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An analysis of factors influencing the future inclusion of selected topics in the high school health education curriculum as perceived by directors of health education in state departments of education

Willcox, David James, Ph.D.

The Ohio State University, 1991
AN ANALYSIS OF FACTORS INFLUENCING THE FUTURE INCLUSION
OF SELECTED TOPICS IN THE HIGH SCHOOL HEALTH EDUCATION
CURRICULUM AS PERCEIVED BY DIRECTORS OF HEALTH
EDUCATION IN STATE DEPARTMENTS OF EDUCATION

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate School of
The Ohio State University

By

David James Willcox, B.S., B.Ph.Ed., M.A.

* * * *

The Ohio State University
1991

Dissertation Committee:
P. Heit(Chairperson)
J. Altschuld
L. Meeks
E. Novak

Approved by
Adviser
School of Health, Physical
Education, and Recreation
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VITA

January 9, 1960 ............................. Born - England

1982 .................................................. B.Ph.Ed., The University of Otago, New Zealand

1982 .................................................. B.Sc., The University of Otago, New Zealand

1983 .................................................. T.C.Dip., Auckland Secondary Teachers' College, New Zealand

1984 -1986 ..................................... High School Teacher, St. Paul's Collegiate, Hamilton, New Zealand

1986 - Present ............................... Graduate Teaching Associate, The Ohio State University, Columbus, Ohio

1989 .................................................. M.A., The Ohio State University, Columbus, Ohio

PUBLICATIONS


FIELD OF STUDY

Major Field: Health, Physical Education, and Recreation
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CHAPTER I
INTRODUCTION TO THE PROBLEM

Overview

In this chapter the background and rationale for the investigation is described. A statement of the problem is made and subordinate purposes of the investigation are identified. From the problem statement and purposes, five research questions were generated. In addition, definitions of terms used in the investigation are specified and the major delimitations of the investigation are discussed.

Background and Rationale for the Investigation

During recent years the federal government has demonstrated an increasing awareness of the need to become involved in health promotion and disease prevention through the development and support of public health programs and school health education. In the landmark report, Healthy People: The Surgeon General's Report on Health Promotion and Disease Prevention (United States Department of Health and Human Services, 1979), five national health goals were announced to enhance the health of the population of the United States at the
five major stages of life (Appendix A). These goals were based on an assessment of health trends and an estimate of the potential for improvement through planned interventions. In addition, this report identified 15 priority areas as keys to the achievement of the five health goals (Appendix B).

A subsequent publication, *Promoting Health/Preventing Disease: Objectives for the Nation*, described 226 objectives within the 15 priority areas to be achieved by 1990 (United States Department of Health and Human Services, 1980). Iverson and Kolbe (1983) believed that 67 of these objectives might be achieved directly or indirectly through school based initiatives.

By 1986 The United States Department of Health and Human Services (1986) estimated that nearly half of the original 226 objectives were on target to being achieved. Substantial progress had also been made toward accomplishing a number of the objectives for school-aged youth. There was concern however, that progress in some very important areas had been slow or non-existent. Of particular note was the failure to make significant progress in the objectives relating to drug use, violent behavior, teenage pregnancy, and sexually transmitted diseases. Rohwer (1986) considers that combined with accidents, these four areas of behavior are the principal
threats to the health of adolescent youth. The failure to make progress in these areas may account for the fact that adolescents are the only age group in which mortality rates have actually increased in the recent past (Green, 1984).

The National Adolescent Student Health Survey, a collaborative effort conducted by the American School Health Association, The Association for the Advancement of Health Education, and the Society for Public Health Educators (1988) confirms that adolescents are not always making positive health-related decisions. With regard to acquired immune deficiency syndrome (AIDS) and other sexually transmitted diseases; violence, suicide, and injury prevention; and alcohol, drug, and tobacco use, many adolescents are at increased health risk because of behavior based on inadequate knowledge and unfavorable attitudes.

In the most recent federal initiative, Healthy People 2000: National Health Promotion and Disease Prevention Objectives (United States Department of Health and Human Services, 1990) three new broad goals have been created to bring people to their full potential in health (Appendix C). To achieve these three goals the original 15 priority areas have been reorganized and expanded to 22 areas (Appendix D) and over 300 measurable objectives for the year 2000 have been
identified. For adolescents and young adults, injury prevention, homicide and suicide, tobacco, alcohol, and drug use, and sexual behavior remain the key target areas to reduce morbidity and mortality.

The potential of health education to have an impact on the health of children and adolescents has been demonstrated in the 1980's by the School Health Education Evaluation and secondary data analysis of hundreds of studies conducted to determine the effectiveness of specific health education interventions (Connell, Turner, & Mason, 1985; Kolbe, 1985). The degree of effectiveness of health education, however, is limited to the extent that health education programs are fully implemented.

At the present time only 25 states require health education for high school graduation and relatively few school districts have comprehensive programs. Thus, the contribution of health education to the health of the nation's adolescents is more potential than real (Mason & McGinnis, 1985).

Preservice and/or inservice training and the provision of sufficient financial, material, and temporal resources are believed to be the most important variables effecting the degree of program implementation. To a large extent these
variables are controlled by administrators who have responsibility for school health education. At the school district level, school district health education coordinators have responsibility for approving specific curriculum content, allocating resources, and organizing inservice education. In contrast, directors of health education in state departments of education have an important role in establishing curriculum requirements for graduation, developing curriculum guidelines, and assisting school districts with the planning, development, and implementation of programs.

The support for specific health education curriculum topics by school health education administrators is an important factor in determining the inclusion of that topic in the high school curriculum. Consequently, lack of perceived need for specific topics on the behalf of school health education administrators is a potential barrier to curriculum implementation and school health education effectiveness.
Statement of the Problem

The purpose of this investigation was to assess the influence of current inclusion, relative importance, and potential for controversy on the future inclusion of selected health education curriculum topics at the high school level as perceived by directors of health education in state departments of education.

Subordinate purposes of the investigation included:

1. Assessment of the current status of selected high school health education topics within the health education curriculum as perceived by directors of health education in state departments of education.

2. Assessment of the relative importance of selected high school health education topics within the health education curriculum as perceived by directors of health education in state departments of education.

3. Assessment of the future status of selected high school health education topics within the health education curriculum as perceived by directors of health education in state departments of education.
4. Assessment of the degree to which selected high school health education topics are considered to be potentially controversial by directors of health education in state departments of education.

5. Determination of those factors which best predict the future status of selected high school health education topics as perceived by directors of health education in state departments of education.
Research Questions

From the problem statement and subordinate purposes of the investigation, the following five research questions were generated:

1. What percentage of schools in each state include selected topics in the current high school health education curriculum?

2. To what extent are selected health education topics considered potentially controversial by directors of health education in state departments of education?

3. To what extent are selected topics considered important components of the high school health education curriculum by directors of health education in state departments of education?

4. What percentage of schools in each state will include selected topics in the high school health education curriculum within the next five years?

5. What are the relationships between the variables used in the investigation? Subquestions included:
A. What are the zero order and partial correlations between current inclusion of selected topics in the high school health education curriculum, importance of the topics, potential for controversy of the topics, and predicted inclusion of the selected topics in the high school health education curriculum within the next five years as perceived by directors of health education in state departments of education?

B. To what extent are current inclusion of selected topics in the high school health education curriculum, perceived importance of selected topics, and perceived potential for controversy of selected topics useful as predictors of future inclusion of selected topics in the high school health education curriculum as perceived by directors of health education in state departments of education?
Variables Used in the Investigation

Independent Variables

1. Percentage of high schools in each state which include selected topics in the health education curriculum as perceived by directors of health education in state departments of education.

2. The relative importance of selected topics in the health education curriculum as perceived by directors of health education in state departments of education.

3. The extent to which selected health education curriculum topics are perceived as potentially controversial by directors of health education in state departments of education.

Dependent Variable

1. The percentage of high schools in each state which will include selected topics in the future health education curriculum as perceived by directors of health education in state departments of education.
Definitions of Terms Used in the Investigation

Health. A state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity (World Health Organization, 1947).

Health Education. A process in which we are exposed to learning experiences that will favorably shape our health related knowledge and attitudes resulting in the intelligent, self-direction of behavior (Rash, 1985).

School Health Education Administrators. Those persons who have principal responsibility for the establishment of policy regarding the conduct of health education in the public schools.

Directors of Health Education in State Departments of Education. Those persons employed by state education agencies who have responsibility for health education. The primary responsibilities of this position include technical assistance to local school districts in program planning, development, and liaison with health and education organizations (American School Health Association, 1981).
Curriculum. All the experiences which are offered to students under the auspices or direction of the school (Forshay, 1969; Doll, 1970).

Curriculum Implementation. The extent to which the curriculum plan is put into action in the classroom (Connell, Turner, & Mason, 1985).

Delimitations of the Investigation

1. This investigation involved the perception of directors of health education in state departments of education. It was assumed that this population has a potential influence on the implementation of school health education. It was recognized however, that many population groups including principals, members of school boards, teachers, parents, students, and school district health education coordinators may have a significant influence on the implementation of the health education curriculum, and thus, program effectiveness. No attempt was made in this investigation to examine the degree of influence the study population has on the school curriculum, nor was an attempt made to suggest that the study population is more or less influential than other population groups.
2. This investigation was concerned with the health education curriculum in high schools. No attempt was made to generalize results to the K-8 public school health education curriculum. The elementary school health education curriculum is distinct from the high school health education curriculum and as such should be studied independently.

3. The scope of this investigation is restricted to selected health education topics. No attempt was made to assess the need for all possible topics within the health education curriculum as perceived by school district health education coordinators.

4. The investigation was concerned with the current perceptions of directors of health education in state departments of education. Because health education issues and concerns change rapidly, the investigation was time-dependent. Caution must be taken in the future analysis and interpretation of the results.

5. As a consequence of a lack of previous research in this area, the theoretical framework used in the investigation was not based on a pre-existing model. While analyses were conducted to examine the strength of relationships between variables, caution must be used in interpreting the results for
the purpose of explanation and/or to suggest causation. A major objective of the investigation was to identify important areas for future research. Thus, when a high degree of association is shown between two variables, it is appropriate to consider this relationship as one which is worthy of further investigation rather than as a conclusive finding.

Summary

In this chapter, the background and rationale for the study were described. Adolescence was identified as a stage in life of particular vulnerability for health. The importance and potential of school health education to contribute to adolescent health was discussed. School health education administrators were identified as a group which may be a potential barrier to high school health education curriculum implementation and subsequently school health education effectiveness.

Following the background and rationale for the investigation a statement of the research problem was made and subordinate purposes for the investigation listed. Five research question were generated from the problem statement and subordinate purposes. Definitions for important terms used throughout the investigation were stated. Finally, the major delimitations of the investigation were discussed.
CHAPTER II
REVIEW OF RELATED LITERATURE

Overview

In this chapter, a review is made of selected literature pertinent to the investigation. The review is divided into two major sections. Section I is concerned with adolescent health problems and is sub-divided into the following seven areas:

1. Introduction
2. Adolescent pregnancy
3. Sexually transmitted diseases among adolescents
4. Acquired immune deficiency syndrome and adolescence
5. Adolescent drug misuse and abuse
6. Adolescent suicide
7. Adolescent violence

These areas are key target areas for reducing adolescent morbidity and mortality identified by the United States Department of Health and Human Services (1990).
In this section the importance of studying the health education topics selected for the investigation will be demonstrated. An important criterion used in the selection of this literature was the date of publication. Because health issues and concerns change rapidly, emphasis was placed on literature published within the last five years.

Section II of the literature review is concerned with school health education administrators. This section is subdivided into the following three parts:

1. Research on school health education effectiveness.
2. The role of administrators in school health education effectiveness.
3. Controversy in health education as a potential barrier to administrative support.

The purposes of this section of the literature review are to show how the investigation was linked to previous research in health education and to show the importance of studying school health education administrators.
SECTION I
ADOLESCENT HEALTH PROBLEMS

Introduction

During the Twentieth Century the health of American children and adolescents has improved dramatically. Infectious diseases such as diphtheria, measles, and polio, once major threats to the health of children, are now largely controlled through immunization. Despite the progress made in infection control, there is still need for concern about the health of American adolescents. As noted by Rohwer (1986), the death rate for all children in the United States is still slightly higher than in other developed countries. Gephart, Egan, and Hutchins (1984) believe that part of the problem is that not all groups in American society have shared equally in improvements in lifestyle and health care. According to Gephart et al. (1984), the health status of children and adolescents is dependent on ethnic origin, geographic location, family income and education, and age.

Adolescence is seen as a particularly vulnerable period for health problems in the United States. While steady progress has been made in improving the health of all age groups during this century, this progress has not been sustained in the adolescent population. As noted by Green (1984),
adolescents are the only age group for which mortality rates have actually increased in the recent past. According to the United States Department of Health and Human Services (1985a), this increase in adolescent mortality may be attributed to increases in the rates of homicide, suicide, and drug abuse. Both O'Rourke (1985) and Rohwer (1986) agree with this conclusion, adding that adolescent pregnancy and sexually transmitted diseases should also be included among the major threats to adolescent health and well-being today. It is clear that each of these health problems is a consequence of individual behavior and they are therefore amenable to educational intervention. Rohwer (1986) believes that the high-risk taking behaviors responsible for these health problems may be attributed to judgmental errors, aggressiveness, and ambivalence among adolescents.

Adolescent Pregnancy

Adolescent pregnancy has been described by Lancaster and Hamburg (1986) as a problem of epidemic proportions. Approximately 1.1 million American teenage girls become pregnant each year (United States Department of Health and Human Services, 1990). By the age of 20 it is estimated that 4 in 10 adolescent girls have had a pregnancy (Hayes, 1987). According to Wessman (1985), more than 500,000 of these
girls will continue the pregnancy to completion; thus, each year births to adolescents account for one in eight of the live births in the United States. Reducing this pregnancy rate among adolescents and particularly unmarried adolescents is seen as an important health objective for the nation by the year 2000 (United States Department of Health and Human Services, 1990).

Jones et al. (1985) report that the adolescent pregnancy rate in the United States is the highest among developed nations. According to Jones et al. (1985), the adolescent pregnancy rate in the United States is twice as high as the rate in Britain, France, and Canada, three times as high as the rate in Sweden, and seven times higher than the Dutch rate. As noted by former United States Secretary of Education, William Bennett (1987), teenage pregnancy rates are at or near an all time high.

Not surprisingly, the increasing rate of adolescent pregnancy is associated with an increasing rate of adolescent sexual activity. The proportion of adolescent females who are sexually active has increased steadily throughout the 1970's and early 1980's (Hofferth & Hayes, 1987). In a study of metropolitan areas, Tolsma (1988) found that more than half of the girls and two thirds of the boys who had never married had
engaged in sexual intercourse. By the age of 20, the United States Department of Health and Human Services (1990) reports that an estimated 78% of adolescent girls and 86% of adolescent boys have been sexually active. Equally significant from the perspective of education is the finding from the National Adolescent Student Health Survey (The American School Health Association, The Association for the Advancement of Health Education, and The Society for Public Health Education, 1989) that among 8th and 10th grade students, 62% of the boys and 43% of the girls believe that it is acceptable for people of their age to have sex with someone they have dated for a long time. This study represents the most comprehensive study of adolescent health behaviors and knowledge conducted in the last 25 years; involving a national sample of 11,419 students from 220 schools.

The number of adolescents who are sexually active is not the only factor determining the high rate of teenage pregnancy. The Governor's Task Force on Adolescent Sexuality and Pregnancy (1986), report that adolescents in Europe are as sexually active as their American counterparts. Lower pregnancy rates in Europe may be attributed to wider spread use of contraception. Hayes (1987) reports that despite an increase in contraceptive use among adolescents over the past 10 years, 15% of sexually active girls have never used
contraceptives. In addition, less than 20% of girls aged 15 to 19 report using a prescription method of contraception at first intercourse. The United States Department of Health and Human Services (1990) report that only one third of sexually active teenagers use contraception at all times, with lower income teenagers being less likely to use contraception consistently. According to Hayes (1987), there is on average a one year delay between the initiation of intercourse and the use of a prescription method of contraception. Of those adolescent females who do not use contraceptives, approximately 60% become pregnant within one year of initiating intercourse. More than one fifth of these pregnancies occurring within the first month (United States Department of Health and Human services, 1990)

The consequences of teenage pregnancy are enormous for both the individual and the nation. It has been estimated that only half of the adolescent women who give birth complete high school, compared with 96% of those who do not have children before the age of 20 (Card & Wise, 1978). As a consequence of this, Hayes (1987) reports that women who have their first baby as a teenager have lower status occupations, accumulate less work experience, and earn less annually than women who delay childbearing.
In 1989, the direct cost to the nation of teenage pregnancy in terms of public program expenditures was over $20 billion (Centers for Population Options, 1990). The real cost to the nation however, as noted by the Governor's Task Force on Adolescent Sexuality and Pregnancy (1986), must be expressed in terms of poverty, unemployment, family disintegration, juvenile crime, and child abuse.

Given the extent of the teenage pregnancy problem and its impact on society, this would seem to be an important topic for the school health education curriculum. Surprisingly, a study by Planned Parenthood (1986) indicates that only about 35% of high school students are receiving sexuality courses which might be considered comprehensive.

As noted by Yarber and McCabe (1984), it would appear that most sexuality programs that are currently being offered in high schools are biology oriented. Important but perhaps more controversial topics such as values, decision making skills, sexual variance, and the nature of sexual intercourse are often avoided. Controversy regarding the content and timing of sexuality education was seen by the United States Department of Health and Human Services (1986) as an important factor in the failure to make substantial progress toward the 1990 goal of reduction in adolescent fertility.
Yarber and McCabe (1984) believe that administrators fear a strong negative community reaction to discussion of controversial topics. Thus, to avoid potential controversy, components of the sexuality curriculum are not covered.

Sexually Transmitted Diseases Among Adolescents

Unwanted pregnancy is not the only health concern associated with the high rate of sexual activity among teenagers reported by Hofferth et al. (1987) and Tolsma (1988). According to the United States Department of Health and Human Services (1986), the problem of sexually transmitted diseases has also been expanding at an alarming rate.

Almost 12 million cases of sexually transmitted diseases occur annually. Of these 86% occur in people aged 15 to 29 (Centers for Disease Control, 1990). Approximately 2 1/2 million of these people are teenagers (American School Health Association et al., 1989). When adjusted for sexual activity, the 15 to 19 age group is believed to have the highest overall rate of sexually transmitted diseases (Governor's Task Force on Adolescent Sexuality and Pregnancy, 1986). By the age of 21 it is estimated that one in five people have required treatment for a sexually transmitted disease. This represents approximately 25% of those who are sexually active (United States Department of Health and Human Services, 1990).
Of particular concern is the incidence of syphilis, gonorrhea, chlamydia, herpes, and pelvic inflammatory disease among adolescents. According to the United States Department of Health and Human Services (1990), the incidence of syphilis has reached epidemic proportions and is at an all time high. The Centers for Disease Control (1991a) report that the incidence of primary and secondary syphilis has increased 75% since 1985. This rapid increase in the incidence rate of syphilis in the general population is reflected in the adolescent population.

Gonorrhea is the most frequently reported communicable disease in the United States (United States Department of Health and Human Services, 1990). Recently, there has been an increased incidence of gonorrhea in the teenage population, most notably in the 10 to 14 year age group (Meeks & Heit, 1992). Women aged 15 to 24 now have by far the highest incidence of gonorrhea with the rate being three times higher than the next highest incidence group 25 to 29 year olds (Leslie-Harwitt & Meheus, 1989).

Adolescents also have the highest incidence rate for chlamydial infection (Centers for Disease Control, 1991b). According to Leslie-Harwitt and Meheus (1989), the prevalence
of chlamydia among sexually active adolescents in the United States ranges from 10 to 30%, the majority of whom are asymptomatic.

The incidence of herpes simplex virus type 2 is at an all time high in the adolescent population. The Centers for Disease Control (1991b) report that by their late teens approximately 4% of whites and 17% of blacks have been infected with herpes simplex virus type 2.

Pelvic inflammatory disease is one of the most significant diseases among adolescents. Sixteen to 20% of the approximately 1 million annual cases of pelvic inflammatory disease occur in adolescents (Centers for Disease Control, 1991b). When adjusted for sexual activity, adolescent females have the highest age specific rate for pelvic inflammatory disease with an estimated one in eight sexually active adolescent females suffering from the disease (Centers for Disease Control, 1991b; Meeks and Heit, 1992).

An alarming trend in recent times is the association between drug use, particularly crack cocaine, and the rising incidence of syphilis, gonorrhea, HIV, and other sexually transmitted diseases. According to Marx, Aral, Rolfs, Sterk, and Kahn (1991), this relationship between drug use and
sexually transmitted diseases may be attributed to drug use mediating high risk sexual behavior.

Findings from the National Adolescent Student Health Survey indicate that many adolescents have misconceptions about how to avoid, identify, and obtain care for sexually transmitted diseases (American School Health Association et al., 1989). For example, more than 40% of the 8th and 10th grade students sampled did not know that discharge of pus from the sex organs and the experience of pain when going to the bathroom were potential signs of sexually transmitted disease. In terms of preventing sexually transmitted disease, 55% of the students sampled in the National Adolescent Student Health Survey incorrectly believed that birth control pills are effective in prevention and 67% believed that washing after sexual activity is an effective method of prevention. Another interesting finding of the National Adolescent Student Health Survey was that many adolescents perceive barriers to obtaining care for suspected sexually transmitted diseases. Thirty-eight percent of the sample reported that they would not know where to go to obtain medical care. Furthermore, 44% of the sample reported that they would be too embarrassed to seek help from a doctor, and nearly 80% mistakenly believed that clinics were obligated to inform parents of their condition.
prior to treatment (American School Health Association et al., 1989).

The United States Department of Health and Human Services (1986) suggests that failure to reduce the incidence of sexually transmitted diseases is at least in part a result of inadequate school based instruction. In 1982 only 66% of metropolitan school systems provided systematic instruction about sexually transmitted diseases, and the quality and effectiveness of this instruction varied considerably (United States Department of Health and Human Services, 1986a). It would therefore seem important to assess the need for education regarding sexually transmitted diseases as perceived by those administrators responsible for school health education.

Acquired Immune Deficiency Syndrome

Acquired immune deficiency syndrome (AIDS) was first reported in the United States in May, 1981 (Gottlieb, Schroff, Schanker, Weisman, Fan, Wolf, et al.; 1981). In a relatively short period of time this disease has spread throughout the population and is now the leading cause of death among single American men ages 15 to 50. Although more prevalent in the male homosexual community, it is estimated that within the next five years AIDS will be the leading cause of death among
all people ages 20 to 29 (Futrell, 1988). According to the United States Department of Health and Human Services (1990) approximately 1 million people in the United States are currently infected with HIV. It is projected that by 1993 between 390,000 and 480,000 cases of AIDS will have been diagnosed in the United States and that between 285,000 and 340,000 people will have died from the disease (United States Department of Health and Human Services, 1990).

As noted by Weinstein (1988), AIDS is developing into a public health crisis that threatens to tax every aspect of our health delivery system beyond its capability. It is estimated that the cost of treating each AIDS patient is $75,000. As early as 1992 the projected annual cost of AIDS to the nation is expected to reach $13 billion (United States Department of Health and Human Services, 1990).

The virus responsible for the development of AIDS, HIV, is transmitted from person to person via the exchange of body fluids such as blood, semen, and vaginal secretions. Such transmission generally occurs as a consequence of sexual activity, the sharing of needles for intravenous drug use, or from a mother to her developing baby. Once in the infected person, the virus tends to preferentially infect Helper T-cells,
impairing the immune system of individuals and making them susceptible to opportunistic diseases.

According to the United States Department of Health and Human Services (1989) only about 300 American teenagers have been diagnosed with AIDS to date. Perhaps more important, however, is the fact that over a third of this total were diagnosed in 1988 (United States Department of Health and Human Services, 1989). Although the absolute incidence of AIDS in the adolescent population is small there is particular concern for this age group because of the high incidence of behaviors that place the group at high risk for AIDS (Haffner, 1988). Tolsma (1988) reports that in metropolitan areas more than half of the females and two thirds of the males who have never married have engaged in sexual intercourse by the age of 18. Of those who are sexually active, only 47% of the males and 25% of the females report using condoms (Planned Parenthood Federation of America, 1986). Similar findings have been obtained by the United States Department of Health and Human Services (1990) who note that only 26% of sexually active women aged 15 to 19 report that their partners used a condom at last sexual intercourse.

It also is important, as noted by Remafedi (1987), to acknowledge the homosexual activity of adolescents, because,
this is considered particularly high risk behavior. In an earlier study, Sorensen (1973) found that 5% of boys aged 13 to 15 and 17% of boys aged 16 to 19 reported having at least one homosexual experience. Another group which is at particularly high risk for contracting AIDS are the estimated 125,000 to 200,000 teenage men and women who become involved in prostitution each year (Bachman, Johnston, & O'Malley; 1987).

In addition to the risk of acquiring AIDS through sexual activity, the use of intravenous drugs also poses a threat to teenagers. Johnston, Bachman, and O'Malley (1987) report that between .9 and 1.5% of high school seniors have used heroin. Some teenage athletes may also be using needles to inject anabolic steroids which are illegally obtained. Haffner (1988), also believes that teenagers may be sharing needles for reasons other than intravenous drug use. According to Haffner (1988), many teenage girls pierce each others ears, and the same needle may be used by several girls at a session.

Despite the relatively high level of sexual activity that exists among adolescents, Sturnin and Hingson (1987) and DiClemente, Zorn, and Temoshok (1986) suggest that many adolescents do not perceive themselves to be at risk for the development of AIDS. This fact is not surprising given that adolescents have many misconceptions about AIDS. Helgerson,
Peterson, and The AIDS Education Study Group (1988) report that in a study of 657 junior high and senior high students in two Connecticut school districts, many were misinformed about the methods of AIDS transmission, high risk groups, and behaviors which help to reduce the risk of developing AIDS. These findings are confirmed by the National Adolescent Student Health Survey (American School Health Association et al., 1989). Results from this survey indicate that approximately 70% of adolescents believe that blood transfusions are a common way to get AIDS today, and almost half believe there is an increased risk of AIDS when donating blood.

As yet, there is no known cure for AIDS and the probability of dying as a consequence of the condition is, according to Price (1986), 100%. With more than 20 variants of the virus having been found, the possibility of developing a vaccine for the virus also seems remote at the present time. Consequently, as noted by the United States Department of Health and Human Services (1988), the Centers for Disease Control (1986), The National Academy of Sciences (1986), The Surgeon General of the United States (1986), and the United States Department of Education (1987), the best available means of controlling the AIDS epidemic is through education.
As observed by the United States Department of Health and Human Services (1988), the virus responsible for AIDS is transmitted almost exclusively by behaviors that individuals can modify. To be most appropriate and effective, education about AIDS should, according to the United States Department of Health and Human Services (1988) and the Coalition of National Health Education Organizations (1988), be conducted within a more comprehensive school health education program. Such programs establish a foundation for understanding the relationship between personal health and behavior (Appendix E).

Despite the potential severity of the AIDS epidemic and the recommendations of the federal government, AIDS education in the public schools is far from universal. Dawson, Cynamon, and Fitti (1988) report that the findings of The National Health Interview Survey show that only approximately 40% of parents report that their children had received instruction about AIDS at school. Similarly, in a national study involving 4,738 students in grades 3 through 12 from 199 public schools, 54% of the students reported learning about AIDS in school (Metropolitan Life Foundation, 1989).

According to The National Association of State Boards of Education (cited in Kerr, 1989) only 25 states mandate AIDS education. At the school district level it has been found that
65% of school districts require HIV education but that only 5% require this to occur in each year from grade 7 through 12. The national health promotion and disease prevention objective for the year 2000 is that at least 95% of public schools will have age-appropriate HIV education for students in grades 4 to 12 (United States Department of Health and Human Services, 1990).

Lohrman (1988) believes that potential controversy is a major barrier to AIDS education in the public schools. According to Lohrman (1988), the problem is that many people perceive AIDS to be a moral issue rather than a major health issue. However, as suggested by Price (1986), timidness in dealing with human sexual behavior must be set aside. AIDS is of such importance that understanding the health consequences of behaviors such as sexual promiscuity, homosexuality, prostitution, and intravenous drug use must be considered more important than the reaction of a vocal minority.

Adolescent Drug Misuse and Abuse

In the 18th annual Gallop poll of the Attitudes of the Public Towards the Public Schools, drug use by students was identified as the most important problem facing the public schools (Gallup, 1986). In general, investigators have found that drug use among adolescents increases with age or grade
level, is more prevalent among males than females, and is more prevalent among whites than blacks (Palmer & Ringwalt, 1988; Beck & Summons, 1987).

The drug most frequently used by high school students appears to be alcohol. Using a stratified cluster sample of students in grades 7 through 12 in North Carolina, Palmer and Ringwalt (1988) discovered that nearly 60% of the students sampled reported having used alcohol. Not surprisingly, alcohol use was shown by Palmer and Ringwalt to increase with grade level. In the 7th and 8th grade strata, 39% of the sample reported having used alcohol whereas in the 11th and 12th grade strata, Palmer and Ringwalt found that the incidence of alcohol use was as high as 77%. Similar findings have been reported by other investigators. In the Metropolitan Life Foundation (1989) study it was found that 66% of the high school students and 40% of the junior high school students had used alcohol. Using a stratified random sample of 2,000 high school students in the Boston area, Wechsler, Rohman, Kotch, and Idelson (1984) found that 82% of the sample aged over 16 had used alcohol. Similarly, in a study involving nearly 18,000 high school seniors, Johnston, Bachman, and O'Malley (1985) found that 90% of the sample reported having used alcohol. In the National Adolescent Student Health Survey, 77% of the 8th grade students and 89% of the 10th grade students reported
alcohol use. Forty-two percent of this sample reported drinking alcohol in the month preceding the study, and 32% reported consuming five or more alcoholic drinks on one occasion within two weeks of the study (American School Health Association et al., 1989).

Although used by fewer adolescents than alcohol, tobacco use is also a major health concern for this age group. Koop (1986) notes that cigarette smoking is still the chief avoidable cause of death. Koop (1986) estimates that cigarette smoking contributes to more than 360,000 premature deaths annually and costs the nation billions of dollars in terms of health care and lost productivity. In the National Adolescent Student Health Survey, it was found that 51% of the 8th grade students and 63% of the 10th grade students had tried cigarettes (American School Health Association et al., 1989). In contrast, the North Carolina study conducted by Palmer and Ringwalt (1988) found a lower incidence of smoking in their sample. The percent of students who reported ever having tried cigarettes in the Palmer and Ringwalt sample was approximately 37% in the 7th and 8th grade, 52% in the 9th and 10th grade, and 58% in the 11th and 12th grade.

It has been suggested by some investigators that the incidence of smoking among adolescent females is higher than
that among males (The United States Department of Health and Human Services, 1985). This suggestion was not supported by the Palmer and Ringwalt (1988) study where the incidence of smoking was approximately equal among the sexes. These findings of equal or greater incidence of cigarette use among females than males represents a deviation from the normal pattern of a higher percentage of drug use among males.

The use of smokeless tobacco which was more prevalent in the United States prior to the mass production of cigarettes has increased in popularity since the 1970's. According to Olds (1988), adolescents, and particularly adolescent males, account for much of this resurgence of popularity. In a random cluster sample of 96 high schools, Olds (1988) found that 32% of the high school seniors reported having used smokeless tobacco. Approximately 11% of the male high school seniors in Old's study reported regular and current use of smokeless tobacco. In comparison, Olds found that only approximately 1% of the female high school seniors reported regular and current use. Similar results were obtained from the North Carolina study. Palmer and Ringwalt (1988) report that 35% of the 11th and 12th grade students in their sample had used smokeless tobacco. The incidence of smokeless tobacco use was also found to be much higher among males than females. In Palmer and Ringwalt's sample, nearly 2% of the
females reported current use compared with nearly 22% of the males. An interesting finding reported by both Olds (1988) and Palmer and Ringwalt (1988) is that the incidence of smokeless tobacco use among adolescents actually decreases after the 10th grade. In the National Adolescent Student Health Survey, only 12% of the boys and 1% of the girls reported current use of chewing tobacco (American School Health Association et al., 1989). This finding appears to contradict, somewhat, the findings of Olds (1988) and Palmer and Ringwalt (1988).

The third most popular drug used by adolescents appears to be marijuana. Palmer and Ringwalt (1988) report that 48% of the 11th and 12th graders in the North Carolina sample report having used marijuana at least once, and nearly 20% report being current users. Johnston, et al. (1985) and Wechsler et al. (1984) found a similar incidence of marijuana use. Fifty-five percent of the sample studied by Johnston et al. (1985), and 57% of the sample studied by Wechsler et al. (1984) reported having used marijuana. In the National Adolescent Student Health Survey, 15% of the 8th grade students and 35% of the 10th grade students report marijuana use (American School Health Association et al., 1989).

Although used less frequently than alcohol, tobacco, and marijuana, other drugs including; amphetamines, barbiturates,
hallucinogens, heroin, and cocaine pose a serious threat to the health of adolescents. Wechsler et al. (1984) report that 17% of the 7th and 10th graders sampled in Boston had used cocaine. This is a substantially higher incidence than that reported by other investigators. Palmer and Ringwalt (1988) observed that 10% of the 11th and 12th grade students in their sample had used cocaine with only 3% being current users. Similarly, in a national survey of 130 high schools, Johnston, Bachman, and O'Malley (1987) found that 13% of the seniors reported having tried cocaine in the previous year. In the National Adolescent Student Health Survey, only 5% of the 8th graders and 10% of the 10th graders reported having tried cocaine.

Less information is available about the use of other drugs. Wechsler et al. (1984) report that approximately 18% of the 7th and 10th graders sampled had used amphetamines, 14% had used barbiturates, and 14% had used hallucinogens. In contrast, in the study by Palmer and Ringwalt the incidence of reported hallucinogen use is only 7% in the 11th and 12th grade strata and less than 5% over the entire sample. The use of heroin in the adolescent population is estimated at less than 1% of the population based on the national sample used by Johnston et al. (1987).
One of the objectives for drug education programs established by the United States Department of Health and Human Services (1980) was that by 1990 80% of high school seniors should state that they perceive great risk to be associated with frequent cigarette smoking, marijuana use, barbiturate use, and alcohol intoxication. The actual perceived risk for the use of these drugs in 1984 was: cigarette smoking nearly 64%, marijuana use nearly 67%, barbiturate use nearly 69% and alcohol intoxication nearly 42% (United States Department of Health and Human Services, 1986). This objective was not achieved. This result may be indicative of lack of drug education in the nation's schools and/or ineffective drug education.

Goodstadt (1986) believes that the failure of drug education programs to date can be attributed to a number of factors including insufficient allocation of time and resources. As noted by Hansen (1988), while the average American will pay nearly $1,000 in taxes each year to treat drug and alcohol abuse problems, only $1.75 will be spent on each child to prevent drug use. While a vast range exists in the time allocated to school drug education programs, many are inadequate, consisting of a single film or presentation (Goodstadt, 1986). Such programs do not allow sufficient time for inclusion of content and for the development and rehearsal
of skills and behaviors. In the Metropolitan Life Foundation (1989) study it was found that exposure to three or more years of health education was necessary to make a difference in regard to smoking, drinking, and other drug use behaviors.

Another reason suggested for the failure of drug education programs is inadequate implementation. Both St. Pierre and Miller (1985) and Goodstadt (1986) note that there has been a high investment in the development of a multitude of different drug education programs but similar investment has not been made in ensuring that the programs are optimally implemented. Pentz (1986) cites administrators as the key decision makers in the adoption of new drug education programs and the extent to which they are implemented. This being the case, it is important for health education curriculum developers to have an appreciation of the types of drug education programs which administrators are likely to support.

Adolescent Suicide

For many young people, adolescence is a time of particular instability and vulnerability. With so many physical, emotional, and social changes occurring in their lives, adolescents may feel that they have lost control. Career goals, decisions about the future, and sexual relationships and expectations, all contribute to fear, doubt, and confusion (Hals,
Thus, although disturbing, it is not surprising to learn that suicide has become the second leading cause of death for young persons aged 15 to 24 (American School Health Association et al., 1989). Since 1970, the American School Health Association et al. (1989) report that the rate of suicide for adolescent males has increased by 50%.

According to Seibel and Murray (1988), 1,000 adolescents attempt to commit suicide each day, and 18 succeed. In the National Adolescent Student Health Survey it was found that among the 8th and 10th graders studied, as many as 42% of the girls and 25% of the boys had seriously thought about committing suicide at some time in their lives (American School Health Association et al., 1989). Perhaps more importantly, 18% of the girls and 11% of the boys in the study reported that they had actually attempted suicide (American School Health Association et al., 1989).

Hals (1985) believes that adolescents are important as the first line of defense against suicide. Students need to know why people attempt suicide, what behaviors are exhibited by potential suicide victims, and how they can help. An important finding of the National Adolescent Student Health Survey was that many adolescents would find it hard to obtain help for a friend who was contemplating suicide. According to
the American School Health Association et al. (1989), 56% of 8th and 10th grade students would find it difficult to tell a teacher or school counselor about a potentially suicidal friend, and 63% would find it difficult to tell a member of their friend's family.

Although education about suicide appears to be an important area to include in the school curriculum, many administrators and parents are concerned about the possibility of encouraging suicide clusters. According to O'Carroll, Mercy, and Steward (1988), between 1% and 5% of all suicides in adolescents occur in clusters. The occurrence of suicide clusters is a real phenomenon but there is a lack of evidence to link suicide clusters with suicide education. It is therefore important to examine the extent to which school health education administrators support suicide education in the public schools.

Adolescent Violence

According to the American School Health Association et al. (1989), adolescents, particularly male adolescents have the highest victimization rates for crimes of violence. Among black males ages 15 to 24 homicide is still the leading cause of death, despite a 13% decrease in the homicide rate in this group since 1978 (Centers for Disease Control, 1988).
In the National Adolescent Student Health Survey, more than one-third of the 8th and 10th grade students sampled reported having been threatened with violence while at school, and 13% report actually being attacked. Outside of school, one third of the students reported being threatened with violence and 16% report having been attacked. Forty-nine percent of the boys in the survey reported being in a fight during the last year and 18% of the girls reported that someone had attempted to force them to engage in sexual activity (American School Health Association et al., 1989).

Other notable findings of the National Adolescent Student Health Survey were that many adolescents carried weapons to school and that adolescents are unaware of, or disregard, high-risk situations. Twenty-three percent of the boys reported carrying a knife to school on at least one occasion during the previous year and 7% reported that they carry a knife to school on a daily basis. Three percent of the boys in the survey also reported carrying a handgun to school at least once during the previous year and 1% reported that they carry a handgun on a daily basis. Nearly three quarters of the sample reported that they placed themselves at risk for violence by walking alone late at night and 63% reported going to places that were known to be dangerous (American School Health Association et al., 1989).
The incidence of violent behavior among adolescents both in and out of the school environment, suggests that this is an important area to include in the school health education curriculum and an area which should be addressed by the school health program more generally.

In any discussion of adolescent health concerns the reliability and validity of self-reported data is an important issue. While acknowledging this issue, discussion of this sometimes complex phenomenon is beyond the scope of this review.

SECTION II
SCHOOL HEALTH EDUCATION ADMINISTRATORS

Research on School Health Education Effectiveness

As noted by Pigg (1989), school health programs have been making an important contribution to public health in America since the early 1800's. The value of school health education in improving the well-being of students has until recent times, however, been accepted on the basis of conventional wisdom and professional conviction. It is only in the last two decades that essential evidence regarding the
efficacy of health instruction in improving the health status of children and adolescents has been gained.

During the early 1980's, the results of several hundred studies conducted to determine the effectiveness of various school health programs were synthesized in at least 15 meta-evaluations. According to Kolbe (1985), the most important generalization supported by this research is that school based health education programs consistently improve targeted health related knowledge, attitudes, and skills, and somewhat inconsistently improves targeted health behaviors. In reviewing the school health effectiveness research, Kolbe (1985) concludes that the probability of a program being effective with regard to influencing health behaviors is dependent upon such factors as: the specificity of the intervention in addressing the targeted behavior, the provision of sufficient time for the intervention, the appraised quality of the intervention, parental and peer support generated or existing for the behavior, the degree to which the intervention is implemented, and reinforcement of the intervention over time.

Support for these findings based on secondary data analysis was provided by the School Health Education Evaluation. Conducted over a period of four years, The School
Health Education Evaluation involved over 30,000 children (grades four through seven), in 1,071 classrooms from 20 states and is the most extensive study conducted in health education to date. Based on the evaluation of four curricula, the School Health Curriculum Project, Project Prevention, Health Education Curriculum Guide, and the 3 R's and High Blood Pressure, Connell, Turner, and Mason (1985a), were able to demonstrate a consistent pattern of findings for health education programs. As noted by Mason and McGinnis (1985), most notable among these findings is that school health education is unequivocally effective as a means of helping children improve their health related knowledge, develop positive health related attitudes, and in decreasing the likelihood of children adopting behaviors which are hazardous to health.

Through the School Health Education Evaluation, Connell, Turner, and Mason (1985a) observed that changes in program-specific knowledge occur with relatively few hours of health instruction. A plateau in learning in this domain appears to be reached after only 20 hours of instruction. Health attitudes and health practices however, are much more difficult to influence with plateaus in these domains occurring after approximately 50 hours of instruction. The significance of this finding is that in order to influence student health
practices, a substantial time commitment to the health education curriculum is required on the behalf of teachers and school administrators.

Connell, Turner, and Mason (1985b), in summarizing their findings also noted that the degree to which the health education program is implemented and program fidelity were important factors in determining the effectiveness of the program. Related to those factors appeared to be the provision of program specific inservice training for teachers and the availability of support materials. Connell, Turner, and Mason (1985b) noted that when available resources were not sufficient to provide a complete program, the percentage of the program taught was reduced and the effectiveness of the program subsequently diminished. The greatest impact of such reductions occurred in the health related attitudes and health practices domains: those domains most difficult to influence and most important to effect. After all, as stated by Terhune (1986), facts and concepts have little value unless they are applied and used within a person's lifestyle.

To the extent that previous health education research is generalizable to the adolescent population, it could be concluded that the ability of health education to have a positive impact on adolescent health problems such as unwanted
pregnancy, sexually transmitted diseases, suicide, and violence is dependent on adequate implementation of health education programs in the public schools. The failure of health education to control these problems may be attributed to the fact that only 25 states currently require health education for high school graduation. As observed by O'Rourke (1985), the amount of resources devoted to school health has been infinitesimal and the public schools of America are a virtual wasteland of health instruction. O'Rourke (1985) believes that, with even modest success, comprehensive school health education programs could save the nation billions of dollars in health care and lost work productivity. The contribution of health education to the health of the nation is thus more potential than real (Mason & McGinnis, 1985).

The Role of Administrators in School Health Education Effectiveness

Given the importance of the provision of inservice training, time, and material resources to the implementation and subsequent effectiveness of health education programs, administrators involved in school health education have an enormous responsibility for the health of adolescents and the nation. At the state level, administrators have responsibility for determining curriculum requirements for graduation, establishing standards and regulations for health education
program development and implementation, and for publishing curriculum guidelines (Jubb, 1987). In contrast, school health administrators at the school district level have responsibility for curriculum content; allocation of temporal, material, and financial resources; faculty recruitment and training; and psychological support and commitment for the health education program.

Reports such as that produced by the Education Commission of the States (1981), demonstrate that there is general support for health education on the behalf of state and school district level school administrators (Appendix F). Unfortunately, this support has not always been witnessed in terms of practice and administrative policy. Nelson (1988) cautions that there is a difference between a school health education policy in a manual on a bookshelf and policy that is implemented in the classroom. The difference, Nelson (1988) believes, is commitment. In agreeing with this sentiment, Joki (1988) argues that it is important for teachers to perceive administrative support for health education in the form of both policy statements and temporal and material resources. Such support helps to persuade teachers that what they are doing is really important (Fors & Doster, 1985).
On the basis of a survey of 49 school district superintendents, Rohwer (1986) concludes that there is a lack of agreement among school administrators as to what the content of the health education curriculum should be, where various units should be placed within the curriculum, and how knowledge can be appropriately translated into acceptable health related attitudes and practices. Rohwer (1986) further believes that indifference toward and lack of support for health education on the behalf of administrators is a key problem in the implementation of the health education curriculum.

O'Rourke (1987), contends that lack of support for health education by administrators may at least in part, be a result of the many problems faced by administrators, such as: dramatic changes in enrollments, a shrinking tax base, less academically qualified teachers, increased accountability, and the movement toward a return to basics. That health education suffers as a result of these problems may be indicative of the low priority status that many school administrators give to this area of the curriculum.

Rich (1988) and Osness and White (1987) contend that the selection of competent teachers and subsequent inservice training is a key factor in providing quality health instruction. Within an environment of financial restriction and changing
staff requirements, many administrators appear reluctant to employ health education specialists. As a result of this reluctance, there are more unqualified teachers teaching health education than any other subject (Deputat & Pavlovich, 1988). One interpretation of this failure to employ qualified health educators in the public schools is lack of support for health education on the behalf of school administrators.

The accountability movement and the movement toward a return to basics in education may also have contributed to lack of support for health education among some school administrators. According to Oetter (1987), since health education is not included in national achievement tests it may be given a low priority status by students, parents, and administrators. Deputat and Pavlovich (1988) and Nelson (1988), note that administrators have had to face the dilemma of opposing pressures for curriculum space. While some educators advocate adding variety to the curriculum, others would like to return to a stronger emphasis on the traditional three R's at the expense of subjects such as health education.

A further obstacle to administrative support and full implementation of health education programs is the potential for controversy and the fear of community reactions to the program.
Controversy in Health Education as a Potential Barrier to Administrative Support

According to Nolte (1984), health education, by its very nature, creates a climate for controversy. In order to effect health practices relating to the most critical areas of adolescent health including human sexuality, drug use, suicide, and violence, personal and sometimes sensitive issues must be discussed. It is therefore, not surprising that in a pluralistic society such as the United States the health education curriculum may occasionally appear to conflict with the cultural, religious, and ethnic backgrounds of some students (Galli, Greenberg, & Tobin; 1987).

Lon Luty (1988) claims that this potential for controversy generates fear in administrators. Administrators ultimately bear the brunt of responsibility for the health education curriculum and careers have been put in jeopardy because of negative and sometimes volatile reactions from some segments of the community. Allensworth (1987), suggests that administrators may also be reluctant to initiate potentially controversial programs because this may be regarded by the community as an admission that the school has problems.
In deciding not to allow sensitive areas of the health education curriculum to be taught, administrators practice what Petosa (1988) calls academic censorship. Lon Luty believes that often administrators must choose between minimal disruption through maintaining the status quo and doing the right thing in response to the reality of change. As pointed out by Nolte (1984), controversy may be used negatively to alienate health education from the rest of the education world, or it may be used positively to increase adolescents' exposure to ideas from many different perspectives.

Because controversy is such an important obstacle to administrative support for health education and specific topics within the health education curriculum, it is essential to identify those areas of the curriculum which administrators perceive to be most controversial and the reasons for the controversy.

**Summary**

In this chapter, a review of literature related to the current investigation was made. Because health issues change rapidly, the date of publication was used as an important criterion in the literature selection process.
The review was divided into two sections. In the first section of the review, critical adolescent health problems were identified and described. The most critical adolescent health problems were identified as pregnancy, sexually transmitted diseases (including AIDS), drug misuse and abuse, suicide, and homicide. Each of these problems was considered to be a consequence of individual behavior and therefore amenable to educational intervention.

The second section of the review was focused on the role of school health education administrators and the importance of studying this population. A link was made between the current investigation and previous research on school health education effectiveness. School health education administrators, and particularly school district health education coordinators were shown to have an important influence on school health education curriculum implementation and therefore effectiveness. The sensitive or controversial nature of some health education topics was discussed as a potential barrier to administrative support in health education.
CHAPTER III
RESEARCH METHODOLOGY

Overview

In this chapter the methods and procedures used in the investigation are described. A diagrammatic overview of procedures is presented in Figure 1. To investigate factors which may influence the future inclusion of selected topics in the high school health education curriculum as perceived by directors of health education in state departments of education, a correlational design was employed. A questionnaire developed by the investigator was self-administered by the entire population of interest in the investigation. Data analysis was conducted in the following three phases: descriptive statistics, assessment of correlations between variables, and multiple regression analysis.
I. INSTRUMENT DEVELOPMENT
   REVIEW OF LITERATURE Identification of adolescent health concerns.
   REVIEW OF LITERATURE Identification of selected topics in the high school health education curriculum.
   CONTENT VALIDATION Examination of selected topics by a panel of school health education experts.
   PILOT TESTING Assessment of instrument clarity. Use in market research project.
   RELIABILITY ESTIMATE Repeat data collection.

II. DATA COLLECTION
   PHONE SUBJECTS To confirm study frame.
   PHONE SUBJECTS To increase response rate.
   MAIL SURVEY
   FOLLOW-UP MAILING To increase response rate

III. DATA ANALYSIS
   PHASE I Description
   PHASE II Correlation of variables
   PHASE III Multiple regression analysis

FIGURE 1

Procedures Employed in the Investigation
The Population of Interest

The population of interest in this investigation consisted of directors of health education in state departments of education; a potential population size of 50. At the time of the investigation one state reported not having a state director of health education and one state had a vacancy for this position. Therefore, the actual population size for this study was 48. As noted in Chapter I, this group is one of many which potentially influence the implementation of the high school health education curriculum. The majority of states employ a person with a health or physical education background, but in a few states the coordination of health education is assigned to general curriculum consultants (American School Health Association, 1988). The primary responsibilities of this position include technical assistance to local school districts in program planning, curriculum development and implementation, and liaison with health and education agencies.

Alternative population groups considered for the study included: school district health education coordinators, high school principals, school board members and high school health education teachers. With the exception of high school health education teachers, little previous research related to the high school health education curriculum has been conducted involving any of these groups. Directors of health education in
state departments of education were chosen for this investigation in preference to the other groups for a number of reasons, including:

1. Directors of health education in state departments of education have a broad sphere of influence on curriculum implementation. Decisions made by this group may impact on the lives of many adolescents.

2. Directors of health education in state departments of education are involved closely with health education curriculum development and implementation. The directors are therefore able to give a more informed opinion about the status and future of the health education curriculum than are groups such as high school principals and boards of education.

3. Directors of health education in state departments of education are a relatively small and accessible group. The directory for The Society of State Directors of Health, Physical Education and Recreation (1989-1990) includes the names, addresses and telephone numbers of the directors of health education for each state (Appendix G). The other population groups are much larger and less accessible. There are approximately 87,000 public schools in the United
States in over 35,000 school districts (Gephart, Egan, & Hutchins, 1984; Sliepcevich, 1964).

4. Directors of health education in state departments of education interact with their peers on a national basis and are therefore aware of national trends and issues in education and health education.

Because the population of interest was relatively small, accessible, and finite, it seemed appropriate to collect data on the entire population rather than on a probability sample.

The Research Design

In the broadest sense, a study may be designed for the purposes of predicting or explaining a phenomenon (Pedhazur, 1982). These two activities are related, but distinct concepts. Explanation is the more noble of the two activities. According to Pedhazur (1982), explanation is the ultimate goal of scientific inquiry, satisfying the need to understand phenomena and being the key to achievement of specific objectives. Explanation, however, implies a theoretical formulation about the nature of the relations among the variables under study. This theoretical framework determines the choice of analytical
technique, the manner in which it is to be applied, and the interpretation of results.

In contrast, predictive research is more empirical in nature and can be conducted in the absence of a theoretical framework. The emphasis in predictive research being on practical applications. This is not to suggest that predictive research is atheoretical. Theoretical considerations play a major part in the selection of predictive variables and enhance the likelihood of obtaining substantial predictability in an investigation. Predictive research should also be seen as a potential source of insights that may lead to the development of theory upon which to base meaningful explanatory research.

The purpose of this investigation, as detailed in Chapter I, was to investigate factors which may influence the future inclusion of selected topics in the high school health education curriculum as perceived by directors of health education in state departments of education. In the absence of a pre-existing theoretical model for this investigation, this study would best be described as predictive research which employed a single-group correlational design (Kerlinger, 1986).

As noted by Green and Lewis (1986), a major concern in research is the internal and external validity of the design.
Internal validity may be operationally defined as the ability to draw conclusions from results without ambiguity or competing explanations. Internal validity is threatened by insufficient control. The procedures relating to instrument development and administration described below were designed to improve the internal validity of the investigation.

External validity is the ability to generalize results to other persons, settings, and time. Because this investigation utilized an entire population rather than a probability sample, the ability to generalize results was limited. The findings from the pilot test conducted on school district health education coordinators allowed for comparison between the two population groups, and therefore improved generalizability to other population groups and settings. The time dependent nature of the investigation was acknowledged as a delimitation of the investigation.

Instrument Development

The investigation utilized a self-administered mail questionnaire for the collection of data (Appendix H). As noted in Chapter II, directors of health education in state departments of education have been subjected to little more than superficial investigation. The absence of an appropriate
pre-existing published instrument necessitated the development of an instrument for this purpose.

In the first stage of instrument development the most critical and potentially sensitive or controversial health concerns of adolescents were identified in the health education and medical literature. Specifically, a computerized and manual search was made of Index Medicus and Resources in Education (RIE) to identify current sources relating to adolescent health. The criteria used for selection of the health concerns to be studied in the investigation included:

1. The severity of the health concern in terms of the number of adolescents affected and the extent of impact on adolescent health. Key target areas for adolescent health identified in The 1990 Health Objectives for the Nation (United States Department of Health and Human Services, 1980) and Healthy People 2000: National Health Promotion and Disease Prevention Objectives (United States Department of Health and Human Services, 1990) formed the basis of this criterion.

2. The sensitivity or potentially controversial nature of the health concern as an area in the high school health education curriculum as reflected in the professional literature.
The second stage of instrument development involved the identification of specific topics in the high school health education curriculum which relate to the health concerns identified in stage one. This stage was achieved by content analysis of high school health education textbooks and curricula, high school health education methods textbooks, and curriculum guidelines (Appendix I). Specifically, topics were identified from curriculum objectives, entries in tables of contents, and indexes. It was assumed that this combination of resources would provide the investigator with a reasonably representative list of topics which were currently taught and/or should be taught in the high school health education curriculum.

The third stage in instrument development involved the estimation of instrument validity. According to Green and Lewis (1986), the three broad categories of instrument validity are construct validity, criterion validity, and content validity. Construct validity is the extent to which hypothesized theoretical relationships between concepts are verified on the basis of obtained data (Green & Lewis, 1986). In contrast, criterion validity is the degree of relationship between two measures of the same phenomenon. Neither of these two measures of validity were appropriate for the current investigation. The third form of instrument validity, content
validity, refers to the representativeness or sampling adequacy of the content of the instrument. As noted by Jackson (1984), content validity is the most frequently used measure of validity in health education survey research.

Green and Lewis (1986) suggest that the following five steps are necessary for the determination of content validity:

1. Literature review.
2. Personal reflection.
3. Identification of substrata of concepts.
4. Identification of items.
5. Empirical analysis of items.

Steps one, two, and four in this process are described in the preceding paragraphs on instrument development. Step three in this process did not appear applicable to the present investigation because the focus was on the uniqueness of each individual item rather than multiple items related to the same concept. Step five in the process may be achieved, according to Green and Lewis (1986), by either statistical analysis (factor analysis or cluster analysis) or by having the relevance of each item assessed by experts in the field of study. Because each item in the investigation was considered to be a separate variable, rating by experts appeared to be the most appropriate
method of empirical analysis. Thus, the content validity of the health education topics selected for the instrument was assessed by a panel of school health education experts. The following criteria were used for selection of the panel of experts:

1. A minimum qualification of a masters degree in school health education.

2. Experience in either teaching health education at the high school level or in preservice supervision of high school health education teachers.

Based on these criteria, the following four people were identified as suitable and willing to participate in the instrument validation process as members of the panel of school health education experts:

P. Heit, Ed.D - Professor of Health Education, The Ohio State University, Columbus, Ohio.

J. Hjelm, Ph.D. - Assistant Professor, North Park College, Chicago, Illinois.
D. Kerr, M.A. - AIDS Education Project
Coordinator, American School Health Association, Kent, Ohio.

L. Meeks, M.S. - Associate Professor and Chairperson of Health Education, The Ohio State University, Columbus, Ohio.

Each member of the panel of school health education experts was sent a copy of the instrument and a brief description of the purpose of the investigation in the form of a cover letter (Appendix J). The panel was asked to comment on the suitability of items, and specifically, to identify items which were inappropriate. In addition, panel members were asked to suggest new items which they believed should be contained in the instrument. On the basis of this validity assessment, items were added to or deleted from the survey instrument.

The fourth stage in instrument development involved pilot testing to assess instrument clarity and potential threats to the internal validity of the design such as the halo effect and the social desirability effect. The halo effect is the tendency of subjects to stop discriminating between items when responding to long checklists. The social desirability
effect is caused by subjects responding to the instrument in the way they think is expected of them by the researcher.

Because a sub-sample of the population under investigation was not available for pilot testing, these procedures were conducted with the assistance of doctoral students in health education. A group of five health education doctoral students from The Ohio State University who consented to assist with the refinement of the instrument met with the investigator. The group was given a brief introduction to the investigation and its purposes, and then asked to complete the instrument. The time required to complete the instrument was noted by the investigator. After each member of the group had completed the instrument, he/she was asked to evaluate the instrument using a modified version of the Pilot Test Evaluation (Appendix K) described by Balian (1988). Specific terms used in the Pilot Test Evaluation were explained by the investigator. Adjustments to the instrument were then made in accordance with the results of the pilot test evaluation.

The final stage in instrument development involved a second and more extensive pilot test. As part of a market research project in conjunction with Glencoe Publishing Company, the instrument was sent to a random sample of 500
school district health education coordinators (Willcox, 1990). The results of this investigation showed that there was a high degree of consensus among school district health education coordinators about the importance of many of the items on the survey. Based on these findings, the total number of items in the survey was reduced to focus on the items which were considered most controversial and/or for which there was greater variance in opinion about the importance of including the topic in the high school health education curriculum. Specifically, items included in the final draft of the survey instrument were those that at least 5% of school district health education coordinators believed to be among the three most potentially controversial topics in the survey, and items that 20% or more of the school district health education coordinators believed are not included in the current high school health education curriculum. The criteria used in this process were determined arbitrarily to yield the final 25 items. This number of items was considered tolerable from the perspective of those involved in the investigation and manageable from a data analysis perspective. This procedure helped also to further reduce the possibility of halo effects and social desirability effects.

The consistency or test-retest reliability of the instrument was estimated during the second pilot test by
administering the instrument twice to a subset of the sample. The instrument was re-administered to 100 of the 196 respondents to the second pilot test one month after the initial survey. This number was chosen to provide a sufficient number of returns to enable a reasonable estimate of reliability. The return rate on this re-administration was 50%. The correlation coefficient between the subjects' first and second answers to the survey was calculated to be .91. According to Balian (1988), this rates as an excellent degree of test-retest reliability.

No attempt was made to follow-up on non-respondents to either the initial administration of the pilot test instrument or the readministration for the purpose of estimating reliability. This, combined with the low response rate (39%) to the instrument, necessitates that caution be used when interpreting the results.

As a consequence of modifications made to the survey instrument following the second pilot test, it was necessary to obtain an additional estimate of reliability for the instrument as used by the study population. To avoid the potential problem of biasing the data due to practice effects, retesting for the purpose of calculating reliability occurred after the study data had been collected from the population. Specifically, the
Instrument was re-administered after one month to all directors of health education in state departments of education who had participated in the study. Nineteen of the 28 state directors of health education in state departments of education who participated in the study completed the survey instrument for the purposes of estimating reliability (a response rate of 68%). The Pearson correlation coefficient between the subjects first and second responses was calculated as .93. Although caution is advocated due to the fewer than desirable number of cases involved for estimating reliability, this estimate represents an excellent degree of test-retest reliability (Balian, 1988).

Instrument Design

The instrument was divided into five sections. The first section of the instrument was designed to assess the status of the selected health education curriculum topics at the high school level as perceived by directors of health education in state departments of education. To achieve this, the subjects were asked to state the percentage of schools in their state that include the selected topics in the high school health education curriculum.

The second section of the instrument was designed to assess the personal opinions of the directors of health
education in state departments of education about the selected health education topics. The subjects were asked to identify on a five point Likert-type scale the relative importance of each of the topics as part of the high school health education curriculum.

The third section of the instrument measured the degree to which the directors of health education in state departments of education consider the selected health education topics to be potentially controversial. The subjects were asked to identify on a five point Likert-type scale the extent to which they consider each of the health education topics to be potentially controversial.

The fourth section of the instrument was designed to assess the future status of the selected health education topics as perceived by the directors of health education in state departments of education. The subjects were asked to state the percentage of schools in their state that they believed would include the selected topics in the high school health education curriculum within the next five years.

The fifth section of the instrument was designed to enable better description of the population being studied. The demographic information obtained may prove useful in the
design of future investigations. Collection of this data also enables the possibility of additional analyses which were not the focus of the current investigation.

**Instrument Administration**

In the administration of a survey instrument, the principal concern is to minimize non-sampling error due to inaccurate response, selection bias, and non-response (Scheaffer, Mendenhall, & Ott, 1986). Inaccurate responses are generally the result of ambiguity in the instrument. Through the pilot testing procedures described above, the clarity of instructions and terminology employed in the instrument were carefully examined to reduce ambiguity.

Selection bias occurs when the investigator deviates from the theoretical sampling design through haphazard substitutions. Since the current investigation involved an entire population rather than a probability sample, non-sampling error as a result of selection bias was not a concern.

Error caused by non-response is a particular concern in surveys which are self-administered. In general, those survey techniques which have the least contact with subjects have the lowest rate of response. To improve the rate of response in
this investigation, the following administrative procedures were followed:

1. Each state department of education was contacted by telephone one month prior to the initial mailing to confirm the accuracy of the information contained in the Directory of State Directors of Health, Physical Education, and Recreation.

2. In the cover letter accompanying the instrument (Appendix L), subjects were assured of the confidentiality of individual responses. The potentially politically sensitive nature of the investigation was recognized. The purpose of this investigation was to examine overall results from all states and not the results of individual states.

3. Subjects participating in the study were offered a summary of the results. The information yielded by the investigation may prove useful in future health education curriculum planning. This summary served as an incentive for participation.

4. An attempt was made to contact each of the directors of health education in state departments of education by telephone to increase the amount of personal contact with the investigator and to encourage participation (Altschuld &
Lower, 1984). Each of the subjects was called on the same day that the instrument was expected to arrive in the mail. In order to achieve this, the investigator staggered the mailing of the instrument to the population in two groups and kept a record of the mailing dates and expected dates of arrival.

5. Subjects were provided with a stamped-addressed envelope to facilitate the return of the completed survey instrument.

6. To provide additional encouragement to respond, a follow-up mailing was conducted two weeks after the initial mailing date. According to Babbie (1973), if potential respondents to a mail survey have not responded after two weeks, there is good likelihood that the questionnaires may have been lost or misplaced. Therefore, a second instrument was mailed in addition to an encouraging cover letter (Appendix M).

Of the 48 potential participants in the investigation, 28 completed the instrument in its entirety. 23 participants responded to the initial instrument mailing and five to the follow-up mailing. This represents a usable response rate of 58%. An additional six state directors of health education in state departments of education returned partially completed
instruments. Four of these six completed the demographics section of the instrument and these data are included in the summary of demographic variables. Ten state directors of health education either returned incomplete instruments or a letter explaining why they were unable or unwilling to participate in the study. Thus, 44 of the 48 (92%) of the potential participants were accounted for. Reasons offered for not completing the instrument included; insufficient data on which to base an assessment, an unwillingness to provide a personal opinion, and fear of personal or state identification.

Data Analysis

Analysis of the self-reported data was conducted in three phases. In phase one of the data analysis, a descriptive summary was made of the frequency data.

In phase two of the data analysis, the relationships between variables were examined. Specifically, the correlation coefficients between each of the four variables (current inclusion, future inclusion, relative importance, and potential for controversy of the selected health education topics) were examined. The population correlation coefficient was calculated as:

$$\rho = \frac{\Sigma xy}{N \sigma_x \sigma_y}$$
where \( \rho (\rho) = \) population correlation coefficient
\[ \sum xy = \text{the sum of the deviation cross products of } x \text{ and } y \]
\[ N = \text{the size of the population} \]
and \( \sigma_x \sigma_y = \text{the standard deviation of } x \text{ and } y \) respectively

(Pedhazur, 1982)

In the third phase of data analysis, the combined effects of each of the independent variables on the dependent variable was examined. Examining the separate effects of each independent variable on the dependent variable fails to take into account that the independent variables may be intercorrelated and interact in their effects on the dependent variable (Pedhazur, 1982). Multiple regression analysis was employed as an eminently suitable method of analyzing the collective and separate effects of three independent variables (current inclusion, relative importance, and potential for controversy) on the dependent variable (future inclusion) for each of the 25 high school health education curriculum topics being studied. The basic regression equation is given by the formula:

\[ y = a + b_1 x_1 + b_2 x_2 + b_3 x_3 + e \]  

(2)
where \( y \) = the score on the dependent variable  
\( a \) = the intercept constant  
\( b_1, b_2, \) and \( b_3 \) = the regression coefficients associated with the independent variables  
\( x_1, x_2, \) and \( x_3 \) = the scores on the independent variables  
and \( e \) = the residual or error  

(Pedhazur, 1982)

In the regression analysis a solution is sought for \( a \) and the \( b \)'s in the above equation such that the sum of the squared errors of prediction (\( \Sigma e^2 \)) is minimized. The subsequent prediction equation can be expressed by the formula:

\[
y' = a + b_1x_1 + b_2x_2 + b_3x_3
\]

where \( y' \) = the predicted score on the dependent variable  

(Pedhazur, 1982)

An alternative way to express regression coefficients (\( b \)'s) are as \( \beta \)'s (the standardized regression coefficient). Expressing regression coefficients in this form facilitates comparison of relative importance of the coefficients in the regression equation. This is necessary because the magnitude of the regression coefficients are affected in part by the scale
of measurement used to measure the variables with which the regression coefficients are associated (Pedhazur, 1982). β may be calculated using the following formula:

\[ \beta_1 = b_1 \frac{s_x}{s_y} \]

where \( s_x \) = the standard deviation of the independent variable

and \( s_y \) = the standard deviation of the dependent variable

For purposes of prediction, the best possible regression equation is one in which the greatest proportion of variance of the dependent variable is explained by the independent variables. The proportion of variance of the dependent variable accounted for by the independent variables (\( R^2 \)) is given by the equation:

\[ R^2 = \frac{SS_{\text{reg}}}{\Sigma y^2} \]

where \( SS_{\text{reg}} = b_1 \Sigma x_{1y} + b_2 \Sigma x_{2y} + b_3 \Sigma x_{3y} \)  

(Pedhazur, 1982)

In inferential statistics it is possible to test the regression coefficients (b's or β's), the squared multiple
correlation ($R^2$), and the increment in the proportion of variance of the dependent variable accounted for by a given independent variable for statistical significance (Pedhazur, 1982). This investigation, however, involved the entire population of directors of health education in state departments of education and not a probability sample. Tests of statistical significance, therefore, while employed were used only as indicators of strength of relationships and not to show statistical significance per se.

Summary

In this chapter, important aspects of the research methodology employed in the investigation were described. The population of interest was identified as directors of health education in state departments of education. The research study was described as predictive research employing a single-group correlational design. Particular attention was given to discussion of the procedures followed in instrument development, the instrument design, and procedures relating to the administration of the instrument. Finally, data analysis techniques were discussed, and the most appropriate statistical procedures for the current investigation were identified.
CHAPTER IV
RESULTS

Overview

In this chapter the results of the investigation are identified and briefly discussed. The mean percentage of schools in each state perceived to be including selected topics in the current high school health education curriculum by directors of health education in state departments of education are presented in descriptive form along with the perceived relative importance, potential for controversy, and predicted future inclusion of the topics. In addition, the interrelationships between the variables under investigation are examined and the usefulness of current inclusion, relative importance, and potential for controversy as predictors of future inclusion of selected topics in the high school health education curriculum discussed.
Directors of Health Education in State Departments of Education

Directors of health education in state departments of education were chosen for this investigation because they are a distinct and finite group of people who have a broad influence on the future of health education in the public schools. Despite their apparent importance and pivotal role in curriculum development and implementation, very little is known about the demographics of directors of health education in state departments of education.

As can be seen in Table 1, directors of health education in state departments of education are highly qualified academically. All of the 32 directors who completed the demographics section of the survey instrument held at least a Masters degree with nine (28%) holding a Doctoral degree. In contrast to this, the academic qualifications in health education held by the directors of health education in state departments of education are not as impressive. The majority (69%) of the participants in the investigation held either a Masters or Baccalaureate degree in health education. Only one (3%) of the participants in the investigation held a Doctorate in health education while six (19%) of the participants held no academic qualification in health education (Table 1).
These findings agree with the observation from the American School Health Association (1988) that the majority of states employ a director of health education with a health or physical education background. However, while having a background in health education, it appears that the majority of directors of health education in state departments of education are specialists in fields other than health education. From Table 1, it can be seen that for 13 (41%) of the directors their highest academic qualification is in health education.

**TABLE 1**
Highest Academic Degree and Highest Academic Degree in Health Education Held by Directors of Health Education in State Departments of Education (N=32)

<table>
<thead>
<tr>
<th>Degree in Health Education</th>
<th>Highest Academic Degree</th>
<th>Ph.D./Ed.D</th>
<th>Ed.S.</th>
<th>M.A./M.S.</th>
<th>Σ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ph.D./Ed.D</td>
<td></td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Ed.S.</td>
<td></td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>M.A./M.S.</td>
<td></td>
<td>3</td>
<td>0</td>
<td>11</td>
<td>14</td>
</tr>
<tr>
<td>B.A./B.S.</td>
<td></td>
<td>2</td>
<td>0</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>Minor</td>
<td></td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>None</td>
<td></td>
<td>2</td>
<td>0</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td><strong>Σ</strong></td>
<td></td>
<td>9</td>
<td>1</td>
<td>22</td>
<td>32</td>
</tr>
</tbody>
</table>
The majority of directors of health education in state departments of education devote the greatest proportion of their work time to health education, specifically, 19 (59%) devote at least 80% of their work time to health education (Table 2). It appears, however, that a large number of directors of health education in state departments of education hold appointments which demand joint or multiple responsibilities. Drug education, AIDS education, and physical education were commonly cited in position titles and among vocational responsibilities.

Based on the data presented in Table 2, there does not appear to be any clear relationship between academic degree held in health education and percentage of work time devoted to health education. Those directors with advanced degrees in health education are no more or less likely to hold a position with full-time health education responsibilities than those who do not have a health education degree (Table 2).

From Table 3 it can be seen that the majority of state directors of health education in state departments of education have considerable teaching experience. Only two (6%) of the participants in the investigation reported having fewer than five years of teaching experience with the median number of years of teaching experience being 12 (Table 3). Based on the
ages of the directors and the number of years of teaching experience reported, it is possible to conclude that many of the directors had been teachers for a large proportion of their vocational lives. All of the participants in the study were between the ages of 30 and 54 with the majority (63%) being in their 40's (Table 3).

### TABLE 2
Academic Degree in Health Education and Percentage of Work Time Devoted to Health Education by Directors of Health Education in State Departments of Education (N=32)

<table>
<thead>
<tr>
<th>% of work time devoted to Health Education</th>
<th>Degree in Health Education</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ph.D./Ed.D.</td>
</tr>
<tr>
<td>80-100%</td>
<td>1</td>
</tr>
<tr>
<td>60-79%</td>
<td>0</td>
</tr>
<tr>
<td>40-59%</td>
<td>0</td>
</tr>
<tr>
<td>20-39%</td>
<td>0</td>
</tr>
<tr>
<td>Σ</td>
<td>1</td>
</tr>
</tbody>
</table>
## TABLE 3
Age and Teaching Experience of Directors of Health Education in State Departments of Education (N=32)

<table>
<thead>
<tr>
<th>Age</th>
<th>&lt;5</th>
<th>5 - 9</th>
<th>10 - 14</th>
<th>15 - 19</th>
<th>&gt; 20</th>
<th>Σ</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 - 54</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>45 - 49</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>40 - 44</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>1</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>35 - 39</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>30 - 34</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Σ</td>
<td>2</td>
<td>7</td>
<td>11</td>
<td>7</td>
<td>5</td>
<td>32</td>
</tr>
</tbody>
</table>
Current Inclusion, Future Inclusion, Relative Importance, and Potential for Controversy of Selected Topics in the High School Health Education Curriculum

Based on the perceptions of directors of health education in state departments of education, nine (36%) of the 25 health education topics used in the study were considered to have a low\(^1\) mean rate of inclusion in the current high school health education curriculum (Table 4). The remainder of the health education topics (64%) were perceived to have a medium inclusion rate in the current high school health education curriculum.

In comparison with the current rate of inclusion of the selected health education topics in the high school health education curriculum, the anticipated future inclusion rate was higher. It was anticipated by directors of health education in state departments of education that 20 (80%) of the topics would have a medium rate of inclusion and 5 (20%) a high rate of inclusion in the high school health education curriculum within the next five years (Table 4).

---

1. For the purpose of this study, a mean inclusion rate of less than 33.34% was considered low, a mean inclusion rate of between 33.34% and 66.67% was considered medium, and a mean inclusion rate of greater than 66.67% was considered high.
TABLE 4
Current and Future Inclusion Rate and Assessment of Relative Importance and Potential for Controversy of Selected Topics in the High School Health Education Curriculum as Perceived by Directors of Health Education in State Departments of Education (N=28)

<table>
<thead>
<tr>
<th>Topic</th>
<th>Current Inclusion</th>
<th>Future Inclusion</th>
<th>Relative Importance</th>
<th>Potential for Controversy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Testicular self-examination</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
<td>Medium</td>
</tr>
<tr>
<td>Breast self-examination</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
<td>Medium</td>
</tr>
<tr>
<td>Physiology of the sexual response</td>
<td>Low</td>
<td>Medium</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td>Factors in successful marriage</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Methods of determining pregnancy</td>
<td>Medium</td>
<td>Medium</td>
<td>High</td>
<td>Medium</td>
</tr>
<tr>
<td>Options/trends in childbirth</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>Methods of birth control</td>
<td>Medium</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Availability of birth control</td>
<td>Medium</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Pros and cons of abortion</td>
<td>Low</td>
<td>Medium</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td>Pros and cons of adoption</td>
<td>Low</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>Methods of sterilization</td>
<td>Low</td>
<td>Medium</td>
<td>Medium</td>
<td>High</td>
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<tr>
<td>Pregnancy counseling</td>
<td>Medium</td>
<td>Medium</td>
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<td>High</td>
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<tr>
<td>Counseling to prevent pregnancy</td>
<td>Medium</td>
<td>Medium</td>
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<td>High</td>
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<tr>
<td>Use of condoms in STD prevention</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Sexual behaviors and HIV infection</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Use of condoms and HIV infection</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Incest and sexual abuse</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Incidence of violent behavior</td>
<td>Medium</td>
<td>Medium</td>
<td>High</td>
<td>Medium</td>
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<tr>
<td>Reducing risk of being crime victim</td>
<td>Medium</td>
<td>Medium</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Actions when a violent crime occurs</td>
<td>Medium</td>
<td>Medium</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Nature of domestic violence</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
<td>Medium</td>
</tr>
<tr>
<td>Procedures should a rape occur</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
<td>Medium</td>
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<tr>
<td>Suicide prevention</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
<td>Medium</td>
</tr>
<tr>
<td>First aid for drug abuse</td>
<td>Medium</td>
<td>Medium</td>
<td>High</td>
<td>Low</td>
</tr>
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<td>Time management skills</td>
<td>Medium</td>
<td>Medium</td>
<td>High</td>
<td>Low</td>
</tr>
</tbody>
</table>

Note. Descriptive terms are based on mean frequencies. For current and future inclusion; low is < 33.34%, medium is 33.34%-66.67%, and high is >66.67%. For relative importance; low is < 2.33, medium is 2.33-3.67, and high is >3.67. For potential for controversy; low is >3.67, medium is 2.33-3.67, and high is < 2.33. Appendix N contains the complete data sets.
As a group the directors of health education in state departments of education rated all of the 25 health education topics as having high or medium relative importance in the high school curriculum. Specifically, 20 (80%) of the topics had a mean rating of high\(^2\) relative importance and 5 (20%) had a mean rating of medium relative importance (Table 4). It is noteworthy that of the five topics with a mean rating of medium, four had a low mean inclusion rate in the current high school health education curriculum with the fifth topic having a medium mean inclusion rate.

The mean rating of potential for controversy of the health education topics by directors of health education in state departments of education was considered high\(^3\) for 11 (44%) topics, medium for 9 (36%) topics, and low for 5 (20%) topics (Table 4). All of the topics having a low mean rate of inclusion in the current high school health education curriculum were associated with a mean rating of high or medium potential for controversy.

2. For the purpose of this study, a mean rating of less than 2.33 was considered low relative importance, a mean rating of between 2.33 and 3.67 was considered medium relative importance, and a mean rating of greater than 3.67 was considered high relative importance.

3. For the purpose of this study, a mean rating of less than 2.33 was considered high potential for controversy, a mean rating of between 2.33 and 3.67 was considered medium potential for controversy, and a mean rating of greater than 3.67 was considered low potential for controversy.
The Relationships Between Current Inclusion, Future Inclusion, Relative Importance, and Potential for Controversy of Selected Topics in the High School Health Education Curriculum

As can be seen in Table 5 a moderately high positive correlation was found between the perceptions of current inclusion of selected topics in the high school health education curriculum and anticipated future inclusion of the topics. The overall Pearson correlation coefficient between these variables was .646. The Pearson correlation coefficients between current inclusion and future inclusion for specific topics ranged from .378 ("first aid procedures for victims of drug abuse") to .770 ("methods of birth control").

Moderate positive correlations were also found between current inclusion of selected topics in the high school health education curriculum and relative importance4 of the topics as perceived by directors of health education in state departments of education (Table 5). The overall Pearson correlation coefficient between these variables was .379. For specific topics, the correlation between current inclusion in the high school health education curriculum and relative importance ranged from -.036 ("the use of condoms in reducing the risk of HIV infection") to .608 ("methods of sterilization").

4. The variables relative importance and potential for controversy have restricted ranges which may affect the size of correlations.
TABLE 5
Correlations Between Current Inclusion (C), Future Inclusion (F), Relative Importance (I), and Potential for Controversy (P) of Selected Topics in the High School Health Education Curriculum as Perceived by Directors of Health Education in State Departments of Education (N=28)

<table>
<thead>
<tr>
<th>Topic</th>
<th>C/F</th>
<th>C/I</th>
<th>C/P</th>
<th>F/I</th>
<th>F/P</th>
<th>I/P</th>
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<td>.057</td>
<td>.359</td>
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<td>.057</td>
<td>.266</td>
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<td>.486</td>
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<tr>
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<td>.331</td>
<td>.684</td>
<td>.357</td>
<td>.143</td>
</tr>
<tr>
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<td>.250</td>
<td>.205</td>
<td>.346</td>
<td>.005</td>
<td>.054</td>
</tr>
<tr>
<td>Methods of determining pregnancy</td>
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<td>.296</td>
<td>.277</td>
<td>.538</td>
<td>.117</td>
<td>-.116</td>
</tr>
<tr>
<td>Options/trends in childbirth</td>
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<td>.602</td>
<td>-.015</td>
<td>.719</td>
<td>-.053</td>
<td>.119</td>
</tr>
<tr>
<td>Methods of birth control</td>
<td>.770</td>
<td>.345</td>
<td>.160</td>
<td>.187</td>
<td>.047</td>
<td>.102</td>
</tr>
<tr>
<td>Availability of birth control</td>
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<td>.368</td>
<td>.181</td>
<td>.343</td>
<td>.123</td>
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<td>.153</td>
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<td>Pros and cons of adoption</td>
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<td>.455</td>
<td>.449</td>
<td>.496</td>
<td>.029</td>
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<tr>
<td>Methods of sterilization</td>
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<td>.608</td>
<td>.310</td>
<td>.608</td>
<td>.219</td>
<td>.355</td>
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<tr>
<td>Pregnancy counseling</td>
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<td>.386</td>
<td>.399</td>
<td>.409</td>
<td>.111</td>
<td>.401</td>
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<td>Counseling to prevent pregnancy</td>
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<td>.288</td>
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<td>.265</td>
</tr>
<tr>
<td>Use of condoms in STD prevention</td>
<td>.481</td>
<td>.135</td>
<td>.628</td>
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<td>.210</td>
<td>.341</td>
</tr>
<tr>
<td>Sexual behaviors and HIV infection</td>
<td>.515</td>
<td>.068</td>
<td>.592</td>
<td>-.067</td>
<td>.095</td>
<td>.310</td>
</tr>
<tr>
<td>Use of condoms and HIV infection</td>
<td>.648</td>
<td>-.036</td>
<td>.557</td>
<td>-.048</td>
<td>.193</td>
<td>.257</td>
</tr>
<tr>
<td>Incest and sexual abuse</td>
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<td>.179</td>
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<td>.007</td>
<td>-.058</td>
<td>.143</td>
</tr>
<tr>
<td>Incidence of violent behavior</td>
<td>.713</td>
<td>.238</td>
<td>-.121</td>
<td>.375</td>
<td>-.008</td>
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<td>Reducing risk of being crime victim</td>
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<td>.268</td>
<td>-.156</td>
<td>.437</td>
<td>-.122</td>
<td>.123</td>
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<tr>
<td>Actions when a violent crime occurs</td>
<td>.612</td>
<td>.245</td>
<td>-.239</td>
<td>.486</td>
<td>-.007</td>
<td>.144</td>
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<td>.276</td>
<td>.284</td>
<td>.460</td>
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<td>Procedures should a rape occur</td>
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<td>.016</td>
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<td>Suicide prevention</td>
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<td>.410</td>
<td>.298</td>
<td>.256</td>
<td>.218</td>
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<tr>
<td>First aid for drug abuse</td>
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<td>.305</td>
<td>.347</td>
<td>.543</td>
<td>.000</td>
<td>.290</td>
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<tr>
<td>Time management skills</td>
<td>.542</td>
<td>.157</td>
<td>.101</td>
<td>.186</td>
<td>.206</td>
<td>.256</td>
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<tr>
<td>OVERALL</td>
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<td>.379</td>
<td>.180</td>
<td>.418</td>
<td>.119</td>
<td>.129</td>
</tr>
</tbody>
</table>
Relative importance of selected topics also appears to have a moderate positive correlation with anticipated future inclusion of topics in the high school health education curriculum. The overall Pearson correlation coefficient between these variables was .418 (Table 5). For specific topics, the correlation between relative importance and future inclusion ranged from .007 ("incest and sexual abuse") to .719 ("options/trends in childbirth").

Potential for controversy did not appear to relate strongly to current inclusion, future inclusion, or relative importance of the selected topics in the high school health education curriculum based on the perceptions of directors of health education in state departments of education. The overall correlation between potential for controversy and current inclusion of the selected health education topics was .180. For some specific topics, however, notably those related to HIV infection and sexually transmitted diseases, moderately high correlations were found between potential for controversy and current inclusion (Table 5). As noted earlier, the restricted range used in the measurement of this variable may be one factor which contributed to the limited size of the observed correlations.
To help clarify the relationship between current inclusion and future inclusion of selected topics in the health education curriculum, the first-order and second-order partial correlations between these variables were calculated and presented in Table 6. Moderately high positive correlations were found between current inclusion and future inclusion when either or both the effects of relative importance and potential for controversy were taken into account. This means that the strong relationship between current inclusion and future inclusion of selected topics in the high school health education curriculum is independent of the perceived relative importance and potential for controversy of the topics.

Partial correlations were also calculated to clarify the relationship between relative importance of selected health education topics and future inclusion of the topics in the high school curriculum as perceived by directors of health education in state departments of education (Table 7). Based on the minor differences between the zero-order and first-order correlations it appears that the relationship between relative importance and future inclusion was independent of the perceived potential for controversy of the topics. As might be expected, however, the relationship between relative importance and future inclusion of selected topics was moderated by current inclusion of the topics. From a
TABLE 6
Correlation Between Current Inclusion and Future Inclusion of Selected Topics in the High School Health Education Curriculum as Perceived by Directors of Health Education in State Departments of Education (N=28)

<table>
<thead>
<tr>
<th>Topic</th>
<th>( \rho )</th>
<th>( r_{12.3} )</th>
</tr>
</thead>
<tbody>
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<td>.639</td>
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<td>Factors in successful marriage</td>
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<td>.667</td>
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<tr>
<td>Methods of determining pregnancy</td>
<td>.724</td>
<td>.702</td>
</tr>
<tr>
<td>Options/trends in childbirth</td>
<td>.668</td>
<td>.423</td>
</tr>
<tr>
<td>Methods of birth control</td>
<td>.770</td>
<td>.765</td>
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<tr>
<td>Availability of birth control</td>
<td>.719</td>
<td>.678</td>
</tr>
<tr>
<td>Pros and cons of abortion</td>
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<td>.634</td>
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<tr>
<td>Pros and cons of adoption</td>
<td>.561</td>
<td>.462</td>
</tr>
<tr>
<td>Methods of sterilization</td>
<td>.594</td>
<td>.355</td>
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<tr>
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<tr>
<td>Counseling to prevent pregnancy</td>
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<td>.601</td>
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<tr>
<td>Use of condoms in STD prevention</td>
<td>.481</td>
<td>.511</td>
</tr>
<tr>
<td>Sexual behaviors and HIV infection</td>
<td>.515</td>
<td>.522</td>
</tr>
<tr>
<td>Use of condoms and HIV infection</td>
<td>.648</td>
<td>.649</td>
</tr>
<tr>
<td>Incest and sexual abuse</td>
<td>.498</td>
<td>.505</td>
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<tr>
<td>Incidence of violent behavior</td>
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<tr>
<td>Reducing risk of being crime victim</td>
<td>.651</td>
<td>.616</td>
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<tr>
<td>Actions when a violent crime occurs</td>
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<tr>
<td>Nature of domestic violence</td>
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<tr>
<td>Procedures should a rape occur</td>
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<tr>
<td>Suicide prevention</td>
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<td>.625</td>
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<tr>
<td>First aid for drug abuse</td>
<td>.378</td>
<td>.266</td>
</tr>
<tr>
<td>Time management skills</td>
<td>.542</td>
<td>.529</td>
</tr>
<tr>
<td><strong>OVERALL</strong></td>
<td><strong>.646</strong></td>
<td><strong>.579</strong></td>
</tr>
</tbody>
</table>

\( \rho \) = zero-order correlation

\( r_{12.3} \) = variable partialled out
TABLE 7
Correlation Between Relative Importance and Future Inclusion of Selected Topics in the High School Health Education Curriculum as Perceived by Directors of Health Education in State Departments of Education (N=28)

<table>
<thead>
<tr>
<th>Topic</th>
<th>( \rho ) zero-order correlation</th>
<th>( r_{12.3} ) Variable partialed out</th>
<th>Current Inclusion (C)</th>
<th>Controversy (P)</th>
<th>C &amp; P</th>
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<td>.546</td>
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<td>.346</td>
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</tr>
<tr>
<td>Methods of determining pregnancy</td>
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<td>.514</td>
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<td>Options/trends in childbirth</td>
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<td>Methods of birth control</td>
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<td>.184</td>
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<td></td>
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<tr>
<td>Pros and cons of adoption</td>
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<td>.541</td>
<td>.380</td>
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<tr>
<td>Methods of sterilization</td>
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<td>Counseling to prevent pregnancy</td>
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<td>.233</td>
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<tr>
<td>Use of condoms in STD prevention</td>
<td>-.144</td>
<td>-.234</td>
<td>-.209</td>
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<tr>
<td>Sexual behaviors and HIV infection</td>
<td>-.067</td>
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<td>-.020</td>
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</tr>
<tr>
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<td>-.057</td>
<td>.049</td>
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<td></td>
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<tr>
<td>Incest and sexual abuse</td>
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<td>.016</td>
<td>.075</td>
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<td>.274</td>
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<td><strong>.409</strong></td>
<td><strong>.245</strong></td>
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</table>
theoretical perspective, it is highly likely that relative importance has a common influence on both the current and future inclusion of health education topics in the high school curriculum.

Current Inclusion, Relative Importance, and Potential for Controversy as Predictors of Future Inclusion of Selected Topics in the High School Health Education Curriculum

To determine the usefulness of current inclusion, relative importance, and potential for controversy of topics in the health education curriculum as predictors of future inclusion of the topics squared multiple correlation coefficients (R²) were calculated. Overall, approximately 45% of the variance in future inclusion of selected topics in the high school health education curriculum can be accounted for by current inclusion, relative importance, and potential for controversy as perceived by directors of health education in state departments of education (Table 8). For specific topics the proportion of variance in future inclusion which can be attributed to the other three variables under investigation ranges from .262 ("procedures to follow should a rape occur") to .640 ("methods of determining pregnancy"). Thus, it appears that current inclusion, relative importance, and potential for controversy are useful as predictors of future inclusion of selected topics in the high school health education curriculum.
<table>
<thead>
<tr>
<th>Topic</th>
<th>Proportion of Variance Accounted for $(R^2)$</th>
</tr>
</thead>
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</tr>
<tr>
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<td>.616</td>
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</tr>
<tr>
<td>Sexual behaviors and HIV infection</td>
<td>.333</td>
</tr>
<tr>
<td>Use of condoms and HIV infection</td>
<td>.463</td>
</tr>
<tr>
<td>Incest and sexual abuse</td>
<td>.295</td>
</tr>
<tr>
<td>Incidence of violent behavior</td>
<td>.554</td>
</tr>
<tr>
<td>Reducing risk of being crime victim</td>
<td>.506</td>
</tr>
<tr>
<td>Actions when a violent crime occurs</td>
<td>.495</td>
</tr>
<tr>
<td>Nature of domestic violence</td>
<td>.545</td>
</tr>
<tr>
<td>Procedures should a rape occur</td>
<td>.262</td>
</tr>
<tr>
<td>Suicide prevention</td>
<td>.445</td>
</tr>
<tr>
<td>First aid for drug abuse</td>
<td>.401</td>
</tr>
<tr>
<td>Time management skills</td>
<td>.321</td>
</tr>
<tr>
<td><strong>OVERALL</strong></td>
<td><strong>.452</strong></td>
</tr>
</tbody>
</table>
With more than half of the total variance in future inclusion unaccounted for by the other variables, however, it is evident that other factors must be operating to create the anticipated changes in the high school health education curriculum.

Based on the size of the standardized regression coefficients ($\beta$), for the vast majority of topics, current inclusion of a topic was the most useful variable for predicting anticipated future inclusion of the topic in the high school health education curriculum (Table 9). Considering the 28 directors of health education in state departments of education as a probability sample rather than as a population all of the standardized regression coefficients for current inclusion of the selected topics would have been considered significant ($p < .05$) except for the topics "the pros and cons of adoption" and "first aid procedures for victims of drug abuse". This finding highlights the persistent nature of public school curricula. In very few situations was a decrease observed between the percentage of schools currently including a topic and the percentage expected to include the topic within the next five years.

The perceived relative importance of topics appears to be the second most useful variable in predicting future inclusion of topics in the high school health education
TABLE 9
The Relative Usefulness of Current Inclusion, Relative Importance, and Potential for Controversy as Predictors of Future Inclusion of Selected Topics as Perceived by Directors of Health Education in State Departments of Education (N=28).

<table>
<thead>
<tr>
<th>Topic</th>
<th>Current Inclusion</th>
<th>Relative Importance</th>
<th>Potential for Controversy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Testicular self-examination</td>
<td>.514</td>
<td>.205</td>
<td>-.075</td>
</tr>
<tr>
<td>Breast self-examination</td>
<td>.644</td>
<td>.093</td>
<td>-.175</td>
</tr>
<tr>
<td>Physiology of the sexual response</td>
<td>.357</td>
<td>.472</td>
<td>.172</td>
</tr>
<tr>
<td>Factors in successful marriage</td>
<td>.676</td>
<td>.185</td>
<td>-.144</td>
</tr>
<tr>
<td>Methods of determining pregnancy</td>
<td>.625</td>
<td>.352</td>
<td>-.015</td>
</tr>
<tr>
<td>Options/trends in childbirth</td>
<td>.353</td>
<td>.520</td>
<td>-.110</td>
</tr>
<tr>
<td>Methods of birth control</td>
<td>.811</td>
<td>-.084</td>
<td>-.074</td>
</tr>
<tr>
<td>Availability of birth control</td>
<td>.674</td>
<td>.105</td>
<td>.033</td>
</tr>
<tr>
<td>Pros and cons of abortion</td>
<td>.657</td>
<td>.180</td>
<td>-.111</td>
</tr>
<tr>
<td>Pros and cons of adoption</td>
<td>.256</td>
<td>.332</td>
<td>.370</td>
</tr>
<tr>
<td>Methods of sterilization</td>
<td>.360</td>
<td>.401</td>
<td>-.035</td>
</tr>
<tr>
<td>Pregnancy counseling</td>
<td>.756</td>
<td>.230</td>
<td>-.283</td>
</tr>
<tr>
<td>Counseling to prevent pregnancy</td>
<td>.628</td>
<td>.186</td>
<td>-.237</td>
</tr>
<tr>
<td>Use of condoms in STD prevention</td>
<td>.551</td>
<td>-.194</td>
<td>-.070</td>
</tr>
<tr>
<td>Sexual behaviors and HIV infection</td>
<td>.702</td>
<td>-.017</td>
<td>-.315</td>
</tr>
<tr>
<td>Use of condoms and HIV infection</td>
<td>.797</td>
<td>.049</td>
<td>-.263</td>
</tr>
<tr>
<td>Incest and sexual abuse</td>
<td>.570</td>
<td>-.064</td>
<td>-.211</td>
</tr>
<tr>
<td>Incidence of violent behavior</td>
<td>.660</td>
<td>.220</td>
<td>-.019</td>
</tr>
<tr>
<td>Reducing risk of being crime victim</td>
<td>.560</td>
<td>.297</td>
<td>-.091</td>
</tr>
<tr>
<td>Actions when a violent crime occurs</td>
<td>.530</td>
<td>.352</td>
<td>.025</td>
</tr>
<tr>
<td>Nature of domestic violence</td>
<td>.573</td>
<td>.364</td>
<td>.320</td>
</tr>
<tr>
<td>Procedures should a rape occur</td>
<td>.439</td>
<td>.202</td>
<td>-.022</td>
</tr>
<tr>
<td>Suicide prevention</td>
<td>.674</td>
<td>.002</td>
<td>-.020</td>
</tr>
<tr>
<td>First aid for drug abuse</td>
<td>.308</td>
<td>.524</td>
<td>-.259</td>
</tr>
<tr>
<td>Time management skills</td>
<td>.517</td>
<td>.070</td>
<td>.136</td>
</tr>
<tr>
<td>OVERALL</td>
<td>.571</td>
<td>.203</td>
<td>-.010</td>
</tr>
</tbody>
</table>
curriculum (Table 9). For four topics; "physiology of the sexual response", "options/trends in childbirth", "methods of sterilization", and "first aid procedures for victims of drug abuse" this variable has the highest standardized regression coefficient. Considering the 28 directors of health education in state departments of education as a probability sample rather than as a population, the standardized regression coefficients for relative importance on these four topics and four others ("methods of determining pregnancy", "the pros and cons of adoption", "actions to take when a violent crime occurs", and "the nature of domestic violence") would have been considered significant (p < .05).

Perceived potential for controversy appeared to be the least useful of the three variables for prediction of anticipated future inclusion of selected topics by directors of health education in state departments of education (Table 9). Considering the 28 directors of health education in state departments of education as a probability sample rather than as a population, the standardized regression coefficients for potential for controversy would have been considered significant (p < .05) on two topics ("the pros and cons of adoption" and "the nature of domestic violence").
Examining the increments in proportion of variance in future inclusion accounted for by current inclusion, relative importance, and potential for controversy provides an alternative way to view the relative usefulness of these variables as predictors of future inclusion of selected topics in the high school health education curriculum as perceived by state directors of health education in state departments of education. Considering current inclusion of the selected topics as the dominant variable, the increment in proportion of variance in future inclusion provided by adding first relative importance and then potential for controversy was determined. As can be seen in Table 10, overall, relative importance adds moderately and potential for controversy contributes negligibly to the proportion of variance accounted for in future inclusion of the selected health education topics. Considering the 28 directors of health education in state departments of education as a probability sample rather than as a population, significant (p < .05) increments in proportion of variance accounted for in future inclusion of the selected topics are obtained for the same topics with significant standardized regression coefficients.

5. When considered alone or added earlier in the regression equation relative importance and potential for controversy account for a larger proportion of variance in future inclusion of selected topics as perceived by directors of health education in state departments of education.
<table>
<thead>
<tr>
<th>Topic</th>
<th>Proportion of Variance Accounted for $\left(R^2\right)$</th>
<th>Increments in Proportion of Variance Accounted for</th>
<th>Current</th>
<th>Importance</th>
<th>Controversy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Testicular self-examination</td>
<td>.371</td>
<td>.343</td>
<td>.024</td>
<td>.004</td>
<td></td>
</tr>
<tr>
<td>Breast self-examination</td>
<td>.473</td>
<td>.450</td>
<td>.000</td>
<td>.023</td>
<td></td>
</tr>
<tr>
<td>Physiology of the sexual response</td>
<td>.620</td>
<td>.437</td>
<td>.157*</td>
<td>.026</td>
<td></td>
</tr>
<tr>
<td>Factors in successful marriage</td>
<td>.531</td>
<td>.480</td>
<td>.031</td>
<td>.020</td>
<td></td>
</tr>
<tr>
<td>Methods of determining pregnancy</td>
<td>.640</td>
<td>.525</td>
<td>.115*</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Options/trends in childbirth</td>
<td>.616</td>
<td>.446</td>
<td>.158*</td>
<td>.012</td>
<td></td>
</tr>
<tr>
<td>Methods of birth control</td>
<td>.604</td>
<td>.592</td>
<td>.007</td>
<td>.005</td>
<td></td>
</tr>
<tr>
<td>Availability of birth control</td>
<td>.525</td>
<td>.517</td>
<td>.007</td>
<td>.001</td>
<td></td>
</tr>
<tr>
<td>Pros and cons of abortion</td>
<td>.471</td>
<td>.432</td>
<td>.028</td>
<td>.011</td>
<td></td>
</tr>
<tr>
<td>Pros and cons of adoption</td>
<td>.476</td>
<td>.201</td>
<td>.171*</td>
<td>.104*</td>
<td></td>
</tr>
<tr>
<td>Methods of sterilization</td>
<td>.450</td>
<td>.352</td>
<td>.097*</td>
<td>.001</td>
<td></td>
</tr>
<tr>
<td>Pregnancy counseling</td>
<td>.616</td>
<td>.536</td>
<td>.019</td>
<td>.061</td>
<td></td>
</tr>
<tr>
<td>Counseling to prevent pregnancy</td>
<td>.465</td>
<td>.398</td>
<td>.016</td>
<td>.051</td>
<td></td>
</tr>
<tr>
<td>Use of condoms in STD prevention</td>
<td>.279</td>
<td>.232</td>
<td>.044</td>
<td>.003</td>
<td></td>
</tr>
<tr>
<td>Sexual behaviors and HIV infection</td>
<td>.333</td>
<td>.265</td>
<td>.010</td>
<td>.058</td>
<td></td>
</tr>
<tr>
<td>Use of condoms and HIV infection</td>
<td>.463</td>
<td>.420</td>
<td>.001</td>
<td>.041</td>
<td></td>
</tr>
<tr>
<td>Incest and sexual abuse</td>
<td>.295</td>
<td>.248</td>
<td>.007</td>
<td>.040</td>
<td></td>
</tr>
<tr>
<td>Incidence of violent behavior</td>
<td>.554</td>
<td>.508</td>
<td>.045</td>
<td>.001</td>
<td></td>
</tr>
<tr>
<td>Reducing risk of being crime victim</td>
<td>.506</td>
<td>.424</td>
<td>.074</td>
<td>.008</td>
<td></td>
</tr>
<tr>
<td>Actions when a violent crime occurs</td>
<td>.495</td>
<td>.375</td>
<td>.120*</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Nature of domestic violence</td>
<td>.545</td>
<td>.356</td>
<td>.094*</td>
<td>.095*</td>
<td></td>
</tr>
<tr>
<td>Procedures should a rape occur</td>
<td>.262</td>
<td>.222</td>
<td>.039</td>
<td>.001</td>
<td></td>
</tr>
<tr>
<td>Suicide prevention</td>
<td>.445</td>
<td>.444</td>
<td>.000</td>
<td>.001</td>
<td></td>
</tr>
<tr>
<td>First aid for drug abuse</td>
<td>.401</td>
<td>.143</td>
<td>.202*</td>
<td>.056</td>
<td></td>
</tr>
<tr>
<td>Time management skills</td>
<td>.321</td>
<td>.294</td>
<td>.010</td>
<td>.017</td>
<td></td>
</tr>
<tr>
<td>OVERALL</td>
<td>.452</td>
<td>.417</td>
<td>.035</td>
<td>.000</td>
<td></td>
</tr>
</tbody>
</table>

Note. * denotes significance (p<.05) when subjects are treated as a probability sample.
Summary

In this chapter the results of the investigation were presented. Important findings were identified and briefly discussed. The mean percentage of schools in each state perceived to be including selected topics in the current high school health education curriculum by directors of health education in state departments of education were presented in descriptive form. All of the selected topics were found to have a low or medium average inclusion rate in the current high school health education curriculum. In addition to current inclusion rate, the perceived relative importance, potential for controversy and predicted future inclusion of the selected topics were described. All of the selected topics had an average rating of high or medium importance. In comparison with current inclusion rate, the anticipated future inclusion rate of the selected health education topics was found to be higher.

Finally, the interrelationships between the variables under investigation were examined and the usefulness of current inclusion, relative importance, and potential for controversy as predictors of future inclusion of selected topics in the high school health education curriculum discussed. While the variable relative importance appeared to be moderately useful, current inclusion of a topic was identified as the most
promising variable for predicting anticipated future inclusion of selected topics in the high school health education curriculum.
CHAPTER V
DISCUSSION AND CONCLUSIONS

Overview

In this chapter the major findings of the investigation are discussed. Conclusions are made about the current inclusion, future inclusion, relative importance, and potential for controversy of selected topics in the high school health education curriculum as perceived by directors of health education in state departments of education. Finally, the limitations of the current investigation are described and suggestions for future research are made.

Directors of Health Education in State Departments of Education

Directors of health education in state departments of education provide leadership at the state level for health education curriculum development and implementation in the public schools. As a group, directors of health education in state departments of education are highly qualified academically and have considerable public school teaching experience. All of the directors who participated in this
investigation held at least a Masters degree (Table 1) and the median number of years of teaching experience was 12 (Table 3). Only 13 of the 32 (41%) directors participating in the investigation, however, held their highest academic qualification in health education (Table 1). While nine directors of health education in state departments of education held Doctorates, only one held a doctorate in health education. From these observations, it may be concluded that much of the leadership in school health education at the state level is being provided by personnel who are not specialists in health education.

**Current Inclusion of Selected Topics in the High School Health Education Curriculum**

All of the selected health education topics had a low or medium inclusion rate in the current health education curriculum as perceived by directors of health education in state departments of education (Table 4). As can be seen in Appendix N, there was a wide distribution in the percentage of schools in each state that included the selected topics in the high school health education curriculum. Mason and McGinnis (1985) described the contribution of health education to the health of the nation's adolescents as more potential than real. If the perceptions of directors of health education in state departments of education are an accurate reflection of the
status of the high school health education curriculum in the United States then the sentiments of Mason and McGinnis (1985) are supported. Based on the results of this investigation, it appears that few states are implementing comprehensive health education programs at the high school level. The rates of current inclusion of selected topics fall surprisingly short of the national health promotion and disease prevention objectives for the year 2000 (United States Department of Health and Human Services, 1990). Thus, it could be concluded that the opportunity for health education to have an impact on the major sources of adolescent mortality and morbidity such as unwanted pregnancy, sexually transmitted diseases, drug abuse, suicide, and violence is being missed.

In terms of predicting future inclusion of topics in the high school health education curriculum, the findings of this investigation suggest that current inclusion of selected topics is the most promising variable. A large proportion of the variance in future inclusion of the selected topics was accounted for by current inclusion of the topics (Table 10). The selected health education topics demonstrated a high degree of persistence. In simple terms, if a topic was in the current high school health education curriculum it was generally predicted to be in future curricula.
Future Inclusion of Selected Topics in the High School Health Education Curriculum

Perhaps the most important finding in the investigation was the dramatic change which is expected to occur in the high school health education curriculum. Based on the data presented in Table 4, it is obvious that directors of health education in state departments of education anticipate a substantial increase in the percentage of high schools including the selected topics in the health education curriculum within the next five years. There were few examples of states in which the director of health education in the state department of education indicated that the percentage of schools including an individual topic would decrease. Overall, an increase in the percentage of schools including the selected topics in the high school health education curriculum was apparent for every topic included in the study.

Even given the anticipated dramatic increase in the number of schools including the selected topics in the high school health education curriculum, it is noteworthy that perceived inclusion rates will not reach the levels recommended in the national health promotion and disease prevention objectives. Comprehensive health education is seen as a key factor in achieving the national health promotion and disease prevention objectives relating to adolescent pregnancy,
transmission of HIV and other sexually transmitted diseases, violence, and suicide (United States Department of Health and Human Services, 1990). If the predictions of directors of health education in state departments of education are accurate, the chances of success in achieving the national health promotion and disease prevention objectives in these areas critical to the health of adolescents would appear to be severely compromised. Thus, while it must be concluded that the anticipated trends in the high school health education curriculum are encouraging it is apparent that change is not occurring fast enough in some areas.

When compared with the study of school district health education coordinators, directors of health education in state departments of education are much more conservative in their predictions. Every topic in the current investigation was predicted to be included in the high school health education curriculum within five years by at least 80% of school district health education coordinators (Willcox, 1990). According to the predictions of directors of health education in state departments of education only 2 of the 25 topics under investigation, "specific sexual behaviors that increase the risk of HIV infection" and "suicide prevention" will be included in the high school health education curricula in 80% or more of the schools in at least half of the states.
Relative Importance of Selected Topics in the High School Health Education Curriculum

Given that the health education topics included in the study were selected from a variety of reputable health education curriculum sources and had survived the review process, it was not surprising that most of the topics had a mean rating of high relative importance in the high school curriculum as perceived by directors of health education in state departments of education (Table 4). It was surprising, however, that some directors of health education in state departments of education perceived some of the selected topics as not important components of the high school health education curriculum (Appendix N). Conclusions that might be reached from this finding include the possibility that some directors of health education in state departments of education are not as informed about why specific topics should be included in the high school health education curriculum as they might be and/or some directors of health education in state departments of education are not supportive of the national health promotion and disease prevention initiatives. An alternative interpretation is that while all of the topics may be perceived as important, given the time restrictions on the health education curriculum, some topics are perceived by directors of health education in state departments of education as having less relative importance than others.
Although perceived as important by most of the directors of health education in state departments of education it is noteworthy that "testicular self-examination" and "breast self-examination" were considered to be not important or of little importance by a small number of directors (Appendix N). Testicular cancer is one of the most common cancers in young men between the ages of 15 and 34 and the leading cause of cancer mortality for men in this age group (National Cancer Institute, 1988). Early detection of this cancer via monthly self-examination is considered to be essential to reducing the mortality rate from this cancer. It is difficult to imagine that an individual concerned with the health and well-being of adolescents would not want adolescent males to be aware of the importance of and indeed competent in the practice of testicular self-examination. It is possible that those directors who considered this topic to be of low importance may have been evaluating the topic relative to other topics associated with diseases that have higher mortality and morbidity rates.

According to the American Cancer Society (1991), one in nine women will develop breast cancer in her lifetime. This cancer is the second leading cause of cancer mortality in women, accounting for nearly 45,000 deaths per year. Routine monthly breast self-examination is an important component in secondary prevention of this disease and is recommended for
all women over the age of 20. Considering the evidence, this would appear to be an important topic in the high school health education curriculum.

Prominent among the national health promotion and disease prevention objectives for the year 2000 are the objectives related to reducing adolescent pregnancy and promoting human sexuality education (United States Department of Health and Human Services, 1990). It is, therefore, surprising that some of the topics related to pregnancy and human sexuality ("the physiology of the sexual response", "options/trends in childbirth" and "methods of sterilization") were given a mean rating of medium relative importance by directors of health education in state departments of education (Table 4).

The topics "the pros and cons of abortion" and "the pros and cons of adoption" were both given mean ratings of medium relative importance in the high school health education curriculum by directors of health education in state departments of education (Table 4). Abortion is a national issue that generates a great deal of media attention. Because abortion is a political issue that affects everyone there appears to be a real need for all persons, not just those faced with decisions about terminating their own pregnancy, to be
informed about this issue. Increasing education about adoption is included among the national health promotion and disease prevention objectives for the year 2000 (United States Department of Health and Human Services, 1990). Although this objective relates specifically to persons with unintended pregnancies it may be more appropriate and effective for this type of education to be proactive rather than reactive. Given the perceived importance of these topics at the national level, it might be concluded that the relative importance of the topics were somewhat undervalued by directors of health education in state departments of education.

The topics in the study related to reducing the risk of infection with HIV and other sexually transmitted diseases were given a mean rating of high relative importance by the directors of health education in state departments of education. It is noteworthy that none of the directors participating in the study considered these topic to be not important in the high school health education curriculum (Appendix N). This finding is encouraging and consistent with the national health promotion and diseases prevention initiatives (United States Department of Health and Human Services, 1990).
"Suicide prevention" as a topic in the high school health education curriculum was rated very important by directors of health education in state departments of education more frequently than an other topic in the investigation (Appendix N). This finding tends to suggest that directors of health education in state departments of education acknowledge the seriousness of this problem and its contribution to adolescent mortality and morbidity.

In terms of predicting anticipated future inclusion of topics in the high school health education curriculum it is possible to conclude, based on the findings of this investigation, that perception of relative importance is a promising variable. In simple terms, the more important a topic is believed to be the more likely it is to be anticipated to be included in the future high school health education curriculum.

Potential for Controversy of Selected Topics in the High School Health Education Curriculum

The investigation covered some sensitive areas of human behavior and many topics were included because of the perception of high potential for controversy on the behalf of school district health education coordinators in the pilot study. It is, therefore, not surprising that some of the topics were
also considered to have a high potential for controversy by
directors of health education in state departments of education
(Table 4).

Those topics related to the area of human sexuality
were considered to have the highest potential for controversy. The specific topic with the highest mean rating of potential for controversy was clearly "the pros and cons of abortion" (Appendix N). Other topics that stand out as being perceived to have a high potential for controversy were "the physiology of the sexual response", "methods of birth control", "the availability of birth control", "methods of sterilization", "specific sexual behaviors that increase the risk of HIV infection", "the use of condoms in reducing the risk of HIV infection", and "incest and sexual abuse". This finding parallels the finding from the study of school district health education coordinators in which the topics perceived to have the greatest potential for controversy were in descending order "the pros and cons of abortion", "methods of birth control", "the availability of birth control", "incest and sexual abuse", and "specific behaviors that increase the risk of HIV infection" (Willcox, 1990).

A strong relationship between potential for controversy and the inclusion of the selected topics in the current or future
high school health education curriculum was not observed in this study. This finding was in contradiction to the findings of Reis and Seidl (1989) who in a study of 42 school administrators found that administrators perceived parents to be the major barrier to the introduction of formalized sex education in their schools. Although this investigation was conducted at the state level rather than the school district level, optimistically, it might be concluded that school health education administrators are no longer allowing the fear of controversy to determine curriculum development. Perhaps with the new realities of AIDS, school health education administrators are coming to realize that some health education topics are too essential to the lives of students to be left out of the curriculum simply to avoid controversy for political expedience.

This finding has implications for those who develop health education materials and resources. Topics are often omitted from health education textbooks and other instructional media because their high potential for controversy makes them unacceptable. The results of this

6. A sex education program would most likely incorporate many of the topics related to human sexuality included in this investigation.
study suggest that in the future many of the potentially controversial topics are more likely to be included in the health education curriculum at the high school level. Therefore, it is important that instructional materials be developed that include these topics.

In terms of predicting future inclusion of topics in the high school health education curriculum, it might be concluded, on the basis of the findings of this investigation, that potential for controversy is not a useful variable for the purposes of prediction. Caution should be taken, however, in reaching this conclusion. Topics for the investigation were taken from existing curricula and curriculum guides and, therefore, may already reflect a preexisting conservative bias. The most potentially controversial topics in the health education curriculum may have been excluded from the study. Had such topics been examined, a stronger relationship may have been observed between potential for controversy and inclusion in the current and future health education curriculum.

Limitations of the Current Research

There have been few attempts to describe the contents of the health education curriculum on a national basis. When combined with the study of school district health education coordinators (Willcox, 1990), this investigation represented
perhaps the most comprehensive attempt in recent years to describe the content within selected areas in the health education curriculum. The usefulness of the investigation is limited, however, by the failure and refusal of some directors of health education in state departments of education to participate. Thus, the conclusions reached about the status and future trends of the curriculum are based on incomplete data and may paint a misleading picture. The field of health education generally suffers from a lack of research and well developed theory to guide practice. This situation will be difficult to improve if professionals within the field fail to support research efforts.

This investigation was quantitative in nature and no explanations or discussion of responses to the questions in the instrument were included. As a result of this, the interpretations of the results and conclusions made were speculative.

The restrictive nature of the quantitative approach used in this investigation fails also to take advantage of the opportunity to identify additional variables for future investigations. It was apparent from the results of this investigation that there are important variables other than those in the investigation which influence the inclusion of
selected topics in the high school health education curriculum\textsuperscript{7}. The addition of a more qualitative research approach may have helped to identify these variables.

**Suggestions for Future Research**

This investigation was concerned with the perceptions of directors of health education in state departments of education about the future inclusion of selected topics in the high school health education curriculum. A follow up study conducted in five years to determine how accurately state directors of health education in state departments of education are able to predict future curriculum trends would help in evaluating the usefulness of similar investigations in the future.

The current investigation was strengthened by the ability to compare results with the study of school district health education coordinators. Similar investigations involving school administrators, teachers, and parents would improve generalizability and enhance credibility.

\textsuperscript{7} Less than 50\% of the variance in future inclusion of the selected topics was accounted for by current inclusion, relative importance, and potential for controversy of the topics as perceived by directors of health education in state departments of education.
While this investigation focused on the health education curriculum at the high school level it is recognized that much health education is conducted in the elementary and middle schools. Investigation of the factors influencing curriculum development at the elementary and middle school level would be a worthy pursuit and provide valuable comparative data.

Twenty-five health education topics were included in this investigation. This represents only a small portion of the high school health education curriculum. Future research should be directed to studying the status and trends of a wider array of high school health education curriculum topics.

As discussed earlier in the limitations of the investigation, variables other than those investigated are apparently influencing the health education curriculum. Such variables might include political climate and geographic location or region within the United States. Future research efforts should be directed toward identifying these variables. Combinations of quantitative and qualitative research approaches and a variety of methodologies are advocated.

In addition to the content of the high school health education curriculum, this investigation was concerned with
directors of health education in state departments of education. Further research is needed to help describe this population group and their influence on health education throughout the nation. Specific areas that might be addressed in future research include:

1. The perceptions of the directors regarding the amount of influence they have on curriculum development in their states.

2. The turnover rate for directors of health education in state departments of education and the number of years of experience the directors have in their current position.

3. The qualifications directors were required to have for their current position and their specialization areas other than health education.

4. The subjects the directors have taught in the public school system and the grade level at which these subjects were taught.
Summary

In this chapter the major findings of the investigation were discussed. It was noted that relatively few high schools appear to have comprehensive health education programs but that dramatic changes were anticipated in the health education curriculum within the next five years. Current inclusion and perceived relative importance of health education topics were identified as useful predictors of future inclusion of the topics in the high school curriculum. The role of perceived potential for controversy of the selected topics as a barrier to inclusion in the high school health education curriculum was also discussed. Following the conclusions and implications of the study, the major limitations of the investigation were described and suggestions were made for future research endeavors.
APPENDIX A

UNITED STATES DEPARTMENT OF HEALTH AND HUMAN SERVICES

FIVE NATIONAL HEALTH GOALS FOR 1990
### Five National Health Goals for 1990

<table>
<thead>
<tr>
<th>Age Group</th>
<th>1990 Goal</th>
<th>Special Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Healthy Infants (below age 1)</td>
<td>35% fewer deaths</td>
<td>Low birth weight, Birth defects</td>
</tr>
<tr>
<td>2. Health Children (age 1-14)</td>
<td>20% fewer deaths</td>
<td>Growth and Development, Injuries</td>
</tr>
<tr>
<td>3. Healthy Adolescents/Young Adults (ages 15-24)</td>
<td>20% fewer deaths</td>
<td>Motor vehicle injuries, Alcohol and drugs</td>
</tr>
<tr>
<td>4. Healthy Adults (ages 25-64)</td>
<td>25% fewer deaths</td>
<td>Heart attacks, Strokes, Cancers</td>
</tr>
<tr>
<td>5. Healthy Older Adults (age 65 +)</td>
<td>20% fewer sick days Functional independence, Influenza/ Pneumonia</td>
<td></td>
</tr>
</tbody>
</table>
UNITED STATES DEPARTMENT OF HEALTH AND HUMAN SERVICES

FIFTEEN PRIORITY AREAS FOR 1990

1. High Blood Pressure Control
2. Family Planning
3. Pregnancy and Infant Health
4. Immunizations
5. Sexually Transmitted Diseases
6. Toxic Agent and Radiation Control
7. Occupational Safety and Health
8. Accident Prevention and Injury Control
9. Fluoridation and Dental Health
10. Surveillance and Control of Infectious Diseases
11. Smoking Control
12. Improved Nutrition
13. Physical Fitness and Exercise
14. Alcohol and Drug Misuse
15. Control of Stress and Violent Behavior
APPENDIX C

UNITED STATES DEPARTMENT OF HEALTH AND HUMAN SERVICES

THREE NATIONAL HEALTH GOALS FOR 2000
UNITED STATES DEPARTMENT OF HEALTH AND HUMAN SERVICES
THREE NATIONAL HEALTH GOALS FOR 2000

1. Increase the span of healthy life for Americans

2. Reduce health disparities among Americans

3. Achieve access to preventive services for all Americans
APPENDIX D

UNITED STATES DEPARTMENT OF HEALTH AND HUMAN SERVICES

TWENTY-TWO PRIORITY AREAS
UNITED STATES DEPARTMENT OF HEALTH AND HUMAN SERVICES

TWENTY-TWO PRIORITY AREAS

1. Physical Activity and Fitness
2. Nutrition
3. Tobacco
4. Alcohol and Other Drugs
5. Family Planning
6. Mental Health and Mental Disorders
7. Violent and Abusive Behavior
8. Educational and Community Based Programs
9. Unintentional injuries
10. Occupational Safety and Health
11. Environmental Health
12. Food and Drug Safety
13. Oral Health
14. Maternal and Infant Health
15. Heart Disease and Stroke
16. Cancer
17. Diabetes and Chronic Disabling Conditions
18. HIV Infection
19. Sexually Transmitted Diseases
20. Immunization and Infectious Diseases
21. Clinical Preventive Services
22. Surveillance and Data Systems
APPENDIX E
THE NATIONAL PROFESSIONAL SCHOOL HEALTH EDUCATION ORGANIZATIONS' CRITERIA FOR A COMPREHENSIVE SCHOOL HEALTH INSTRUCTIONAL PROGRAM
THE NATIONAL PROFESSIONAL SCHOOL HEALTH EDUCATION
ORGANIZATIONS' CRITERIA FOR A
COMPREHENSIVE SCHOOL HEALTH INSTRUCTIONAL PROGRAM

1. Instruction intended to motivate health maintenance and promote wellness and not merely to prevent disease or disability.

2. Activities designed to develop decision-making competencies related to health and health behavior.

3. Integration of the physical, mental, emotional and social dimensions of health as the basis for study of the following topic areas:
   - Community health
   - Consumer health
   - Environmental health
   - Family life
   - Growth and development
   - Nutritional health
   - Personal health
   - Prevention and control of disease and disorder
   - Safety and accident prevention
   - Substance use and abuse
4. A planned, sequential Pre-K to 12 curriculum based upon students' needs and current and emerging health concepts and societal issues.

5. Opportunities for all students to develop and demonstrate health-related knowledge, attitudes and practices.

6. Specific program goals and objectives.

7. Formative and summative evaluation procedures.

8. An effective management system.

9. Sufficient resources: budgeted instructional materials, time, management staff, and teachers.
APPENDIX F

EDUCATION COMMISSION OF THE STATES

RECOMMENDATIONS FOR THE ESTABLISHMENT AND IMPROVEMENT
OF HEALTH EDUCATION PROGRAMS IN SCHOOLS
1. State education agencies should encourage local school boards and administrators to include health education in the curriculum in elementary and secondary schools.

2. State education agencies should promote health education as a responsibility shared by the family, school, and community. Parents, community residents (especially health and education professionals) and the media must support and reinforce educational efforts in the school setting.

3. State education policymakers should support the development and improvement of school health education programs by utilizing the direct and indirect means available to them in their official capacities.

4. State education agencies should provide technical assistance to local districts in planning and implementing school health education programs.
5. State education agencies should promote the development of comprehensive school health education programs.

6. State education agencies should encourage local school boards to undertake a participatory planning process in the development of school health education programs. Important tasks in this process are formulating a district health education policy and broad district goals, a statement of need and recommended actions to implement a program to meet identified needs.

7. State and local education agencies should ensure the presence of trained and qualified teachers in school health education programs. Preservice requirements, inservice training and continuing education programs must be continually reviewed, evaluated and upgraded so that teachers possess the necessary skills to carry out their responsibility to students in health education.

8. State and local education agencies should assist in developing a system of information exchange about health education.
9. State education agencies should encourage the evaluation of school health education programs and assist local districts in developing appropriate evaluation processes.

10. State education agencies should encourage federal agencies to channel categorical funds in a manner that will enhance comprehensive school health education developments.
APPENDIX G
STATE DIRECTORS OF HEALTH EDUCATION IN STATE DEPARTMENTS OF EDUCATION 1991
Alabama:

Judy D. Ryals
50 North Ripley Street
Montgomery, AL 36130-3901

Alaska:

Rochelle Plotnick-Weller
Alaska Department of Education
Post Office Box F
Juneau, AK 99811-0500
(907) 465-2841

Arizona:

Bette Denlinger
1535 W. Jefferson
Phoenix, AZ 85007
(602) 542-3925

Arkansas:

Dr. Gary Parish
Arkansas Dept of Ed.
#4 Capitol Mall, 305B
Little Rock, AR 72201
(501) 682-4472
California:

Dr. Robert Ryan  
California Dept. of Ed.  
721 Capitol Mall  
Post Office Box 944272  
Sacramento, CA 94244-2720  
(916) 322-4018

Colorado:

Mary VanderWall  
Colorado Dept. of Ed.  
201 East Colfax  
Denver, CO 80203  
(303) 866-6766

Connecticut:

Veronica Skerker  
Connecticut Dept. of Ed.  
165 Capitol Avenue  
Post Office Box 2219  
Hartford, CT 06106  
(203) 566-2763

Delaware:

Dr. Edith P. Vincent  
Delaware Dept. of Public Instruction  
Townsend Building  
Post Office Box 1402  
Dover, DE 19903  
(302) 739-4885
Florida:

Dr. Mae Waters  
Florida Dept. of Ed.  
325 W. Gaines Street  
Tallahassee, FL 32399-0444  
(904) 488-7835

Georgia:

Rendel Stalvey  
1952 Twin Towers East  
Atlanta, GA 30334-5040  
(404) 656-2414

Hawaii:

Ann Horiuchi  
189 Lunalilo Home Rd., 2nd Floor  
Honolulu, HI 96825  
(808) 396-2563

Idaho:

Shannon L. Page  
Department of Education  
650 West State Street  
Boise, ID 83720  
(208) 334-2281

Illinois:

Dr. Suzy Morrison  
Illinois State Board of Education  
100 North First Street  
Springfield, IL 62777  
(217) 782-2826
Indiana:

Dr. Leah M. Ingraham
State House, Room 229
Indianapolis, IN 46204-2798
(317) 232-6975

Iowa:

Mary Thissen-Milder
Iowa Dept. of Ed.
Bureau of Instruction and Curriculum
Grimes State Office Building
Des Moines, IA 50319-0146
(515) 281-4804

Kansas:

Janet S. Wilson
Program Specialist
Kansas State Dept. of Ed.
120 East 10th Street
Topeka, KS 66612
(913) 296-6716

Kentucky:

Malinda Martin
1811 Capital Plaza Tower
Frankfort, KY 40601
(502) 564-2106
Louisiana:

Marlenne Ritter
Louisiana Dept. of Ed.
Post Office Box 94064
Baton Rouge, LA 70804
(504) 342-3411

Maine:

Kathy Wilbur
State House Station 23
Augusta, ME 04333
(207) 289-5925

Maryland:

Janet L. Pabst
200 W. Baltimore Street
Baltimore, MD 21201
(301) 333-2321

Massachusetts:

Tim Dunn
Massachusetts Dept. of Ed.
1385 Hancock Street
Quincy, MA 02169
(617) 770-7575

Michigan:

Pat Nichols
Michigan Dept. of Ed.
Post Office Box 30008
Lansing, MI 48909
(517) 373-2589
Minnesota:

Dr. Robert Wandberg  
Minnesota Dept. of Ed.  
Capitol Square Building  
St. Paul, MN 55101

Mississippi:

James Parkman  
Mississippi Dept. of Ed.  
Post Office Box 771  
Jackson, MS 39205  
(601) 354-6876

Missouri:

No Director

Montana:

Dr. Spencer Sartorius  
Office of Public Instruction  
Capitol Building, Room 106  
Helena, MT 59601  
(406) 444-4434

Nebraska:

JoAnne L. Owens-Nauslar  
301 Centennial Mall South  
Lincoln, NE 68509  
(402) 471-4334
Nevada:

Robinette J. Bacon  
Nevada Dept. of Ed.  
Capitol Complex  
400 West King Street  
Carson City, NV 89710  
(702) 687-3136

New Hampshire

Beverly Grenert  
New Hampshire Dept. of Ed.  
101 Pleasant Road  
Concord, NH 03301  
(603) 271-2831

New Jersey:

Carolyn Turner  
New Jersey State Dept. of Ed.  
Division of General Academic Ed.  
225 W. State Street, CN 500  
Trenton, NJ 08625-0500  
(609) 984-1890

New Mexico:

Dr. Wm. O. Blair  
New Mexico State Dept. of Ed.  
Education Building  
300 Don Gaspar  
Santa Fe, NM 87501-2786  
(505) 827-6570
New York:

Rebecca Gardner
State Dept. of Ed.
Albany, NY 12234
(518) 474-1491

North Carolina:

Dr. John Bennett
North Carolina Department of Public Instruction
Raleigh, NC 27603-1712
(919) 733-3906

North Dakota:

Susan Paulson
State Dept. of Public Instruction
State Capital
Bismarck, ND 58501
(701) 224-2753

Ohio:

No Director

Oklahoma:

Mary Spencer
4216 Spiva Drive
Del City, OK 73115
(405) 521-2106
Oregon:

Peggy Holstedt
Oregon Dept. of Ed.
700 Pringle Parkway, SE
Salem, OR 97310
(503) 378-4327

Pennsylvania:

Marian D. Sutter
Pennsylvania Dept. of Ed.
333 Market Street, 8th Floor
Harrisburg, PA 17126-0333
(717) 787-9862

Rhode Island:

Ken Glew
22 Hayes Street, B-4
Providence, RI 02908
(401) 277-2651

South Carolina:

Dr. Joanne Fraser
801 Rutledge Office Building
1429 Senate Street
Columbia, SC 29201
(803) 734-8490
South Dakota

Marianne Carr
Division of Elementary and Secondary Education
Kneip Building
Pierre, SD 57501
(605) 773-3243

Tennessee:

James Swain
Tennessee Dept. of Ed.
Cordell Hull Building
Nashville, TN 37219
(615) 741-0878

Texas:

Sunny M. Thomas
1701 North Congress Avenue
Austin, TX 78701-1494
(512) 463-9501

Utah:

Scott Hess
1097 West 600 South
Layton, UT 84041
(801) 538-7780

Vermont:

Sara Simpson
120 State Street
Montpelier, VT 05602
(802) 828-3111
Virginia:

Charles D. Hamm
Virginia Dept. of Ed.
Post Office Box 6Q
Richmond, VA 23216-2060
(804) 225-2866

Washington:

Dr. Jeff Carpenter
Old Capitol Building, FG-11
Olympia, WA 98504
(206) 753-6752

West Virginia:

Nancy M. Parr
B-309 Capitol Complex
Charleston, WV 25305
(304) 348-8830

Wisconsin:

Chet E. Bradley
Post Office Box 7841
125 S. Webster Street
Madison, WI 53702
(608) 266-7032

Wyoming:

B. G. Anderson
601 Rotlan Avenue, ATC.
Modular #8
Gillette, WY 82716
(307) 686-0317
APPENDIX H
THE SURVEY INSTRUMENT
## DIRECTORS OF HEALTH EDUCATION IN STATE DEPARTMENTS OF EDUCATION

### A SURVEY OF SELECTED HEALTH EDUCATION TOPICS IN THE HIGH SCHOOL CURRICULUM

**SECTION I.** The content of the Health Education curriculum varies widely from high school to high school. We are interested in learning about the Health Education curriculum at the high school level in your state. Specifically we would like to learn what percentage of high schools in your state currently include the following topics in the Health Education curriculum.

**INSTRUCTIONS:** For each specific topic circle the number which best represents the percentage of schools in your state which include this topic in the high school health education curriculum.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Percentage of schools which include this topic in the current high school Health Education curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Testicular self-examination</td>
<td>0-19 20-39 40-59 60-79 80-100</td>
</tr>
<tr>
<td>3. Physiology of the sexual response</td>
<td>0-19 20-39 40-59 60-79 80-100</td>
</tr>
<tr>
<td>4. Factors that increase the likelihood of a successful marriage</td>
<td>0-19 20-39 40-59 60-79 80-100</td>
</tr>
<tr>
<td>5. Methods of determining pregnancy</td>
<td>0-19 20-39 40-59 60-79 80-100</td>
</tr>
<tr>
<td>7. Methods of birth control</td>
<td>0-19 20-39 40-59 60-79 80-100</td>
</tr>
<tr>
<td>8. The availability of birth control</td>
<td>0-19 20-39 40-59 60-79 80-100</td>
</tr>
<tr>
<td>9. The pros and cons of abortion</td>
<td>0-19 20-39 40-59 60-79 80-100</td>
</tr>
<tr>
<td>10. The pros and cons of adoption</td>
<td>0-19 20-39 40-59 60-79 80-100</td>
</tr>
<tr>
<td>Topic</td>
<td>Percentage of schools which include this topic in the current high school Health Education curriculum</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>12. Where to obtain counseling for pregnancy</td>
<td>0-19 20-39 40-59 60-79 80-100</td>
</tr>
<tr>
<td>13. Where to obtain counseling to prevent pregnancy</td>
<td>0-19 20-39 40-59 60-79 80-100</td>
</tr>
<tr>
<td>15. Specific sexual behaviors that increase the risk of HIV infection</td>
<td>0-19 20-39 40-59 60-79 80-100</td>
</tr>
<tr>
<td>16. The use of condoms in reducing the risk of HIV infection</td>
<td>0-19 20-39 40-59 60-79 80-100</td>
</tr>
<tr>
<td>17. Incest and sexual abuse</td>
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</tr>
<tr>
<td>18. The incidence of violent behavior</td>
<td>0-19 20-39 40-59 60-79 80-100</td>
</tr>
<tr>
<td>19. Actions that reduce the risk of being a crime victim</td>
<td>0-19 20-39 40-59 60-79 80-100</td>
</tr>
<tr>
<td>20. Actions to take when a violent crime occurs</td>
<td>0-19 20-39 40-59 60-79 80-100</td>
</tr>
<tr>
<td>22. Procedures to follow should a rape occur</td>
<td>0-19 20-39 40-59 60-79 80-100</td>
</tr>
<tr>
<td>23. Suicide prevention</td>
<td>0-19 20-39 40-59 60-79 80-100</td>
</tr>
<tr>
<td>25. Time management skills</td>
<td>0-19 20-39 40-59 60-79 80-100</td>
</tr>
</tbody>
</table>
SECTION II. Personal opinions about the relative importance of specific topics in Health Education vary. We would like to know your opinion about the importance of each of the following topics.

INSTRUCTIONS: For each specific topic circle the number on the following scale which best represents your opinion.

<table>
<thead>
<tr>
<th>Topic</th>
<th>This topic is not an important part of the high school Health Education curriculum</th>
<th></th>
<th></th>
<th>This topic is a very important part of the high school Health Education curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Testicular self-examination</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. Breast self-examination</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
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<td>5. Methods of determining pregnancy</td>
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<td>4</td>
</tr>
<tr>
<td>6. Options/trends in childbirth</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7. Methods of birth control</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
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<tr>
<td>10. The pros and cons of adoption</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11. Methods of sterilization</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Topic</td>
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<td>21. The nature of domestic violence</td>
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<td>22. Procedures to follow should a rape occur</td>
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<td>4</td>
</tr>
<tr>
<td>24. First aid procedures for victims of drug abuse</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>25. Time management skills</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
SECTION III. Some topics in Health Education are considered sensitive and potentially controversial. We would like to know your opinion about how potentially controversial each of the following topics are.

INSTRUCTIONS: For each specific topic circle the number on the following scale which best represents your opinion.

<table>
<thead>
<tr>
<th>Topic</th>
<th>This topic has a very high potential for controversy</th>
<th>_____</th>
<th>_____</th>
<th>This topic has little potential for controversy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Testicular self-examination</td>
<td>1</td>
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</tr>
<tr>
<td>9. The pros and cons of abortion</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10. The pros and cons of adoption</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11. Methods of sterilization</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12. Where to obtain counseling for pregnancy</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>13. Where to obtain counseling to prevent pregnancy</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Topic</td>
<td>This topic has a very high potential for controversy</td>
<td></td>
<td></td>
<td>This topic has little potential for controversy</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>-------------------------------------------------------</td>
<td>-------</td>
<td>-------</td>
<td>-------------------------------------------------</td>
</tr>
<tr>
<td>14. The use of condoms in preventing sexually transmitted diseases</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>15. Specific sexual behaviors that increase the risk of HIV infection</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>16. The use of condoms in reducing the risk of HIV infection</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17. Incest and sexual abuse</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18. The incidence of violent behavior</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19. Actions that reduce the risk of being a crime victim</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20. Actions to take when a violent crime occurs</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>21. The nature of domestic violence</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>22. Procedures to follow should a rape occur</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>23. Suicide prevention</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>24. First aid procedures for victims of drug abuse</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>25. Time management skills</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
SECTION IV. The content of the Health Education curriculum is constantly changing. We are interested in learning your opinion about the future trends in the Health Education curriculum at the high school level in your state. Specifically we would like to learn what percentage of high schools in your state will include the following topics in the Health Education curriculum within the next five years.

INSTRUCTIONS: For each specific topic circle the number which best represents the percentage of schools in your state which will include this topic in the high school Health Education curriculum within the next five years.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Percentage of schools which will include this topic in the high school Health Education curriculum within the next five years.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Testicular self-examination</td>
<td>0-19 20-39 40-59 60-79 80-100</td>
</tr>
<tr>
<td>3. Physiology of the sexual response</td>
<td>0-19 20-39 40-59 60-79 80-100</td>
</tr>
<tr>
<td>4. Factors that increase the likelihood of a successful marriage</td>
<td>0-19 20-39 40-59 60-79 80-100</td>
</tr>
<tr>
<td>5. Methods of determining pregnancy</td>
<td>0-19 20-39 40-59 60-79 80-100</td>
</tr>
<tr>
<td>7. Methods of birth control</td>
<td>0-19 20-39 40-59 60-79 80-100</td>
</tr>
<tr>
<td>8. The availability of birth control</td>
<td>0-19 20-39 40-59 60-79 80-100</td>
</tr>
<tr>
<td>9. The pros and cons of abortion</td>
<td>0-19 20-39 40-59 60-79 80-100</td>
</tr>
<tr>
<td>10. The pros and cons of adoption</td>
<td>0-19 20-39 40-59 60-79 80-100</td>
</tr>
<tr>
<td>Topic</td>
<td>Percentage of schools which will include this topic in the high school Health Education curriculum within the next five years.</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>12. Where to obtain counseling for pregnancy</td>
<td>0-19 20-39 40-59 60-79 80-100</td>
</tr>
<tr>
<td>13. Where to obtain counseling to prevent pregnancy</td>
<td>0-19 20-39 40-59 60-79 80-100</td>
</tr>
<tr>
<td>15. Specific sexual behaviors that increase the risk of HIV infection</td>
<td>0-19 20-39 40-59 60-79 80-100</td>
</tr>
<tr>
<td>16. The use of condoms in reducing the risk of HIV infection</td>
<td>0-19 20-39 40-59 60-79 80-100</td>
</tr>
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<tr>
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</tr>
<tr>
<td>20. Actions to take when a violent crime occurs</td>
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<tr>
<td>22. Procedures to follow should a rape occur</td>
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<td>23. Suicide prevention</td>
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</tr>
<tr>
<td>25. Time management skills</td>
<td>0-19 20-39 40-59 60-79 80-100</td>
</tr>
</tbody>
</table>
SECTION V. GENERAL INFORMATION

INSTRUCTIONS: Place a check(✓) next to the most appropriate response.

1. My highest degree earned is:
   _______ Ph.D., Ed.D.
   _______ Ed.S.
   _______ M.A., M.Ed., M.S.
   _______ B.A., B.Ed., B.S.
   _______ Other _______ (please specify)

2. My highest degree earned in Health Education is:
   _______ Ph.D., Ed.D.
   _______ Ed.S.
   _______ M.A., M.Ed., M.S.
   _______ B.A., B.Ed., B.S.
   _______ Health Education minor
   _______ No degree in Health Education

3. The number of years of teaching experience I have is:
   _______ Less than five
   _______ Five to nine
   _______ Ten to fourteen
   _______ Fifteen to nineteen
   _______ Twenty or more

4. The percentage of my work time I devote to Health Education is:
   _______ 80 to 100
   _______ 60 to 79
   _______ 40 to 59
   _______ 20 to 39
   _______ 0 to 19

5. The official title of my position is (please specify):

   ____________________________________________

6. The principle responsibilities in my position include (please list):

   ____________________________________________

   ____________________________________________

7. My age is:
   _______ Under 30       _______ 30 to 34
   _______ 35 to 39       _______ 40 to 44
   _______ 45 to 49       _______ 50 to 54
   _______ 55 to 59       _______ 60 to 64
   _______ 65 or over

Thank you for taking the time to complete this survey. Please return the survey as soon as possible in the stamped return envelope provided. Your cooperation and contribution is much appreciated.
APPENDIX I
RESOURCES USED IN THE CONTENT ANALYSIS
OF THE HIGH SCHOOL HEALTH EDUCATION CURRICULUM
RESOURCES USED IN THE CONTENT ANALYSIS OF
THE HIGH SCHOOL HEALTH EDUCATION CURRICULUM

High School Health Education Textbooks and Curricula:


Health Education Teaching Methods Textbooks:


Federal and State Guidelines for High School Health Education Curricula:


APPENDIX J

COVER LETTER AND EVALUATION FORM
USED TO ACCOMPANY THE SURVEY INSTRUMENT
DURING THE INSTRUMENT VALIDATION PROCESS
Dear Colleague:

Thank you for agreeing to participate as an expert in school health education in the validation of a survey instrument to be used in a school health education research study. The purpose of the study is to assess the need for selected health education curriculum topics at the high school level as perceived by school district health education coordinators.

A major premise of the study is that the sensitive and potentially controversial nature of some health education topics may be a barrier to curriculum implementation. An attempt as been made to identify specific health education topics which are representative of curriculum material in sensitive areas such as adolescent pregnancy, sexually transmitted diseases, drug use, suicide, and violence.

After viewing the enclosed survey, I would like you to identify any topics on the survey instrument that are not representative of curriculum material related to the five health concerns listed above. Your suggestions for alternative health education topics relating to the five health concerns which you feel have been overlooked would also be appreciated.

Thank you for your assistance in this investigation.

Sincerely,

David Willcox, M.A.
Lecturer in Health Education
The Ohio State University
INSTRUMENT EVALUATION FORM

Items that are not representative of curriculum topics covered in high school relating to adolescent pregnancy, sexually transmitted diseases, drug use, suicide, or violence.

Item number: ______
Reason: __________________________________________________

Item number: ______
Reason: __________________________________________________

Item number: ______
Reason: __________________________________________________

Item number: ______
Reason: __________________________________________________

Item number: ______
Reason: __________________________________________________

Item number: ______
Reason: __________________________________________________
Items that I believe should be include in this study:

Additional comments and suggestions:
APPENDIX K
INSTRUMENT PILOT TEST
EVALUATION FORM
PILOT TEST EVALUATION

Test Name: _____________________________________

Estimated Time to Complete Test: ___ hr. _____ min.

Index: Grade each - A (excellent), to E (very poor).

Evaluation

1. Clarity of instructions
2. Completion of form
3. Clarity of questions
4. Presence of the Halo effect
5. Presence of the social desirability effect

Comments/Suggestions:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
APPENDIX L

COVER LETTER USED TO ACCOMPANY

THE SURVEY INSTRUMENT
Dear :  Date

I am currently working on a dissertation in Health Education at The Ohio State University. As a part of this work, I am very interested in factors that influence the implementation of Health Education curricula. The sensitive and potentially controversial nature of some Health Education topics has been identified as a barrier to curriculum implementation, and therefore school Health Education effectiveness.

As a director of health education in a state department of education you have an important role in providing leadership for Health Education curriculum development and implementation. Therefore, I believe it is important to know your perceptions of the current and future status of the Health Education curriculum in your state. Through your response to the enclosed survey I hope to gain information that will assist in future Health Education curriculum planning.

If you are interested in the results of this investigation, please complete the attached form and return it in the separate envelope provided.

In accordance with guidelines regarding human subjects research all responses will be treated confidentially; no reference will be made to you or your state.

The survey should take approximately twenty-five minutes to complete. After you have completed the survey please return it by _____________ in the stamped return envelope. Please take a few minutes now to complete the survey. The meaningfulness of the study is dependent on your response. Thank you for your assistance.

Sincerely,

David Willcox, M.A.
Teaching Associate
The Ohio State University
(614) 292-6116
Dear Mr. Willcox:

I am interested in obtaining a copy of the results of your investigation.

Name: 

Address: 
APPENDIX M

COVER LETTER USED TO ACCOMPANY
THE FOLLOW-UP MAILING OF THE SURVEY INSTRUMENT
I wish to express my thanks to those who have completed and returned the survey instrument regarding perceptions of the current and future Health Education curriculum.

This letter is a reminder to those who have not yet completed or returned the instrument to do so as soon as possible.

I would like to remind you that all responses will be treated confidentially; no reference will be made to you or your state.

Research in Health Education is essential to the development and improvement of school Health Education programs and subsequently the health of the nation's children. Please take a few minutes now to complete the survey if you have not already done so. Remember the meaningfulness of the study is dependent on your response.

Sincerely,

David Willcox, M.A.
Teaching Associate
The Ohio State University
(614) 292-6116
APPENDIX N

FREQUENCY DATA FOR CURRENT INCLUSION, FUTURE INCLUSION, RELATIVE IMPORTANCE, AND POTENTIAL FOR CONTROVERSY OF SELECTED TOPICS IN THE HIGH SCHOOL HEALTH EDUCATION CURRICULUM AS PERCEIVED BY DIRECTORS OF HEALTH EDUCATION IN STATE DEPARTMENTS OF EDUCATION
<table>
<thead>
<tr>
<th>Topic</th>
<th>Percentage of Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Testicular self-examination</td>
<td>14 9 4 0 1</td>
</tr>
<tr>
<td>Breast self-examination</td>
<td>10 10 4 1 3</td>
</tr>
<tr>
<td>Physiology of the sexual response</td>
<td>13 5 6 2 2</td>
</tr>
<tr>
<td>Factors that increase the likelihood of a successful marriage</td>
<td>2 5 9 11 1</td>
</tr>
<tr>
<td>Methods of determining pregnancy</td>
<td>8 4 9 4 3</td>
</tr>
<tr>
<td>Options/trends in childbirth</td>
<td>8 6 5 5 3</td>
</tr>
<tr>
<td>Methods of birth control</td>
<td>8 2 10 5 3</td>
</tr>
<tr>
<td>The availability of birth control</td>
<td>9 9 6 2 2</td>
</tr>
<tr>
<td>The pros and cons of abortion</td>
<td>13 7 6 2 0</td>
</tr>
<tr>
<td>The pros and cons of adoption</td>
<td>10 8 6 4 0</td>
</tr>
<tr>
<td>Methods of sterilization</td>
<td>14 6 6 1 1</td>
</tr>
<tr>
<td>Where to obtain counseling for pregnancy</td>
<td>5 10 5 5 3</td>
</tr>
<tr>
<td>Where to obtain counseling to prevent pregnancy</td>
<td>8 9 4 5 2</td>
</tr>
<tr>
<td>The use of condoms in preventing sexually transmitted diseases</td>
<td>2 4 11 5 6</td>
</tr>
<tr>
<td>Specific sexual behaviors that increase the risk of HIV infection</td>
<td>2 1 10 5 10</td>
</tr>
<tr>
<td>The use of condoms in reducing the risk of HIV infection</td>
<td>2 2 9 7 8</td>
</tr>
<tr>
<td>Incest and sexual abuse</td>
<td>10 8 7 2 1</td>
</tr>
<tr>
<td>The incidence of violent behavior</td>
<td>5 7 11 4 1</td>
</tr>
<tr>
<td>Actions that reduce the risk of being a crime victim</td>
<td>8 8 6 4 2</td>
</tr>
<tr>
<td>Actions to take when a violent crime occurs</td>
<td>9 6 8 3 2</td>
</tr>
<tr>
<td>The nature of domestic violence</td>
<td>10 8 8 2 0</td>
</tr>
<tr>
<td>Procedures to follow should a rape occur</td>
<td>10 4 10 2 2</td>
</tr>
<tr>
<td>Suicide prevention</td>
<td>3 6 4 6 9</td>
</tr>
<tr>
<td>First aid procedures for victims of drug abuse</td>
<td>4 7 7 8 2</td>
</tr>
<tr>
<td>Time management skills</td>
<td>8 7 9 3 1</td>
</tr>
</tbody>
</table>
Percentage of Schools in each State that will Include Selected Topics in the High School Health Education Curriculum Within the Next Five Years (N=28)

<table>
<thead>
<tr>
<th>Topic</th>
<th>0-19</th>
<th>20-39</th>
<th>40-59</th>
<th>60-79</th>
<th>80-100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Testicular self-examination</td>
<td>4</td>
<td>7</td>
<td>6</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Breast self-examination</td>
<td>4</td>
<td>2</td>
<td>8</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Physiology of the sexual response</td>
<td>7</td>
<td>4</td>
<td>7</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Factors that increase the likelihood of a successful marriage</td>
<td>0</td>
<td>4</td>
<td>4</td>
<td>11</td>
<td>9</td>
</tr>
<tr>
<td>Methods of determining pregnancy</td>
<td>0</td>
<td>9</td>
<td>6</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Options/trends in childbirth</td>
<td>2</td>
<td>5</td>
<td>9</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Methods of birth control</td>
<td>3</td>
<td>4</td>
<td>6</td>
<td>8</td>
<td>7</td>
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<tr>
<td>The availability of birth control</td>
<td>3</td>
<td>5</td>
<td>8</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>The pros and cons of abortion</td>
<td>4</td>
<td>10</td>
<td>5</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>The pros and cons of adoption</td>
<td>2</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>Methods of sterilization</td>
<td>11</td>
<td>7</td>
<td>3</td>
<td>4</td>
<td>3</td>
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<tr>
<td>Where to obtain counseling for pregnancy</td>
<td>3</td>
<td>5</td>
<td>8</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Where to obtain counseling to prevent pregnancy</td>
<td>3</td>
<td>7</td>
<td>4</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>The use of condoms in preventing sexually transmitted diseases</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>9</td>
<td>11</td>
</tr>
<tr>
<td>Specific sexual behaviors that increase the risk of HIV infection</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>10</td>
<td>14</td>
</tr>
<tr>
<td>The use of condoms in reducing the risk of HIV infection</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Incest and sexual abuse</td>
<td>2</td>
<td>5</td>
<td>10</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>The incidence of violent behavior</td>
<td>1</td>
<td>7</td>
<td>6</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>Actions that reduce the risk of being a crime victim</td>
<td>3</td>
<td>4</td>
<td>8</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>Actions to take when a violent crime occurs</td>
<td>3</td>
<td>4</td>
<td>6</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>The nature of domestic violence</td>
<td>1</td>
<td>7</td>
<td>8</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>Procedures to follow should a rape occur</td>
<td>3</td>
<td>3</td>
<td>8</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>Suicide prevention</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>6</td>
<td>14</td>
</tr>
<tr>
<td>First aid procedures for victims of drug abuse</td>
<td>3</td>
<td>2</td>
<td>9</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Time management skills</td>
<td>3</td>
<td>6</td>
<td>3</td>
<td>6</td>
<td>10</td>
</tr>
</tbody>
</table>
The Relative Importance of Selected Topics in the High School Health Education Curriculum as Perceived by Directors of Health Education in State Departments of Education (N=28)

<table>
<thead>
<tr>
<th>Topic</th>
<th>Relative Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 not important</td>
</tr>
<tr>
<td>Testicular self-examination</td>
<td>1</td>
</tr>
<tr>
<td>Breast self-examination</td>
<td>1</td>
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<tr>
<td>Physiology of the sexual response</td>
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<tr>
<td>Factors that increase the likelihood of a successful marriage</td>
<td>0</td>
</tr>
<tr>
<td>Methods of determining pregnancy</td>
<td>0</td>
</tr>
<tr>
<td>Options/trends in childbirth</td>
<td>1</td>
</tr>
<tr>
<td>Methods of birth control</td>
<td>1</td>
</tr>
<tr>
<td>The availability of birth control</td>
<td>0</td>
</tr>
<tr>
<td>The pros and cons of abortion</td>
<td>2</td>
</tr>
<tr>
<td>The pros and cons of adoption</td>
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<tr>
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<td>4</td>
</tr>
<tr>
<td>Where to obtain counseling for pregnancy</td>
<td>0</td>
</tr>
<tr>
<td>Where to obtain counseling to prevent pregnancy</td>
<td>1</td>
</tr>
<tr>
<td>The use of condoms in preventing sexually transmitted diseases</td>
<td>0</td>
</tr>
<tr>
<td>Specific sexual behaviors that increase the risk of HIV infection</td>
<td>0</td>
</tr>
<tr>
<td>The use of condoms in reducing the risk of HIV infection</td>
<td>0</td>
</tr>
<tr>
<td>Incest and sexual abuse</td>
<td>0</td>
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<tr>
<td>The incidence of violent behavior</td>
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<td>0</td>
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</tr>
<tr>
<td>Suicide prevention</td>
<td>0</td>
</tr>
<tr>
<td>First aid procedures for victims of drug abuse</td>
<td>1</td>
</tr>
<tr>
<td>Time management skills</td>
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</table>
The Extent to Which Selected Topics are Considered to be Potentially Controversial in the High School Health Education Curriculum as Perceived by Directors of Health Education in State Departments of Education (N=28)

<table>
<thead>
<tr>
<th>Topic</th>
<th>Potential for controversy</th>
</tr>
</thead>
<tbody>
<tr>
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BIBLIOGRAPHY


