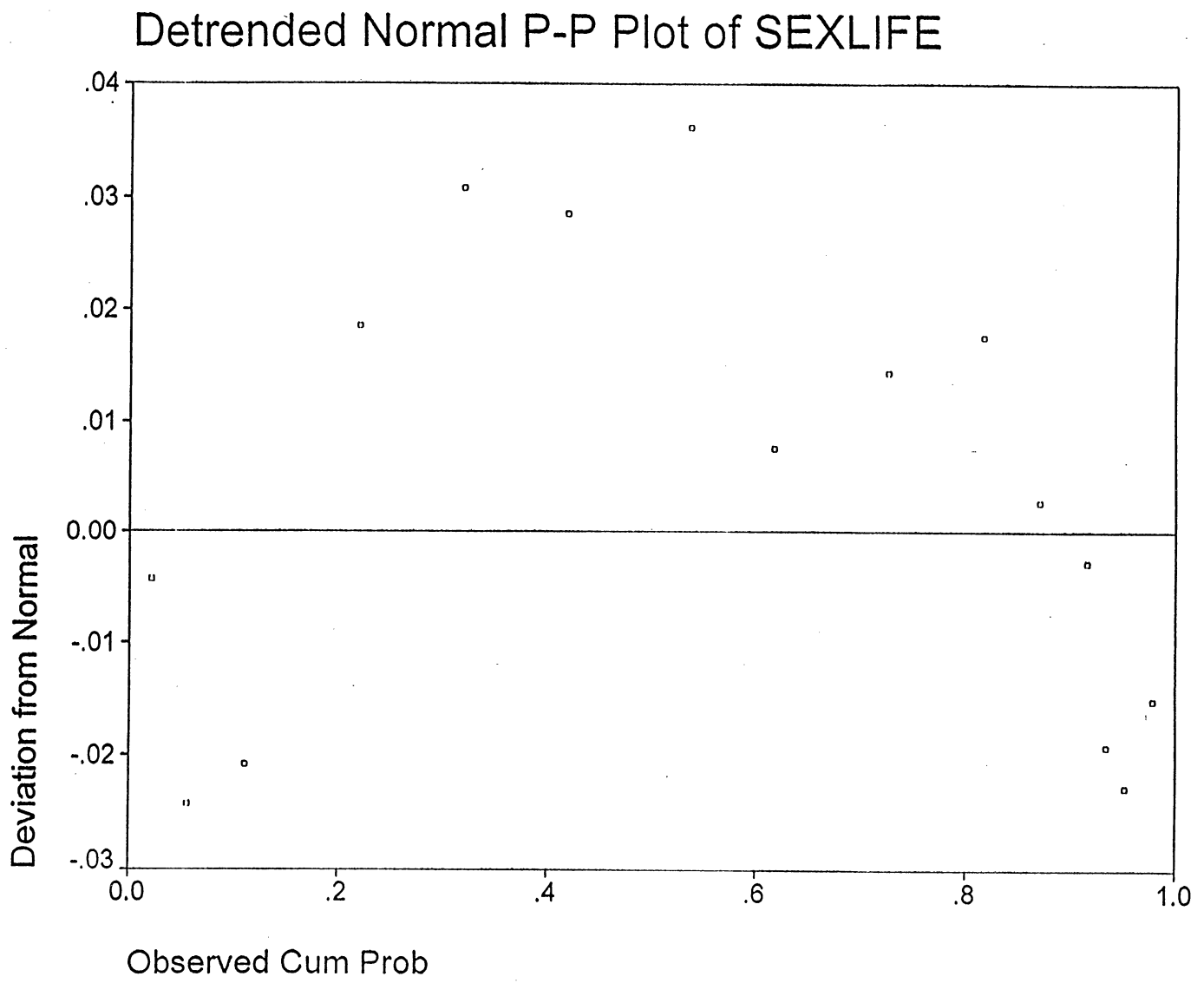

Detrended Normal P-P Plot of PERCOST
.08
.06
.04
.02
0.00
-.02
-.04
-.06
-.08
Deviation from Normal
0.0
.2
.4
.6
.8
1.0
Observed Cum Prob

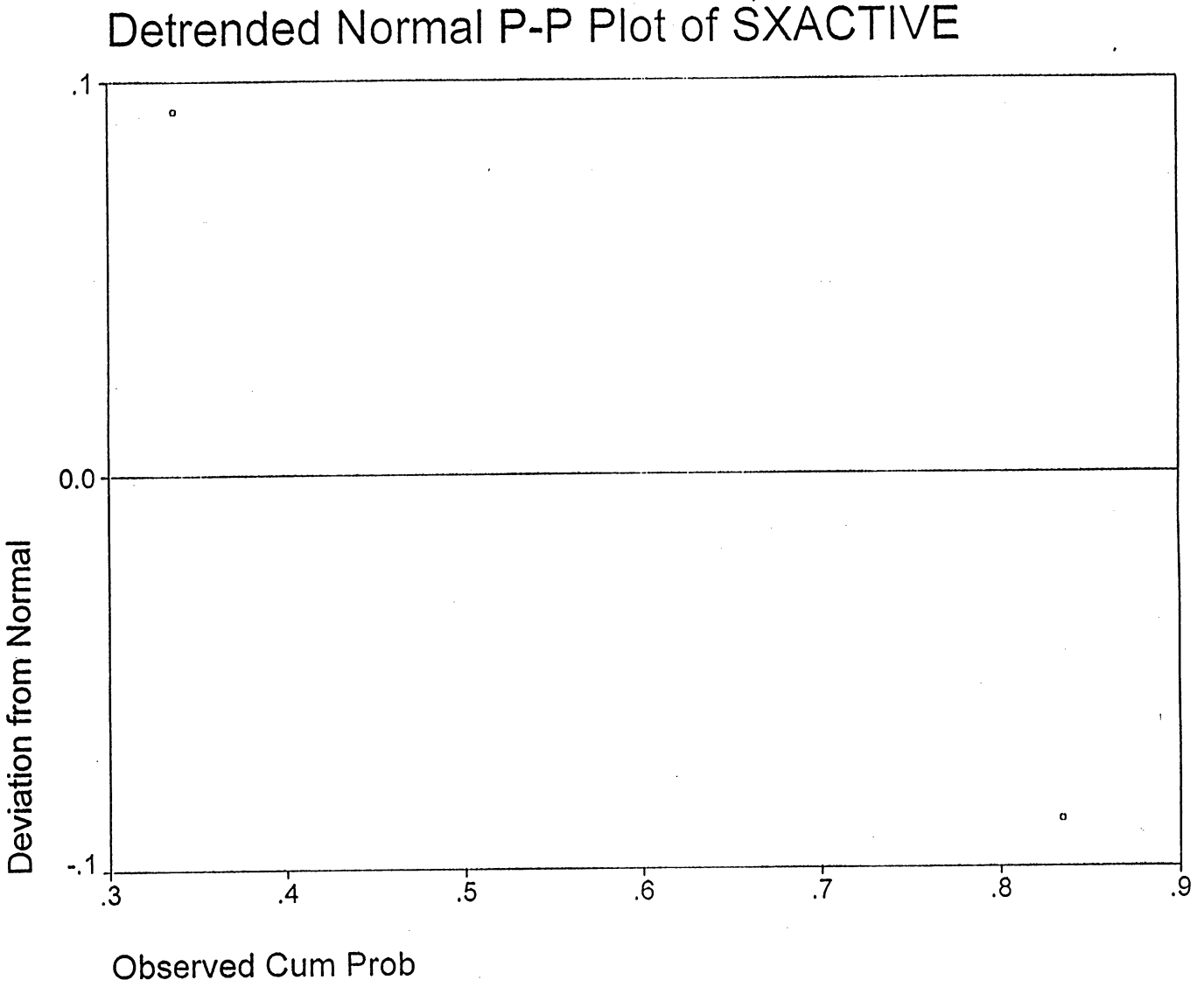

Detrended Normal P-P Plot of SEXLIFE
.04
.03
.02
.01
0.00
-.01
-.02
-.03
Deviation from Normal
0.0
.2
.4
.6
.8
1.0
Observed Cum Prob


Detrended Normal P-P Plot of SXACTIVE
.1
0.0
-.1
Deviation from Normal
.3
.4
.5
.6
.7
.8
.9
Observed Cum Prob


Detrended Normal P-P Plot of BENBRTH
.2
.1
0.0
-.1
Deviation from Normal
0.0
.2
.4
.6
.8
1.0
Observed Cum Prob


Detrended Normal P-P Plot of PERCOST
.08
.06
.04
.02
0.00
-.02
-.04
-.06
-.08
Deviation from Normal
0.0
.2
.4
.6
.8
1.0
Observed Cum Prob


Detrended Normal P-P Plot of SEXLIFE
.04
.03
.02
.01
0.00
-.01
-.02
-.03
Deviation from Normal
0.0
.2
.4
.6
.8
1.0
Observed Cum Prob


Detrended Normal P-P Plot of SXACTIVE
.1
0.0
-.1
Deviation from Normal
.3
.4
.5
.6
.7
.8
.9
Observed Cum Prob