Outcomes Of An Abstinence Education Program On The Perceptions Of Risks And Intentions About Sexual Activity Among Eighth-Grade Students

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OUTCOMES OF AN ABSTINENCE EDUCATION PROGRAM
ON THE PERCEPTIONS OF RISKS AND INTENTIONS
ABOUT SEXUAL ACTIVITY AMONG
EIGHTH-GRADE STUDENTS

by

CINDY HOLCOMB

A Thesis
Submitted in Partial Fulfillment of the Requirements
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Outcomes of an Abstinence Education Program on the Perceptions of Risks and Intentions About Sexual Activity Among Eighth-Grade Students

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Abstract

The rate of teenage sexual involvement is at an all-time high. Traditional sex education is obviously not working. Abstinence education programs have been initiated within some school districts in an effort to decrease the number of adolescent pregnancies and sexually transmitted diseases. The purpose of this quasi-experimental study was to investigate the perceptions of risks and intentions of sexual activity in eighth-grade students before and after an abstinence education program. Pender’s Health Promotion Model was utilized as the theoretical framework for this research. Two null hypotheses were used throughout this study. The first hypothesis stated that there would be no difference in perceptions of risks related to sexual activity among eighth-grade students before and after an abstinence education program. The sample consisted of 24 males and 38 females, of whom 19 were African Americans and 43 were Caucasian. The sample was drawn from a class in a rural southeastern school district. The mean age was 13.92 years. Data were obtained by using self-report questionnaires before and after the abstinence education
program. Descriptive statistics were used to analyze the demographic information. Findings from the study showed a significant increase in both perceptions of risks, \( t(61) = 2.976, p = .004 \), and intentions to abstain from further sexual behavior, \( t(61) = -4.952, p = .000 \). This finding indicated that after the abstinence program adolescents’ thoughts about sexual activity substantially changed, further validating the need for abstinence-based education in the school system. The following recommendations were made for future nursing research: Replicating using a larger sample with more ethnic groups, initiation of STD and sexual abstinence education in early adolescents, and provision of education for parents regarding a systematic approach to teaching their children about sex.
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Chapter I
The Research Problem

The rate of teenage sexual involvement presents a major crisis in the United States. According to the U.S. Department of Health and Human Services in 1997, the rate of births in adolescents declined 8% between 1991 and 1995, but still remains high. In addition to the problems of sexually transmitted diseases (STDs) and unplanned pregnancies, many adolescents increase their chances of living in poverty as they become single parents (Arnold, Smith, Harrison, & Springer, 1999). In the past, many schools utilized comprehensive sex education classes including positive discussion about contraception methods as well as distributing condoms. Traditional condom distribution has not been an effective type of sex education (Landry & Kaeser, 1999). Therefore, federal government has initiated a national campaign for abstinence education in an effort to decrease the number of adolescent pregnancies and sexually transmitted diseases.
The Centers for Disease Control and Prevention (1994) defined sexual abstinence as voluntarily refraining from all sexual acts that involve vaginal, oral, or anal intercourse. Abstinence is believed to provide protection from physical, psychosocial, and emotional harm as a result of premature sexual relationships (Arnold et al., 1999). Therefore, it is extremely important for all nurse practitioners and other health care providers to seek to understand the importance of abstinence education as it relates to adolescent pregnancies and sexually transmitted diseases. Thus, the purpose of the research was to investigate the impact of an abstinence education program on the perception of risks and intentions of sexual activity in eighth-grade students.

Establishment of the Problem

In 1997 the annual national rate of pregnancies was 112 per 1,000 female adolescents (Arnold et al., 1999). These pregnancies cost the federal government billions of dollars in support to teenage mothers and their babies. As a result of the cost, President Bill Clinton committed to raising efforts to reduce adolescent pregnancies (Arnold et al., 1999). A national campaign was initiated to promote self-esteem, provide accurate information on health issues, and focus on abstinence. Olsen, Weed,
Nielsen, and Jensen (1992) suggested that the delay of sexual intercourse until adulthood was a long-term solution to the problem of adolescent pregnancy and its sequelae. They cited United States Surgeon General, C. Everett Koop, as claiming that sexual abstinence was the only certain way to prevent AIDS through sexual contact. Olsen et al. supported the need for federal government to encourage the education of young people on the basis of fidelity, commitment, and maturity. Teaching adolescents not to engage in sex before they are ready to marry also was recommended (Olsen et al., 1992).

According to Thomas (2000), adolescents are not able to fully understand the implications of their sexual activities. They also lack the maturity necessary for dealing with the consequences of sexual intercourse. Adolescents are often pressured into sexual behaviors that they do not really want to perform. Moreover, sexually experienced adolescents are likely to continue with such behaviors. Early to middle adolescents are developmentally unable to maturely process information or anticipate future outcomes of their actions. This thought further supports the need for adolescents to be provided with an abstinence education program in an appropriate learning environment such as school.
Adolescents need to be educated on specific pressures they face which influence them to become sexually active. They also need to become aware of complications related to sexual activity, pregnancy, and sexually transmitted diseases. Appropriate communication skills and ways to say “no” also are important factors of abstinence education. Additionally, adolescents need to be allowed to evaluate their future life goals and be given the opportunity to make a commitment to stay abstinent or begin a secondary abstinence (Christopher & Roosa, 1990). Most adolescents have knowledge about the risks of unprotected sexual intercourse and particular methods of preventing those risks. They have attained this information from the media, peers, sex education programs, and possibly their parents (Kirby, 1997). However, they are often unaware of the physical, psychological, and social consequences of their sexual encounters.

The Centers for Disease Control and Prevention (1994) validates that the initiation of sexual activity or practicing abstinence during adolescence prevents unintended pregnancy and STDs. The practice of abstinence is 100% effective in avoiding both pregnancies and STDs. Early empirical evidence on abstinence education programs indicates that the approach may be effective in delaying sexual activity and decreasing teenage pregnancies.
However, there has been minimal empirical knowledge regarding abstinence related to interventions, perceptions of risks, and intentions of sexual activity among adolescents. Insight into the perceptions of risks and intentions related to sexual activity is especially important for nurse practitioners to understand as they provide primary care to this population.

Significance to Nursing

Investigating adolescents' perceptions of risks and intentions about sexual activity is especially important for the primary care nurse practitioner. Examination of these perceptions and intentions can serve as an exceptional way for nurse practitioners to understand adolescent behaviors that directly influence their health. Adolescent sexuality issues provide many challenges for nurse practitioners. Nurse practitioners have opportunities to assist adolescents in dealing with the consequences of being sexually active. Primary prevention of pregnancies and sexually transmitted diseases must focus on changing or eliminating the behaviors that place adolescents at risk. Since pregnancies and sexually transmitted diseases are gaining national attention, education and abstinence are projected to be important weapons to win the war against teen pregnancy, their
resulting poverty, and low self-esteem. Nurse practitioners have many opportunities to intervene and provide accurate and appropriate health information for adolescent clients. Active participation in abstinence education in clinics, schools, and social clubs would be an excellent way to serve the community. However, empirical evidence on which to base these interventions was needed. Furthermore, the results of this study have successfully contributed to the body of research about abstinence and provided a baseline for measuring the effectiveness of community-based abstinence education programs.

Theoretical Framework

Pender's (1996) Health Promotion Model served as the theoretical framework for this research study. Pender's model was outlined for adolescents, their families, and their communities. Therefore, abstinence education programs must be constructed with consideration of all of these aspects.

According to Pender (1996), health is defined positively as mental, physical, and social well-being rather than freedom of disease. The Health Promotion Model is aimed at a combination of nursing and individual modification to factors that affect health behaviors. The
model also implies that an individual’s pursuit of health and their interaction in the environment are directly linked.

Pender (1992) asserted that biological and demographic characteristics indirectly influence health promotion behavior. Pender focused on personal fulfillment and self-actualization rather than disease threat to provoke health-promoting behaviors. Prior experience with health promotion also influences health care. On the other hand, Pender stated that cognitive-perceptual factors directly affect behavior. Motivational factors, such as the individual’s perception of the importance of health, directly affects his or her practice of health-promoting behaviors. In the case of adolescent sexual activity, cognitive-perceptual factors could include a disbelief of being at risk of becoming pregnant or contracting an STD. Health motivation factors in adolescents are often influenced by their peers. Therefore, the motivation to stay healthy by remaining abstinent may be counterbalanced by peer pressure to have sex.

The amount of perceived control of one’s health allows the individual to change his or her state of health, while level of self-efficacy also affects his or her health and the belief that one can control one’s health. The perception of being healthy provides
motivation for health promotion behaviors. The individual’s personal definition of health and their current state of health may potentially influence the practice of health-promoting behaviors. Furthermore, if clients believe that health-promoting behaviors will benefit their life, they are more apt to participate. Finally, individuals are less likely to perform behaviors that are difficult to perform or obtain. These concepts are pertinent to the current study as an abstinence education program may influence students’ health-promoting behaviors if they perceive that abstinence will benefit their lives.

Pender’s (1992) Health Promotion Model deals with the individual. The model focuses on the individual’s decision making and, secondly, on their action. Individual perceptions and modifying factors are important in the decision-making phase. In the action-taking phase, perceived barriers and cues to action are significant. This model emphasizes that the individual is responsible for his or her pursuit of health and well-being. Nurse practitioners may choose to utilize this model in their practice to promote healthy lifestyles. Interventions such as an abstinence education program may serve as an important cue to action by teaching how the adolescents
are affected physically, psychosocially, and mentally by sexual activity.

Assumptions

The following assumptions were identified for the purpose of this study:

1. Adolescents are sexual beings.

2. Health beliefs are an important motivator for health-promoting behaviors (Pender, 1992).

3. Perception of risks is an essential component in an individual’s motivation for taking action (Pender, 1992).

4. Adolescents are capable of reporting their own perceptions and intentions.

Statement of the Problem

Adolescent pregnancies and sexually transmitted diseases have become a national focus. Primary care practices are responsible for treating adolescent health problems as a result of being sexually active. Therefore, it is important for health care providers to assist adolescents in eliminating or changing their sexual behaviors in an effort to enhance their health. Donavan (1998) cited that teaching sexual abstinence is appropriate in Grades 6, 7, and 8. Early empirical evidence on abstinence education programs indicated that
the approach may be effective in delaying sexual activity and decreasing adolescent pregnancies. Therefore, the problem for this research was to determine the outcome of an abstinence education program on the perception of risks and intentions about sexual activity among eighth-grade students.

Null Hypotheses

In this study two null hypotheses were tested. Those hypotheses were as follows:

1. There will be no difference in the perception of risk related to sexual activity among eighth-grade students before and after an abstinence education program.

2. There will be no difference in intentions related to sexual activity among eighth-grade students before and after an abstinence education program.

Definition of Terms

For the purposes of this study, the following terms were defined:

Perception of risks: Theoretical: self-reported beliefs related to personal susceptibility to negative effects of sexual activity (Pender, 1992). Operational: self-reported beliefs related to personal susceptibility to negative effects of sexual activity as measured by answers to perceptions of risks and intentions about
sexual activity items on the Holcomb Abstinence Education pretest and posttest.

**Sexual activity:** Theoretical: participation in vaginal, anal, or oral intercourse (Centers for Disease Control and Prevention, 1994). Operational: participation in vaginal, anal, or oral intercourse as subjectively reported by participants on the Holcomb Abstinence Education pretest and posttest.

**Eighth-grade students:** Theoretical: males and females enrolled in the eighth grade between the ages of 12 and 15 years. Operational: males and females enrolled in an eighth-grade science class who provide personal and parental/guardian permission to participate in the abstinence education program and who are between the ages of 12 and 15 years.

**Abstinence education program:** Theoretical: instructional content which provides information about refraining from sexual activity. Operational: instructional content entitled “You are Unique” developed by Sex and Family Education. Information is focused on sexually transmitted diseases, risks of pregnancy, character building, physical/psychological effects of sexual activity, and the benefits of sexual abstinence.

**Intentions about abstinence:** Theoretical: a determination to engage or choose to refrain from sexual
activity until marriage. **Operational:** a determination to engage or choose to refrain from sexual activity until marriage as measured by the student’s response to items about abstinence on the Holcomb Abstinence Education pretest and posttest.

**Summary**

Adolescent sexuality has become a national concern. A large number of adolescents are experimenting with sex without regard to pregnancy, sexually transmitted diseases, or the impact on their lives physically, emotionally, and psychosocially. Therefore, a sexual and abstinence education intervention has been initiated in an effort to decrease sexual activity, pregnancy, sexually transmitted diseases, and increase self-esteem. In this chapter the establishment of the problem, significance to nursing, assumptions, research null hypotheses, and definition of terms were presented. The theoretical framework which guided this study was Pender’s (1992) Health Promotion Model. The need for an intervention study concerning the effects of an abstinence education program on the perceptions of risks and intentions about sexual activity in eighth-grade students emerged as a result of minimal empirical information available about this important subject.
Chapter II

Review of the Literature

In reviewing the literature related to adolescent abstinence, it was discovered that little empirical knowledge exists regarding abstinence related interventions, perceptions of risks, and intentions of sexual activity among eighth-grade students. Most of the research was geared toward high school students or minority/high-risk middle school-aged students. Many researchers have sought to intervene and understand adolescent sexual behaviors.

Congress passed a Family Life Act in 1981 promoting sexual abstinence programs as primary prevention. These programs are required to include an evaluation of their effectiveness. Christopher and Roosa (1990) sought to evaluate an adolescent pregnancy prevention program. However, few have presented meaningful data that could be generalized to the population. The identification of this limitation presented the need to evaluate the effectiveness of the Success Express Sexual Abstinence Program presented to teenagers. The researchers’ study
focused on adolescent attitudes, self-esteem, communication skills, reproductive knowledge, and sexual pressure awareness. The authors described sexual abstinence as refraining from coitus. A quasi-experimental pretest-posttest design was utilized. The sample consisted of 320 adolescents including 191 in the participant group and 129 in the control group. The adolescents were defined as sixth and seventh graders with an average age of 12.8 years. Of the sample, 61% were females. The sample was composed of 69% Hispanics, 21% African Americans, 8% Caucasians, and 2% Native Americans. Data were gathered at five schools and three community sites.

Christopher and Roosa (1990) gathered data from male and female adolescents using a self-report questionnaire in the form of a pretest and posttest. The pretest was used to assess their self-esteem, family communication, and premarital sexual behaviors before the pregnancy prevention program was presented. The pregnancy prevention program consisted of six sessions. The first session included a pretest as well as education on self-esteem and family values. The second session focused on adolescent patterns of growth and development with emphasis on reproductive knowledge. In the third session, topics were specific pressures teenagers face influencing them to become sexually active and complications of sexual
activity, pregnancy, and sexually transmitted diseases. Session four involved teaching communication skills to say "no." In the fifth class the students were allowed to evaluate their future life goals. A posttest and graduation ceremony served as the sixth and final session. A posttest was given after the intervention to determine if there was a change in self-esteem, family communication, and premarital sexual behaviors.

The Rosenberg Self-Esteem Scale was used to measure the adolescents' self-esteem. Christopher and Roosa (1990) also used the parent-adolescent communication scale to assess family communication. A premarital sexual interaction scale was implemented to measure their lifetime sexual behavior. Lastly, a 5-point Rosenberg scale was utilized to record adolescent attitudes regarding sexual intercourse before marriage.

The scores of both participant and control groups were analyzed using ANOVAs. These analyses were restricted to students completing a pretest and posttest. The researchers determined group equivalence and found that the participants were a half grade ahead of the control group, $F(1, 189) = 18.27, p < .0001$. Also noted was the participant group started dating earlier than the control group, $F(1, 54) = 4.02, p < .05$. Christopher and Roosa
controlled for the difference in grade level by covariate in the evaluation analysis.

The researchers used a repeated measure analysis of covariance and determined pretest and posttest scores by group, gender, and time. No significant findings emerged for self-esteem, family communication problems or openness, best age for first-time sexual engagement, best age for marriage, best friend's lifetime sexual interaction, or attitudes about premarital sex. Christopher and Roosa (1990) discovered that the participants increased their mean sexual interaction level between time one and time two while the control group did not ($p < .04$). To further determine what sexual behaviors were increasing, data for male and female scores were calculated separately. Both male and female participants' sexual behavior were measured. It was noted that the male participants had a more dramatic increase in the seven sexual behaviors. However, there were no changes seen in the rate of males engaging in sexual intercourse.

The reported increase in sexual behaviors could be explained as an outcome of participating in the Success Express program or an interaction of a third unidentifiable variable. It was also reported that the long-term effects of the present program were still being evaluated. Christopher and Roosa (1990) revealed that
long-term positive outcomes were unlikely to occur. Adolescents’ sexual behaviors are impacted by many factors suggesting that a primary pregnancy prevention program focusing strictly on abstinence may be ineffective.

A limitation of this study was that the students who were at high risk for pregnancy were not motivated to participate in the study. These were the dropouts mentioned earlier. Also, the abstinence only program did not address students who were already sexually active or a victim of rape or incest. It was recommended that the pregnancy prevention programs offer an alternative for those who choose to become or continue to be sexually active.

This author sought to explore the concept of perception of risks and intentions about sexual activity among adolescents. The understanding of why adolescents participate in sexual activity is essential in caring for them. The study by Christopher and Roosa (1990) was illuminating for this author’s interest in adolescent and sexual behavior. Education is an essential part of primary care. Further investigation of the relationships of sexual cognition and behaviors may lead to interventions that will decrease sexual activity in adolescents.

Arnold, Smith, Harrison, and Springer (1999) evaluated the effects of an abstinence-based sex education
program on middle school students' knowledge and beliefs. Although there have been many pregnancy prevention programs implemented, few have conducted an evaluation of such programs. In order to succeed in meeting the adolescents' needs, evaluation of pregnancy prevention programs must be implemented. Therefore, Arnold et al. (1999) conducted a study representing an evaluation of the Education Now and Babies Later (ENABL) program that used Howard's PSI curriculum as its main component. Arnold et al. used a quasi-experimental pretest-posttest control group design. They focused on middle school students' knowledge and beliefs about abstinence-based issues related to sexual behaviors and pregnancy.

According to Arnold et al. (1999), sexual abstinence was described as the decision not to have sex. Adolescents were defined as sixth-grade students. The abstinence-based education program is the ENABL program. The evaluation included the pretest and posttest scores after the ENABL program was presented. Knowledge referred to subjects' possession and understanding of information related to social relationships, rights in relationships, and ways to deal with peer pressure as a means of postponing sexual involvement.

The sample consisted of 1,450 adolescents including 974 in the treatment groups and 476 in the control group.
The sample was drawn from 20 middle schools representing 10 school districts. The sample was composed of 57% Caucasian, 20.3% African American, 17.7% Hispanic, 1.3% Native American, 0.6% Asian American, and 0.3% other. Approximately half of the respondents were female.

The ENABL program consisted of five sessions, each lasting 45 to 60 minutes. The sessions covered such topics as risks of sexual involvement, social pressures, assertiveness techniques, and Grady Health System’s (1995) reinforcing skills. Consent was obtained from the school districts, parents, and students before implementing the program. ENABL was field tested in Atlanta and Cleveland prior to this study. Financial support was provided by the Ford Foundation grant promoting pregnancy prevention.

Arnold et al. (1999) utilized a 1996 survey questionnaire previously piloted in Florida by S. Miller with personal communication. The students completing the pretest and posttest were assigned a score based on the number of items answered correctly out of 14 dichotomous items. The items reflected information taught in the ENABL program or information that could be inferred.

Both the treatment and control groups’ scores were analyzed using ANCOVA. These analyses were restricted to students completing a pretest and posttest. The researchers determined that there was a significant
difference in posttest scores of the treatment group and control group ($p < .001$). The pretest scores remained constant in both groups. Analysis of the paired pretest and posttest scores indicated that the treatment group improved from mean pretest ($10.06, \text{SD} = 2.17$) to mean posttest ($11.36, \text{SD} = 1.79$). On the other hand, the control group did not improve their mean pretest ($10.02, \text{SD} = 1.93$) to mean posttest ($10.31, \text{SD} = 1.90$) scores.

The reported increase in the mean scores for the control group was lower than the mean level of improvement for the experimental group. Arnold et al. (1999) suggested that future research be directed toward the underlying reasons of opposition from the parents and school districts. The authors concluded that educating the community about the contents and necessity of pregnancy prevention programs may encourage school districts to adopt such programs.

The author of the current study again sought to explore the concept of perception of risks and intentions about sexual activity among adolescents. The adolescents’ reasons for participating in sexual activity are perplexing. This author sought to accept and understand their behaviors in order to provide primary care for adolescents. The study by Arnold et al. (1999) broadened this author’s views of adolescent pregnancy and prevention
programs. The researchers expressed the need for remaining aware of the multifaceted nature of adolescent pregnancy. This approach was helpful in examining the current author’s interest in adolescent behavior and knowledge. Education was the defining factor related to the change in adolescent behavior and knowledge. This further validated the importance of providing education for clients in the primary care setting. Further investigation of the relationships of sexual knowledge and beliefs may lead to interventions that will decrease sexual activity, pregnancies, and sexually transmitted diseases in adolescents.

In a recent study Landry and Kaeser (1999) explored abstinence promotion and the provision of information about contraception in public school district sexuality education policies. Sexual abstinence has been taught by public schools for more than two decades. However, school districts have different policies governing sexuality education. In 1996 Congress instituted $250 million, 5-year empowerment to states to support educational efforts, including, but not exclusively, school-based programs, to have abstinence promotion outside of marriage as their “exclusive purpose” for sexuality education (Landry & Kaeser, 1999). This descriptive study presented results from the first nationwide study in which sexuality
education policy at the local school district level focused on the promotion of abstinence. The purpose of this study was to assess the relationship between a policy on teaching abstinence and a policy on providing contraceptive information. The existing policies were examined nationwide while focusing on variations related to district size, metropolitan status, and region. This study also looked at the school superintendent’s perceptions of the factors that most influenced how their policies were instituted.

According to Landry and Kaeser (1999), sexuality or abstinence education is defined as “any and all health education relating to human sexuality, including family life, abstinence until marriage, postponing sexual involvement, and avoidance of STDs or HIV and unintended pregnancy” (p. 286). Policy was defined as “any guidance that applies, district-wide, to sexuality education in the schools” (p. 286). An abstinence-plus policy was described as addressing abstinence as the preferred option for adolescents while allowing discussion of contraception as an effective method of protection against unplanned pregnancy, HIV, or STDs. A comprehensive program included addressing abstinence as one option in a broader sexuality education program to avoid pregnancy, HIV, and STDs. This program allowed discussion of contraception to prepare the
adolescent to become sexually responsible adults. Lastly, an abstinence-only policy teaches that abstinence is the only option outside of marriage. This policy either prohibits discussion of contraception or identifies its ineffectiveness in preventing pregnancy, HIV, and STDs.

The sample consisted of 825 public school district superintendents or their representatives. Descriptive and multivariate analyses were utilized to identify districts that had sexuality education policies, their policy regarding abstinence education, and specific factors that influenced the policy. The U.S. Department of Education’s National Center for Education Statistics provided the sample frame for analysis. Data came from the school year of 1996-1997. The school districts must have students enrolled in Grade 6 or higher. Landry and Kaeser (1999) stratified the districts by numbers of students to compare policies according to enrollment. These groups were 1 to 4,999 students described as small, 5,000 to 24,999 students medium, 25,000 or more students were described as large enrollment districts. The researchers sampled 224 large enrollment districts from the strata and then randomly sampled 500 districts in both small and medium districts for a total of 1,224 districts.

Questionnaires were sent to superintendents in each sampled district in late May 1998. Reminder postcards were
sent one week later. If the school districts did not respond, they received a telephone call verifying their address and name of superintendent. A second questionnaire complete with cover letter was sent to the superintendent. If the districts again failed to reply, they received a second telephone call. During the telephone call, the interviewer requested to speak with the superintendent or representative. A third questionnaire was sent to the attention of the superintendent or faxed to the representative most likely to complete this questionnaire. The fielding was finished 5 months later in October 1998.

A multivariate logistic regression analysis was utilized to determine the combined impact of region, district size, and metropolitan status on the possibilities that the school districts would have a policy to teach sexuality education. A multivariate analysis was used to examine the chance that their policy would be an "abstinence only" policy. The relationship between the district policy and region was independent of the status or metropolitan status of a district.

The researchers found that more than one third of districts have an abstinence-only policy. One half of the districts in the South, one third in the Midwest, one fourth in the West, and one fifth in the Northeast have an abstinence-only policy. On the other hand, it was noted
that two thirds of all districts that have a policy permit positive discussions of contraception and promote abstinence. Districts adopting new policies moved away from comprehensive sexuality education policies toward abstinence-plus policies. There was no net movement toward abstinence-only policies (Landry & Kaeser, 1999). Superintendents reported the top three factors influencing their district's policy were state directives, special committees, and the school board. Community support within the three sexuality education policies did not differ.

A limitation of this study was the level of missing data. Some superintendents failed to provide details about how abstinence is taught in their district. Some districts did not respond to the item related to the single most influential factor in establishing their policy. This study was initiated in 1998 before many states began their abstinence-only promotion in efforts to receive federal funds for school-based programs. Therefore, further research is recommended to monitor and evaluate school districts' abstinence policy changes as a result of federal welfare reform legislation.

The author of this study was interested in the school district's influence on the abstinence education programs. This information provided a new angle of discovery. The fact that school districts receive federal funds to teach
abstinence may serve as an incentive for these programs. Landry and Kaeser found that one half of the South’s school districts have an abstinence-only policy. This is interesting information as this current author conducted research in a school district located in the South.

As of 1996 the United States was rated the highest for teenage pregnancy. As a result, society spent an average of $29 billion on their care. It was established that teenager mothers and their children are victims of adverse social and economic consequences. Therefore, teenage pregnancy has become a national concern. The objectives of Healthy People 2010 focus on increasing male involvement in pregnancy prevention and family planning efforts and to increase the proportion of young adults who have received formal instruction before turning 18 years on reproductive health issues to name a few. Many teenage pregnancy programs have been instituted. However, as a result of the national concern regarding teenage pregnancy, Aquilino and Bragadottir (2000) sought to explore teen perspectives on pregnancy prevention. The purpose of the study was to determine how teens felt about adolescent childbearing and what they would recommend as ways to design pregnancy prevention programs that would be acceptable to and meet the needs of today’s youth.
The design of the study was qualitative methods and a focus group approach. The sample included male and female adolescents in Grades 9 through 12 and 14 to 19 years old. The participants were recruited by nurses, teachers, and program administrators. Four hundred letters were distributed in four sites. Only 57 teens agreed to participate and returned parental/guardian consent. Seven groups of adolescents participated. The groups consisted of 36 females and 21 males with 26% being African American and 61% Caucasian. Seventy-four percent of the participants were in the 10th or 11th grade. Each participant received a $30 incentive as well as refreshments at each session. Aquilino and Bragadottir used a Screening Questionnaire and Focus Group Discussion Guidelines. The Screening Questionnaire consisted of demographic information and level of sexual activity. The focus group interviews were conducted at one youth facility and three high schools. The investigator met with seven groups of teens over two consecutive weeks for 1.5 to 2 hours. Each participant was limited to only one group. There were four mixed groups: two female groups, one male group, and one African American group. The other groups were ethically diverse.

Before the study a letter explaining the study and pregnancy introduction was given to each adolescent and
parent. Teens were required to provide assent as well as parent or guardian consent to participate in the study. The focus groups were comfortable, nontreathening, and convenient. The adult Caucasian investigator acted as the group facilitator. Each session began with an explanation of the agenda and expectations for the participants of the group. The participants were given the option to withdraw from the discussion at any time. The participants were encouraged to respect the group members and maintain confidentiality. The first session consisted of group introductions and a presentation of the teen pregnancy facts and existing programs. The adolescents were given a series of open-ended questions used to stimulate the discussion. The facilitator directed the content to maintain focus. Every session ended with a summary of the group’s discussion, verification from the group, and a preview of the next session. Session two began with questions and concerns and a summary of session one. The group’s goal for the second session was to develop a preliminary program. Session two concluded with information regarding assistance for participants with concerns about pregnancy or sexual activity.

The data analysis was to determine themes by the adolescents in a pregnancy prevention program. Audiotapes were transcribed after each session. Two nurses (the group
facilitator and a doctoral nursing student) examined the full transcripts from all sessions. The nurses first organized and subdivided the data into meaningful segments using a two-axis grid. The first axis listed the sites of data collection, and the second axis included the focus group discussion questions. The researchers then searched for patterns within the two subdivisions. Disagreements between the two analysts were rectified. For consistency, statements were compared within and across sessions.

Aquilino and Bragadottir (2000) had three main topics in the focus groups. These were teen feelings about teen pregnancy, teen thoughts on pregnancy prevention, and teen suggestions for specific prevention program strategies. The groups generally agreed that becoming pregnant in the teen years is viewed as a problem by teens. They agreed that teens should avoid pregnancy and that most did not wish to become pregnant. Four main themes surfaced explaining why teens become pregnant. These themes were need to be loved, wanted or needed, to get attention, denial, and lack of responsibility or planning ahead or failure to use contraceptives. The groups offered suggestions on content and delivery of an effective sex education program. They felt that anatomy and physiology of conception should be taught in late elementary, junior high students should be educated about contraception, and
high school students should be given repeat and in-depth information. The adolescents strongly suggested specific topics to be taught in a pregnancy prevention program. They included such topics as sexually transmitted diseases, the need to increase contraceptive use and effectiveness, and improvement of parents’ communication about sexuality. Some of the adolescents wanted sex education taught as a regular class with test led by older peers.

Limitations of this study included the focus group methodology. The participants were self-selected resulting in the inability to generalize the findings. Also, the ethnicity of the facilitator, age, and gender may have influenced the level of disclosure. The recruitment phase attempted to include different types of communities and adolescents of all ages. It was recommended that using a facilitator of like gender and ethnic background or a peer may increase the level of disclosure in the group.

This study was of particular interest to this author. The research provided a glimpse of understanding related to adolescents’ views of the specific topics needed in a sexual education program. This refreshing insight was beneficial as it directly relates to the author’s interest in adolescents’ level of sexual activity and its consequences.
Although the teenage birthrates have declined in the United States, many questions are posed about the best method to reduce the country's teenage birthrate. Lieberman, Gray, Wier, Fiorentino, and Maloney (2000) stated that school-based programs are considered one of the best ways to reach adolescents who are at risk for early sexual activity. The researchers sought to evaluate the effectiveness of the Project IMPPACT program. Their study utilized a quasi-experimental pretest/posttest design. The study had an intervention group and a comparison group. The pretest was conducted at the beginning of the spring semester (late February or March 1996) while the posttest was collected in May or June 1996. The follow-up posttest was performed from April 1997 until August 1997.

The sample included a total of 312 students who completed a pretest, posttest, and a follow-up in one year after the posttest. The follow-up posttest was conducted via mail-in surveys. The intervention group consisted of 125 adolescents who participated in a 3- to 4-month long abstinence-based small group intervention led by trained social workers. The comparison group included 187 adolescents who received no services. The groups were students of three New York City middle schools. One school
is located in the Bronx, and the other two are in Brooklyn.

The survey instrument consisted of variables from existing school-based sexual behavior and attitude surveys and items from existing standardized scales as well as new items. The survey was pilot-tested with 25 adolescents who were not members of a project IMPPACT group at two schools in the same district as the project was being initiated. Alphas for the scales were moderately high (.64 to .87) for all except two scales. The Parental Sex Attitudes Scale included two items and had an alpha of .54. On the other hand, the Pregnancy Attitudes Scale consisting of four items had an alpha of .58. Therefore, the findings of these scales must be carefully interpreted. Modified versions of questions from the New York City High School AIDS Evaluation Study and ENABL study were utilized for the sexual activity and behavior questions. Furthermore, students who were sexually active as well as those who were not sexually active were asked about their intention to have sex within the next 6 months. The Locus of Control Scale effectively measured the participants’ perception of the amount of control they had over the circumstances in their lives. The Kandel Depression Scale measured the degree of depression experienced in the past 6 months. The Self-Efficacy Scale measured the students’ perception of
their abilities to say no to sex in different situations. Self-esteem was measured using a modified Rosenberg Self-Esteem Scale. This scale utilized adolescent-friendly language.

Project IMPPACT is an abstinence-based mental health model taught in New York City middle schools. The IMPPACT staff is invited by physical education and classroom teachers to educate their students about the program and invite them to join a small group. Students were able to self-select into a group. However, each participant was required to obtain parental or guardian permission. Each group generally consisted of 8 to 12 members and met for 12 to 14 sessions during one semester. Each session lasted for approximately 35 to 45 minutes. The average rate of attendance during the program was 87% or 11.3 sessions. The group discussions were led by a trained and trusted adult. The small groups focused on knowledge and life-skills building activities, healthy adult-child and peer communication skills, and encourage new and acceptable behavior. The program also included up-to-date and accurate information about sexuality, disease prevention, and pregnancy. These topics encouraged family relations, strengthened adolescents' sense of control over their lives, sought to prevent early and risky behaviors, and
were tailored to the developmental needs of each adolescent.

Data were analyzed using SPSS-PC for Windows. The intervention and comparison groups were compared by pretest descriptive data. The researchers used sample t tests to determine the difference in scores between comparison and intervention groups. This method was also useful when the variance between groups is not homogenous. Chi-square analysis (Fisher's exact test) was utilized for the dichotomous variables (onset of sexual behavior, contraceptive use at last intercourse, and having ever been pregnant). The small cell sizes allowed for violation of the chi-square test assumptions. Therefore, data for the behavioral variables were mostly descriptive and areas for further exploration. After the total groups' data were analyzed, the researchers analyzed these data separate for students who were already sexually active at pretest, males and females. Additionally, the students who were in the eighth grade at the time of the intervention were examined separately. The rationale for this was the importance of risk behaviors related to the transition from middle school to high school. The change-score method was also used and analyzed by subgroup instead of using a multivariate method, which would adjust for pretest scores and subgroups as covariates.
The study by Lieberman et al. (2000) concluded that there were few significant differences between the comparison and intervention groups at posttest. On the other hand, intervention students' scores were significantly better on parental relationship (males only) and their attitudes related to appropriateness of teenage sex and locus of control at the one-year follow-up. There were no differences noted between the comparison or intervention group among females related to initiation of sexual intercourse. However, initiation of sexual intercourse among males appeared to be higher in the intervention group, but the difference lacked statistical significance. Students who were already sexually active at the initiation of the study lacked positive outcomes. This finding further supports the difficulty of reaching high-risk adolescents. It was concluded that a small-group abstinence-based intervention that focuses on mental health has the potential of impacting the attitudes and parental relationships of adolescents. Furthermore, long-term evaluations are significant in determining the effects of such interventions because of the degree of difficulty in changing adolescent risk behaviors.

This study provided an interesting concept of small-group intervention groups incorporating mental health into the program. Parental involvement was an important part of
this study as well as this author’s focus. Project IMPPACT encouraged and motivated parental communication with the adolescents. Interestingly, the adolescents yearned for supportive adults, especially parents, to discuss sexual involvement. This information related to parental involvement will prove significant as this author’s pretest and posttest address parental communication.

Perkins and Luster (1998) investigated the extent to which the ecological, risk-factor approach for examining sexual activity in samples of mostly European Americans is applicable for explaining sexual activity in three adolescent ethnic groups. The researchers hypothesized that the likelihood of sexual activity in all ethnic groups was directly related to the exposure to increased risk factors. They also explored ethnic and gender differences in the relationship between risk factors and sexual activity. This study projected four categories of adolescent risks. Perkins and Luster suggested that individual characteristics, such as low academic ability, comprised the first category. A second category included extra-familial factors, such as living in economically distressed neighborhoods, being pressured by peers to engage in risk-taking behaviors, and a low attachment to the school. The third category consisted of macro-system influences, such as media messages related to sexuality,
public policies to reduce the teenage pregnancy rates, and cultural values. Lastly, family factors, such as low levels of parental monitoring, greatly influenced adolescents. This study used Small and Luster's conceptual model to explore factors related to sexual activity among three ethnic adolescent groups, European Americans, Latinos, and African Americans.

The study's sample consisted of 15,362 adolescents (11,027 European Americans, 3,879 African Americans, and 438 Latinos). The sample consisted of 53% females and 47% males. The sample represented a variety of family structures; 53% biological families, 25% single-parent families, 12% blended or step-families, 3% other, and 5% missing. The adolescents were from a large Midwestern state, aged 12 to 17 years, who participated in a statewide study. Compared to the state population, racial and ethnic groups were over-represented in this sample. A random sample of schools was drawn from a list of public schools in the Midwestern state. However, this resulted in an insufficient number of schools in the random sample willing to participate in the study. Therefore, the study examined volunteer schools. This study involved 43 middle and high schools in 36 communities.

Self-report surveys and an Attitude Behavior Questionnaire (ABQ) were utilized to collect the data.
Data were collected in group settings. Classroom teachers followed an instruction manual and script as they administered the questionnaire during a specific time during the school day. Each school determined the requirements of passive parental or written parental consent for the survey. Five schools required written parental consent and verbal consent from each student participant. The students were informed that their participation was voluntary and they could withdraw from the study at any time without penalty. The participants were assured of their response confidentiality. Upon completion of the questionnaires, they were placed in a sealed envelope for confidentiality purposes.

The results were analyzed in three steps. The chi-square and t tests were utilized to compare the average scores on the predictor variables of those who were sexually active and those who were not sexually active. Next, a logistic regression analysis was conducted with the dependent variable being sexual activity and the significant risk factors as the predictors. Lastly, significant variables in the logistic regression were explored in a cumulative risk analysis. Males and females were analyzed separately.

Perkins and Luster (1998) found that a higher percentage of African American males were sexually active...
(79%) than were Latino and European American males (54% and 37%, \( \chi^2 = 855.88, df = 2, p < .00001 \)). The differences could not be explained by the respondents' average age from the three ethnic groups. The mean ages for European American, African American, and Latino females were 14.58 years, 14.09 years, and 14.33 years, respectively. The mean ages of sexual activity among European American, African American, and Latino males were 14.65 years, 14.23 years, and 14.22 years, respectively. The logistic regression showed that 10 variables influenced sexual activity among European American and Latino males. These variables were grade point average, age, alcohol use, suicide ideation, home alone, sexual abuse, religiosity, physical abuse, school climate, and negative peer group. Nine variables were found to predict sexual activity among African American males. These variables were grade point average, age, alcohol use, suicide ideation, home alone, sexual abuse, physical abuse, school climate, and negative peer group. Religiosity did not prove to be a factor of influence among African American males. On the other hand, African American and European American females were influenced by nine variables. These predictors of sexual activity were suicide ideation, alcohol use, physical abuse, religiosity, age, grade point average, home alone, sexual abuse, and negative peer group. There were eight
significant predictors of sexual activity among Latino females. These factors included suicide ideation, alcohol use, physical abuse, age, grade point average, home alone, sexual abuse, and negative peer group. In Latinos, religiosity was not a significant factor. The logistic regression analysis showed that religiosity was a significant sexual activity predictor for African American and European American females but not for Latino females. On the other hand, religiosity was a predictor for Latinos and European American males but not for African American males. Furthermore, school climate was a significant predictor for males but not for females.

The researchers concluded that programs, communities, and parents should focus their attention on decreasing the risk factors experienced by adolescents in an effort to decrease sexual activity. They suggested a dual focus on increasing opportunities for adolescents to build skills to confront difficult situations and to decrease risk factors. They further concluded that supportive communities, citizens, and institutions focusing on increasing external supports at all levels of ecology, and increasing competencies provide a greater likelihood of successfully building strong, resourceful adolescents. Perkins and Luster (1998) recommended that future researchers may want to explore cultural values and norms
and their association with sexuality. Additionally, sexual activity among diverse ethnic groups matched on quality of neighborhood characteristics, such as rates of employment, may be beneficial.

This author was intrigued by the contents of this research. The specific predictors of sexual activity for each ethnic group were of particular interest. This researcher further validated the need for teaching sexual abstinence in group settings such as a school environment.

The review of literature revealed that adolescents are being pressured to become sexually active. These behaviors expose this age group to sexually transmitted diseases, pregnancy, and HIV. The review of literature led the current researcher to conclude that further research was needed in regard to the outcomes of an abstinence education program on the perception of risks and intentions about sexual activity among eighth-grade students. Insight into these perceptions and intentions can increase nurse practitioners' knowledge of how to appropriately treat those adolescents in a primary care setting.
Chapter III

The Method

The purpose of this descriptive study was to examine the perception of risks and intentions of sexual activity in eighth-grade students before and after an abstinence education program. The study’s design, setting, population, and sample will be discussed in this chapter.

Design of the Study

A quasi-experimental one-group, pretest/posttest design was utilized to investigate the perception of risks and intentions of sexual activity among eighth-grade students. The purpose of a quasi-experimental study was to manipulate an independent variable by means of an experimental treatment to determine an outcome. However, this type of study lacks one or more of the elements of a true experiment (Polit & Hungler, 1999). In this study there was no randomization utilized, and the pre-intervention group acted as its own control group.
Setting, Population, and Sample

The setting for this study was a middle school in rural northeast Mississippi. The school had approximately 1,200 seventh- and eighth-grade students from varied socioeconomic backgrounds. The population for this study was males and females enrolled in an eighth-grade science class who provided personal and parental/guardian permission to participate in the abstinence education program and who were between the ages of 13 and 16 years.

Instrumentation

Data were collected for this study using a researcher-designed questionnaire, the Holcomb Abstinence Education Pretest and Posttest (see Appendices A and B). The pretest instrument consisted of two sections. Section A, the demographic survey, contained three demographic items for which participants filled in the blanks or checked the appropriate blanks. The items were constructed to elicit participant demographic information to establish a profile of the participants. Section B of the instrument consisted of nine items to which participants responded "Yes," "No," or "Don't know." These items were constructed to elicit participant information related to the intentions and perceptions of risks of sexual activity. Questions 2 to 5 related to perception of risks and
Questions 6 to 9 referred to intentions of sexual activity.

The Holcomb Abstinence Education Posttest omitted the demographics. An additional question was added related to the adolescent being home in the afternoons without adult supervision. A “Don’t know” option was not provided on the posttest. Questions 3 to 5 pertained to perception of risks while Questions 7 to 10 were related to intentions of sexual activity. The research instruments were subjected to an approval by a panel of expert nurse researchers before being utilized.

Correct answers were totaled on the Holcomb Abstinence Education Pretest and Posttest. No cutoff score for pass or fail was utilized. The researcher merely analyzed the pretest and posttest scores to determine whether group scores significantly changed.

Procedure

Before implementing this study, approval to conduct the proposed study was obtained from the Committee on Use of Human Subjects in Experimentation (IRB) at Mississippi University for Women (see Appendix C). Following this approval, permission to conduct this study was obtained from the superintendent of education and principal of the middle school in rural northeast Mississippi (see Appendix
D). Next, written informed consent was obtained from the students' parent or guardian (see Appendix E). Informed verbal consent also was obtained from the eighth-grade science teacher. Finally, informed written ascent was obtained from each student (see Appendix F). A pretest was administered before the abstinence program was presented. Each item was read aloud by the researcher as the students answered the questions using a cover sheet. The researcher remained in the classroom after the pretest to answer any questions. The school nurse and counselor were also available to the participants. Each participant placed his or her pretest in a secured lockbox to ensure confidentiality.

Next, a You Are Unique representative presented a 50-minute abstinence education program on two consecutive days. The first day focused on emotional needs, such as significance, respect, success, security, relationships, and communication. This session explored how males and females respond sexually. The class further validated the ability of each adolescent to make the decision to avoid sexual activity. The participants discussed examples of internal and external pressures, such as television, movies, drugs, alcohol, and peer pressure. The facilitator stressed the importance of choosing abstinence now before
being faced with this difficult decision in the heat of the moment. The class further examined medical consequences of sexual activity such as sexually transmitted diseases. The participants were informed of the signs and symptoms, modes of transmission, treatment, and prevention of gonorrhea, chlamydia, herpes, syphilis, venereal warts, HIV, and AIDS.

Session two began with review of session one and continued with sexually transmitted diseases. The facilitator discussed a variety of birth control measures as well as their failures. The facilitator shared with the group that the only safe sex was no sex until he or she is in a committed marriage relationship. The group was given the opportunity to choose to start over with their sexual experience. They were given specific ways to avoid situations that would weaken their decision of not having sexual intercourse. This session focused on communication and the fact that each adolescent is unique. The group discussed ways to re-channel sexual energy into other activities. At this point, the facilitator explained that some adolescents may have had sex unwillingly and that this was not his or her fault. The group was assured that no one has the right to violate his or her rights. If this had occurred, the adolescent participants were encouraged
to seek help from their family, counselor, pastor, school nurse, or police. Each participant was given the local child abuse hotline number to take home. The students were challenged to be their best, set standards for themselves and their mates, and to avoid testing their sexual limits. Finally, the adolescents were given the opportunity to make a confidential personal commitment to remain abstinent or begin a secondary abstinence.

A posttest was administered 4 weeks after the completion of the abstinence education program. The items were read aloud by the researcher while the participants answered the questions using a cover sheet. The researcher remained in the classroom after the posttest to answer any questions. The school nurse and counselor were available for the students. Each participant placed his or her posttest in a secured lockbox to ensure confidentiality. Data collection was completed during the months of April and May.

**Data Analysis**

Descriptive statistics were used to analyze the demographic portions of the instruments. Mean, median, mode, and percentages were used to analyze data for the researcher's instruments on an item-by-item basis. Total percentile scores were obtained on the pretest and
posttest. These were then subjected to the two-tailed t-test to determine if significant changes in perception and intentions occurred.
Chapter IV
The Findings

The purpose of this study was to examine the perceptions of risks and intentions of sexual activity in eighth-grade students before and after an abstinence education program. The design utilized for this study was a quasi-experimental design. In this chapter, a description of the sample and analysis of the data in relation to the two null hypotheses are revealed. Additional findings also are presented.

Description of the Sample

Convenience sampling was utilized to collect the statistical data from middle-school students. The participants were enrolled in the eighth-grade science class at a rural northeast Mississippi middle school. The sample consisted of 71 students for the pretest and 67 students for the posttest. A total of 100 students participated in the abstinence education program. Of the 71 pretest questionnaires completed, 9 were discarded because of incomplete accompanying posttests. Sixty-seven
posttests were completed while 5 were discarded because of incomplete accompanying pretests. Therefore, 62 completed pretests and posttests were selected for data analysis.

The sample consisted of 24 males while 38 were females. The students were enrolled in the eighth grade and ranged in age from 13 to 16 years. The mean age for the sample consisted of 13.92 years. Details regarding demographic variables may be seen in Table 1.

Table 1
Demographic Data by Frequency and Percentage

<table>
<thead>
<tr>
<th>Demographic characteristic</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>38</td>
<td>61.0</td>
</tr>
<tr>
<td>Male</td>
<td>24</td>
<td>39.0</td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>43</td>
<td>70.0</td>
</tr>
<tr>
<td>African American</td>
<td>19</td>
<td>30.0</td>
</tr>
<tr>
<td>Age (years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>13</td>
<td>21.0</td>
</tr>
<tr>
<td>14</td>
<td>42</td>
<td>67.7</td>
</tr>
<tr>
<td>15</td>
<td>6</td>
<td>9.7</td>
</tr>
<tr>
<td>16</td>
<td>1</td>
<td>1.6</td>
</tr>
<tr>
<td>History of sexual activity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>18</td>
<td>29.0</td>
</tr>
<tr>
<td>No</td>
<td>44</td>
<td>71.0</td>
</tr>
</tbody>
</table>

N = 62. Percentages were rounded to the nearest tenth place. Mean = 13.92, Median = 14.00, Mode = 14.00.
Results of Data Analysis

The Holcomb Abstinence Education Pretest and Posttest questionnaire was used to gather data for this research. The questionnaire was utilized to analyze perceptions of risks and intentions of sexual activity. Data were analyzed using a two-tailed t test. Descriptive statistics regarding frequencies and percentages also were established for the research instrument. Data were submitted for analysis to determine perceptions of risks and intentions of sexual activity before and after the abstinence education classes.

Perceptions of risks. The first null hypothesis for this study was the following: There will be no difference in the perception of risk related to sexual activity among eighth-grade students before and after an abstinence education program. The Perceptions of Risks portion of the pretest included Questions 2 to 5 and Questions 3 to 6 on the posttest. These questions were scored as 2 = correct and 1 = incorrect. A “don’t know” response was coded as 1 = incorrect. This portion on the pretest and posttest was designed to ascertain the students' perception of risks and was scored according to the number of questions answered correct or incorrect. The sum of correct answers equaled a higher level of perception of risks. The pretest
mean perception score was 6.24. The posttest mean score was 6.71. Data analysis revealed a statistically significant increase with respect to the perception sum measure of correct responses. There was a significantly higher level of correct responses on the perception scale at posttest relative to pretest, $t(61) = 2.976, p = .004$, at $p \leq .05$. Therefore, the first null hypothesis was rejected. It was noted that the students' perceptions of risks increased after attending the abstinence education program as evidenced by their responses on the posttest.

**Intentions related to sexual activity.** The second null hypothesis for this study was the following: There will be no difference in intentions related to sexual activity among eighth-grade students before and after an abstinence education program. The intentions related to sexual activity portion of the questionnaire consisted of Questions 6 to 9 on the pretest and Questions 7-10 on the posttest. This section included questions to ascertain the students' intentions related to sexual activity. Each question was analyzed separately. The mean scale score was 5.56 for the pretest and 6.21 for the posttest. There was a statistically significant overall increase in the intentions related to sexual activity, $t(61) = -4.952, p = .000$, at $p \leq .05$. Therefore, the second null hypothesis
was also rejected. This finding indicated that, as a group, students had an increase in their intention to abstain from sexual activity until marriage.

Additional Findings

An item-by-item analysis of items regarding perceptions of risks is detailed in Table 2. Findings reflect that perceptions of risks increased from pretest to posttest regarding sexually transmitted diseases, pregnancy, broken hearts, and sexual problems with a future husband/wife.

Table 2
Perceptions of Risks by Frequency and Percentage

<table>
<thead>
<tr>
<th>Perception of risk</th>
<th>Pretest</th>
<th>Posttest</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$f^a$</td>
<td>$%^b$</td>
</tr>
<tr>
<td>Risk for STD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>47</td>
<td>75.8</td>
</tr>
<tr>
<td>No</td>
<td>15</td>
<td>24.2</td>
</tr>
<tr>
<td>Not at risk for pregnancy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>26</td>
<td>41.9</td>
</tr>
<tr>
<td>No</td>
<td>36</td>
<td>58.1</td>
</tr>
</tbody>
</table>

(table continues)
An item-by-item analysis of questions regarding intentions of sexual activity is detailed in Table 3. The findings reflect that intentions of sexual activity increased pretest to posttest regarding talking with parents about sex, waiting until marriage to have sex, waiting until after marriage to have sex again, and looking for a marriage partner who has had other sexual partners.
Table 3

Intentions Related to Sexual Activity by Frequency and Percentage

<table>
<thead>
<tr>
<th>Intention of sexual activity</th>
<th>Pretest</th>
<th>Posttest</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( f^a )</td>
<td>( g^b )</td>
</tr>
<tr>
<td>Talk with parents about sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>21</td>
<td>33.9</td>
</tr>
<tr>
<td>No</td>
<td>41</td>
<td>66.1</td>
</tr>
<tr>
<td>Plan to wait until marriage to have sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>30</td>
<td>48.4</td>
</tr>
<tr>
<td>No</td>
<td>32</td>
<td>51.6</td>
</tr>
<tr>
<td>Plan to wait again until after marriage to have sex again</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>6</td>
<td>9.7</td>
</tr>
<tr>
<td>No</td>
<td>56</td>
<td>90.3</td>
</tr>
<tr>
<td>Want to look for a partner who has had other partners</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>22</td>
<td>35.5</td>
</tr>
<tr>
<td>No</td>
<td>40</td>
<td>64.5</td>
</tr>
</tbody>
</table>

\(^a\)N = 62. \(^b\)Percentages were rounded to the nearest tenth place.
In this chapter, the results of data analysis for perception of risks and intentions related to sexual activity before and after a sexual abstinence education program have been presented. Results of the data analysis will be further examined in Chapter V, the outcomes from this study.
Chapter V

The Outcomes

The rate of teenage sexual involvement is at an all-time high. Traditional sex education is obviously not working. Many adolescents are unaware of the physical, psychological, and emotional sequelae of sexual involvement. The increase in teenage sexual involvement has caused national concern. Therefore, abstinence education programs have been initiated within some school districts in an effort to decrease the number of adolescent pregnancies and sexually transmitted diseases. The purpose of this quasi-experimental study was to investigate the perception of risks and intentions of sexual activity in eighth-grade students before and after an abstinence education program. Insight into these perceptions and intentions may provide significant information to direct nurse practitioners in primary care. Nola Pender’s Health Promotion Model was utilized to guide this research.

Two null hypotheses were used throughout this study. The first hypothesis stated that there will be no
difference in the perception of risks related to sexual activity among eighth-grade students before and after an abstinence education program. The second hypothesis stated that there will be no difference in the students’ intentions about abstinence among eighth-grade students before and after an abstinence education program. The sample consisted of male and female students, ages 13 to 16 years, drawn from one eighth-grade science class in a rural southeastern school district. Data were obtained by using self-report questionnaires before and after the abstinence education program. Descriptive statistics were used to analyze the demographic information. Means, median, modes, and percentages were used to analyze data for the researcher’s instrument on an item-by-item basis. Total scores were obtained on the pretest and posttest. These were then subjected to two-tailed t tests to determine if significant changes in perception and intentions occurred.

Summary and Discussion of the Findings

The sample consisted of 62 students for the pretest and posttest. Twenty-four males and 38 females participated, of whom 19 were African American and 43 were Caucasian.
Findings from the current study showed a significant increase in both perceptions of risks ($p = .004$) and intentions to abstain from further sexual behavior ($p = .000$). These findings indicate that after the abstinence program adolescents' thoughts about sexual activity before marriage changes, further substantiating the need for abstinence-based education in the school system.

The current findings are consistent with Arnold et al. (1999) who concluded that knowledge increased and abstinence beliefs solidified after an abstinence education program. Abstinence education is further supported by the Lieberman et al. (2000) study which concluded that school-based programs are considered one of the best ways to reach adolescents who are at risk for early sexual activity. These findings imply that health care providers and educators should continue to fight for the right to conduct abstinence education in schools.

This researcher discovered that the participants were particularly interested in local statistics related to STDs and pregnancies. The participants were actively involved in the discussion of STDs. Many of the adolescents had questions about transmission, myths, and treatments of STDs. Therefore, it may also be important to include information regarding STDs in abstinence programs.
and to be sure that adolescents are allowed ample time to ask questions about sexuality concerns, abstinence, and STDs.

An important additional finding was that while there was a slight decrease in the number of adolescents having sex at pretest (29%) to posttest (25.8%), the difference was not statistically significant. Although adolescents in this study appeared to make cognitive shifts related to perceptions and intentions around sexual behavior, participation in sexual activity did not decrease in the 4-week interim between the abstinence education program and the posttest. This further indicates that although education may impact the way adolescents think about sex, it does not always impact sexual behaviors, especially among teens who are already sexually active. It is evident that while abstinence education is important, timing of such interventions as well as other psychosocial variables must be examined as well. One such variable appears to be that of parental involvement in sex education and communication.

Lieberman et al. (2000) discovered that adolescents yearned for supportive adults, especially parents, to discuss sexual involvement. The intervention program for the current study encouraged students to solicit parental
communication regarding the decision to engage or abstain from sexual intercourse. There was a slight increase in the percentage of students who had discussed sex with his or her parents from pretest (33.9%) to posttest (37.1%). However, this increase was not statistically significant. These findings indicate that parents and or guardians need to be educated about the need for open communication and a systematic approach to teach their child about sex.

Conclusions

Based on the results of this study, the following conclusions were drawn:

1. There was a statistically significant increase in the perception of risks after attending an abstinence education program.

2. There was a statistically significant increase in the intentions related to sexual activity after attending an abstinence education program.

Implications for Nursing Practice

Findings from this study have many implications for advanced nursing practice. The family nurse practitioner may have opportunities to utilize the abstinence education program from this study as a guide for primary prevention of pregnancy, STDs, and decreased
self-esteem. This study suggested that an abstinence education program increased the perception of risks and reported intentions related to sexual activity. Nurse practitioners could focus on abstinence or "secondary virginity" as one approach to health practice. Nurse practitioners should explain to their sexually active adolescent patients that they have the power to choose abstinence or secondary virginity.

Family nurse practitioners should discuss the consequences of adolescent sexual activity with their parents. Appropriate counseling, educating, referral, and follow-up are of great importance to assist these patients. Nurse practitioners are responsible for providing accurate, appropriate information regarding sexuality and abstinence. Nurse practitioners should attempt to increase the adolescent's perception of risks and intentions related to sexual activity in an effort to provide optimal health care for the patient. Earlier intervention and encouragement of parental involvement and open communication will be beneficial for the adolescents.

Research. Findings from this study have several implications for future research in nursing. The significant changes between pretest and posttest scores regarding perceptions of risks and intentions to abstain
from sex imply that nurse practitioners should continue to conduct research regarding sexual abstinence education in an attempt to scientifically establish the effectiveness of the approach. Additional research is needed to establish specific sexual education of interest to the adolescents and parental involvement and open communication about sex and abstinence.

Education. Baccalaureate and master's students should be taught the value of offering sexual abstinence as an option. Nurse practitioner students need to be informed about the best methods to access schools and other community resources to allow them to reach the adolescent population. Nurse practitioners also should be familiar with the development of public education programs for parents and other persons who are interested and influential in the lives of adolescents.

Theory. Pender's Health Promotion Model was an appropriate model for this study because it supported the concepts of perceived control of health and perceived health benefits. Adolescents are more likely to choose sexual abstinence if they perceive that sexual abstinence is possible and that their health will benefit. Their choice to remain abstinent is also influenced by their perceived barriers and status of health. Such barriers may
be peer pressure, feelings of isolation, and previous sexual experience. Pender’s model concluded that such barriers may pose obstacles for the patient to choose abstinence.

Limitations

A number of limitations are inherent in any research study. In this current study a small, convenience sample may have affected generalization of the results. Time constraints limited the opportunity to discuss STDs in great detail. These data were obtained in one rural northeast Mississippi middle school which may affect the ability to apply results to urban schools or schools in other geographical areas of the United States. The school district utilized had adopted an abstinence-only sexual education policy that permitted negative discussion of contraception. Educator bias may have impacted the presentation of the program material. Also, other abstinence education programs may have influenced the adolescents.

Recommendations

Based on the findings of this study, the following recommendations are made for future nursing research and nursing practice:
Research
1. Replication of this study using a larger sample and looking at long-term actual sexual behaviors.
2. Replication of this study using a more ethnically diverse sample.
3. Replication of this study in other rural areas to expand the empirical evidence of perception of risks and intentions related to sexual activity.

Practice
1. Initiation of STD and sexual abstinence education in early adolescents.
2. Provision of parental education regarding communication skills and a systematic approach to teach their child about sex.
References


APPENDIX A

HOLCOMB ABSTINENCE EDUCATION PRETEST
Instructions: Please place a check (✓) in the appropriate box for each question.

Sex
☐ Male  ☐ Female

Race
☐ Caucasian  ☐ Asian  ☐ African American  ☐ Other  ☐ Hispanic

Age: ______

1. Have you ever had sex?  ☐ Yes  ☐ No

Please answer the following questions based on your sexual experience or inexperience.

2. If you choose to have sex, do you think that you are at risk for getting a sexually transmitted disease?
☐ Yes  ☐ No  ☐ Don’t know

3. If you choose to have sex, do you think that you are not at risk for becoming pregnant or getting your partner pregnant?
☐ Yes  ☐ No  ☐ Don’t know

4. If you choose to have sex, do you think that you are at risk for getting your heart broken?
☐ Yes  ☐ No  ☐ Don’t know

5. If you choose to have sex, do you think that you are at risk for sexual problems with your future husband/wife?
☐ Yes  ☐ No  ☐ Don’t know

6. Do you talk to your parents about sex?
☐ Yes  ☐ No  ☐ Don’t know

7. Do you plan to wait until marriage to have sex?
☐ Yes  ☐ No  ☐ Don’t know

8. If you have already had sex, do you plan to wait until after you are married to have sex again?
☐ Yes  ☐ No  ☐ Don’t know

9. Do you want to look for a marriage partner who has had other sexual partners?
☐ Yes  ☐ No  ☐ Don’t know
APPENDIX B

HOLCOMB ABSTINENCE EDUCATION POSTTEST
Holcomb Abstinence Education Posttest

Instructions: Please place a check (✔) in the appropriate box for each question.

1. Have you ever had sex?  ✔ Yes  ❌ No

Please answer the following questions based on your sexual experience or inexperience.

2. If you had sex, are you at home without adult supervision in the afternoons?
   ✔ Yes  ❌ No

3. If you choose to have sex, do you think that you are at risk for getting a sexually transmitted disease?
   ✔ Yes  ❌ No

4. If you choose to have sex, do you think that you are not at risk for getting pregnant or getting your partner pregnant?
   ✔ Yes  ❌ No

5. If you choose to have sex, do you think that you are at risk for getting your heart broken?
   ✔ Yes  ❌ No

6. If you choose to have sex, do you think that you are at risk for having sexual problems with your future husband/wife?
   ✔ Yes  ❌ No

7. Do you now plan to talk to your parents about sex?
   ✔ Yes  ❌ No

8. Do you now plan to wait until marriage to have sex?
   ✔ Yes  ❌ No

9. If you have already had sex, do you plan to wait until after you are married to have sex again?
   ✔ Yes  ❌ No

10. Do you want to look for a marriage partner who has had other sexual partners?
    ✔ Yes  ❌ No
APPENDIX C

APPROVAL OF MISSISSIPPI UNIVERSITY FOR WOMEN’S COMMITTEE ON USE OF HUMAN SUBJECTS IN EXPERIMENTATION
March 30, 2001

Ms. Cindy Holcomb
P. O. Box W-910
Campus

Dear Ms. Holcomb,

I am pleased to inform you that the members of the Committee on Human Subjects in Experimentation have approved your proposed research as submitted. The Committee requires that the results of any questionnaire or survey be kept under lock and key to ensure confidentiality and that they be kept for a sufficient length of time to protect both participant and researcher.

I wish you much success in your research.

Sincerely,

Vagn K. Hansen, Ph.D.
Vice President
for Academic Affairs

VH:wr

cc: Mr. Jim Davidson
    Dr. Patsy Smyth
    Graduate Nursing Program
APPENDIX D

CONSENT OF SUPERINTENDENT/PRINCIPAL
SUPERINTENDENT/PRINCIPAL CONSENT

I understand that Cindy Holcomb, a Registered Nurse and a graduate nursing student at Mississippi University for Women, will be conducting a research study in my school system. I understand that eighth grade science students will complete a questionnaire assessing their perception of risks and intentions about sexual activity. I understand that the students will participate in the You Are Unique Program. This will consist of lecture, statistics related to Mississippi and Lee County, signs and symptoms of sexually transmitted diseases, handouts, and a video. The video endorses abstinence rather than the "safe sex" campaign. A copy of this curriculum will be available for parents and guardians to view in the principal’s and school nurse’s office. I understand that the participant will be informed that participation in the study is voluntary and their confidentiality will be assured. Participants will also be informed that their participation or nonparticipation will have no effect on his/her grades or status at school. I also understand that participation in the study will require student and parental consent.

I understand the above information and give my consent to Cindy Holcomb to conduct the described study in my school system.

Superintendent signature: ______________________

Date: 4/3/01

Principal signature: ______________________

Date: 4-3-01

School System: Tupelo Public School System
APPENDIX E

PARENT/GUARDIAN CONSENT
Parent/Guardian Consent

My name is Cindy Holcomb. I am the school nurse and a graduate nursing student at Mississippi University for Women. I am conducting a research study concerning the outcomes of an abstinence education program on the perception of risks and intentions about sexual activity among eighth-grade students. The results of this study will be used to develop future education programs.

I am requesting permission for your son/daughter to participate in this study. Participation in this study includes completing a questionnaire before and 4 to 6 weeks after two 50-minute teaching sessions. This will take place in your child's Science class. These sessions will consist of lecture, statistics related to Mississippi and Lee County, signs and symptoms of sexually transmitted diseases, handouts, and a video. This video endorses abstinence rather than the "safe sex" campaign. A copy of this curriculum will be available for your viewing in the principal's and school nurse's office. Participation in no way implies that your son/daughter is sexually active. Participation is entirely voluntary and your son/daughter may refuse to answer any question or withdraw from the study at any time. Your son/daughter will be asked NOT to put his or her name on the questionnaire to ensure confidentiality. Your son or daughter's participation or nonparticipation will have no effect on his or her grades or status in school. If you choose to allow your child to participate, a written consent from the student is also required. Arrangements will be made for all nonparticipating students during these two teaching sessions.

If you have any questions regarding this study, please contact me in the school health center. My number is 840-5247.

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___ Yes, my child may participate in this study.
___ No, I do not wish for my child to participate in this study.

Student's Name:______________________________________________

Science teacher:__________________________________ Period:_______

Parent/Guardian's Signature:___________________________________

Date:________________________
APPENDIX F

STUDENT CONSENT
Student Consent

My name is Cindy Holcomb. I am the school nurse and a graduate nursing student at Mississippi University for Women. I am conducting a research study on the outcomes of an abstinence education program on the perception of risks and intentions about sexual activity among eighth-grade students. I would like to ask you to participate in my study. The study will require completion of a questionnaire before and 4 to 6 weeks after two 50-minute teaching sessions. The information obtained from the questionnaire will be used to help plan future programs to decrease the number of pregnancies and sexually transmitted diseases.

The questionnaire is not a test. There is no pass or fail, and it will not have any impact on your school grades or status in school. The choice to participate or not to participate is left up to each individual student. You will not put your name on the questionnaire, and there will be no way to find out your name. You may withdraw from the study at any time up to the time you turn in the questionnaire.

I have read the above statements and understand that this study will not have any impact on my school grades. I understand that all information will be kept strictly confidential.

___ Yes, I will participate in the study.
___ No, I do not wish to participate in this study.

Student’s Signature:____________________________________

Science Teacher:_________________________ Period:_______

Date:_________________________