Chapter 5
Adolescent Sexuality

John S. Wodarski

Overview

One of the most pressing social problems confronting our society is the number of adolescents who are sexually active and who face the risk of the consequences of their sexual encounters. The recent trends are promising, as the alarming rise in teenage sexual activity and resulting pregnancies that occurred between the 1950s and the 1980s was followed by an equally dramatic decrease in these teenage tendencies between the late 1980s and present day (Guttmacher Institute, 2012; Santelli, Lindberg, Finer, & Singh, 2007). While these statistics show a vast improvement from previous decades, the USA still maintains much higher teenage pregnancy rates than most other developed countries (Guttmacher Institute, 2012). In the 1980s, the high incidence of teenage pregnancy was believed to be the result of a decrease in the average age of menses, combined with increasing sexual activity among adolescents (Chilman, 1979; Flick, 1986; Schinke, 1978). Moreover, approximately 50% of American adolescents do not use contraceptives the first time they have intercourse. The current decrease in teenage pregnancy is attributed to the corresponding decrease in sexual activity (responsible for 23% of the decrease) and to an increase in the proper use of one or more methods of contraception (responsible for 77% of the decrease) (Guttmacher Institute, 2012; Santelli et al., 2007). By age 15, 13% of teens have become sexually active; however, by age 19, this percentage increases to 70% (Guttmacher Institute, 2012). Another correlating factor to risky sexual behavior is that it may correlate with other risk behaviors, such as delinquency and drug use, to form a "risk behavior syndrome" (Clark, Brey, & Banter, 2003, p. 389). The risk behavior syndrome suggests multiple risks should be addressed together in prevention programs.

J. S. Wodarski (✉)
College of Social Work, University of Tennessee, Knoxville, TN, USA
e-mail: jwodarsk@utk.edu

J. S. Wodarski, L. M. Hopson (eds.), *Empirically Based Interventions Targeting Social Problems*, https://doi.org/10.1007/978-3-030-28487-9_5

Between 1950 and 1985, the nonmarital birthrate among adolescents younger than age 20 increased 300% for whites and 16% for blacks. It has been reported that from 1985 to 1990, increasing numbers of adolescents were becoming sexually active at younger ages, and the number of teenage mothers aged 13–15 rose by 26% (Rotheram-Borus, 1997, pp. 544–545). It was estimated in 1985 that roughly one million teenage girls became pregnant every year, resulting in 600,000 live births and 378,500 pregnancies terminated by abortion (Guttmacher Institute, 1985). It was estimated at that time that 84% of the pregnancies were intended. In 1988, figures increased when it was estimated that 11% of adolescents became pregnant. An estimated 4% had abortions. For 1988, the National Centers for Disease Control in Atlanta, Georgia, reported that 1,005,299 babies—or 26% of the US newborns—were born to unmarried women. In 1990, approximately 117 per 1000 teenage females became pregnant, and that number has steadily decreased to 68 per 1000 in 2008, which went against all expectations and predictions (Guttmacher Institute, 2012). Recidivism is an additional concern. It has been reported that 26% of the women who first gave birth at age 16 or younger gave birth a second time within 24 months (Story, 1987).

In addition to unintended teenage pregnancies, the rate of sexually transmitted infections (STIs) among sexually active teenagers is another area of concern. Despite the decreasing trends of teenage sexuality and teenage pregnancies, STIs are still producing alarming statistics, as approximately nine million new STIs are reported among teenagers every year (Guttmacher Institute, 2012). These rates are much higher than teenage STI rates being reported in most other developed countries, which are reminiscent of the pattern observed with teenage pregnancy rates (Kohler, Manhart, & Lafferty, 2008). Approximately 2.5 million adolescents have had sexually transmitted diseases, and 1 in 4 sexually active adolescents will have an STD before graduating high school (American Medical Association, 1991).

Adolescents who become pregnant are increasing risk for themselves and their babies for a bleak future marked by interrupted education, inadequate vocational training, poor work skills, economic dependency and poverty, large single-parent house-holds, and social isolation (Barth & Schinke, 1983). As Campbell (1968) commented, 90% of an adolescent's life script is written when she becomes a mother, and the story is often an unhappy one. Three out of four teenage mothers drop out of high school and only 1 in 50 finishes college. The cost to the teenage mother is high. Changes are increased that she and her baby will live in poverty. Moreover, the changes are great that the mother and baby will suffer ill health, as few pregnant teens obtain prenatal care.

The USA has a history of profound ambivalence toward human sexuality. This is nowhere more apparent than in our policies, regulations, and attitudes regarding the sexual behavior of children and adolescents (Ehrhardt, 1996, p. 1523). Adolescent pregnancy is increasingly commonplace today and poses many difficulties for both the individual involved and for society as a whole. Pregnant adolescents and their babies are at higher nutritional, health, social, and educational risk that the general population are in need of comprehensive, interdisciplinary care (McAnarney, 1985). For programs to successfully address this problem factors related to unintended

pregnancies and consequences of teenagers' sexuality must be identified and understood. If one adopts a reality-based acceptance of teenage sexuality, the responsible public health policy ought to be to provide effective and comprehensive sex education that includes information on and access to contraceptive and sexually transmitted disease (STD)/human immunodeficiency virus (HIV) barrier methods to prevent pregnancy and sexually transmitted disease/HIV infection (Ehrhardt, 1996, pp. 1523–1524). This chapter provides a review of current literature on these factors and consequences. Relevant prevention strategies are examined to furnish the rationale for a more comprehensive practice model to prevent unsafe sexual practices, sexually transmitted disease, and teenage pregnancies.

The High Cost of Teenage Sexuality

Teenage Pregnancies Each teenage pregnancy translates into a significant cost to the taxpayer, which is a major cause for concern. In 1985, for example, teenage pregnancy cost each US taxpayer $16.65 in Aid to Families with Dependent Children, Medicaid, and food stamps (Guttmacher Institute, 1985). In another example, the city of Baltimore spent about $179,500,000 in 1987 on AFDC, Medicaid, and food stamps for families that were begun when the mother was a teenager. Had these births been delayed until the mother was at least 20 years old, Baltimore would have saved almost $72,000,000 in public outlays (Santelli, Rosenblatt, & Birn, 1990). The cost borne by Medicaid for a birth to a teenager age 14 or younger has been calculated as $3494; the cost for 15–17 year olds is $3224; and for 18–19 year olds, it is $2696, exclusive of pediatric care (Armstrong & Waszak, 1990). While the prevalence of teenage pregnancy has steadily declined since the late 1980s, the cost of this social problem to taxpayers continues to be of major concern. In 2008, taxpayers spent a total of $10.9 billion on costs related to teenage pregnancy, birth, and teenage motherhood. To present this statistic in another way, each child born to a teenage mother costs US taxpayers $1647 (The National Campaign, 2011).

The National Research Council estimates that for each year a first birth is delayed, the family income when the mother reaches age 27 is increased by $500. Thus, every year a first birth is delayed, the chances of a woman and her family having poverty-level income are reduced by about 22%. The Children's Defense Fund reports that women who first give birth as teens have about half the lifetime earnings of women who first give birth in their twenties (Armstrong & Pascale, 1990). Three major national surveys found the incidence of poverty among families begun by teen births to be 20%, 50%, and 60% greater than among families of mothers who gave birth to their first child at a later age (Furstenberg, Brooks-Gunn, & Morgan, 1987).

The Center for Population Options (CPO) determined that the federal government spent $21.6 billion in 1989 on families begun by teen mothers. This includes $10.4 billion for AFDC, $3.4 billion for food stamps, and $7.7 billion for Medicaid.

Based on the assumption that families begun by teen births comprise 53% of the welfare-recipient population, they consume 53% of the funding of these programs.

This represents the projected cost to the federal government over the subsequent 20 years of a family begun by a teen birth, again including only the three benefit programs. Reflected in the calculations are the observations that (a) approximately 1 in 3 teen mothers receives welfare, (b) the average length of time a woman who begins her family as a teen remains on welfare is 2.5 years, (c) the probability a teen mother will receive public assistance declines over her lifetime, and (d) the younger a women when she first gives birth, the more children she can be expected to have.

All considered, the CPO estimates that a family begun by a teenage mother in 1989 will cost taxpayers an average of $16,975 by the time that baby reaches age 20. This figure, however, is deceptively low because it represents an average across all first births to adolescent mothers, even though only one-third of families begun by a teen birth actually receive welfare. More informatively, the SPO projects that the government will spend an average of $50,925 over 20 years on each family begun in 1989 by a teen birth, who enrolled in public assistance. Presumably, the figure is averaged down by the families who drop out of the welfare system.

The CPO estimates that the families begun in 1989 by a teen birth will have cost the public treasure $6.4 billion by the year 2009.

Teenage Sexually Transmitted Disease More than two-thirds of adolescents with AIDS were infected through sexual contact with adults. The prevalence of HIV infection among adolescents is a source of concern. For some young adults, naivety is expressed about the HIV infection. Many believe that they are safe from the former through their selection of coital partners from among those they believe to be free of infection (Maticka-Tyndale, 1991, p. 63). Because it takes an estimated 5–10 years for the HIV infection to result in AIDS, many young adults who have AIDS contracted the virus as adolescents. Approximately 20% of people identified as having AIDS are between ages 20 and 29 (American Medical Association, 1991). In 2002, teen girls represented about half (51%) of HIV cases reported among 13–19 year olds (The Henry J. Kaiser Family Foundation, 2005, p. 2). It has been reported that in the USA, about 13% of those tested at Centers for Disease Control and Prevention anonymous test sites are adolescents (Centers for Disease Control and Prevention, 1992, pp. 219–228).

Adolescents continue to have the highest rates of STIs when compared to other age groups. In 2008, approximately 68,600 teenagers and young adults (ages 13–24) tested positively for HIV. In 2009, another 8300 teenagers and young adults were diagnosed with HIV (Center for Disease Control, 2012).

Contraceptive use has not kept up with adolescent coital activity. One significant reason for this may have to do with the development stage of the adolescent. The key to effective use of contraceptives may lie in a teen's cognitive ability to think abstractly—linking present behavior with future consequences, as well as recognizing the risks involved with unprotected sexual activity (Doctors, 1985). Many teens, especially younger ones, have not yet achieved this level of cognitive ability.

Current Expenditures AIDS is expensive. It is costly in terms of pain, suffering, and premature mortality, and in terms of fear, anxiety, and grief. It costs lovers their partners, parents with children, and children with parents. It is also costly in monetary terms. We spent about $10 billion on HIV-related activities in 1991. Federal government expenditures alone totaled $3.46 billion: $1.245 billion for research, $1.246 billion on medical care, $567 million for education and prevention, and $305 million in income support to AIDS victims (Office of Management and Budget, 1990). Federal expenditures on AIDS from 1982 to 1991 totaled almost $12 billion (National Center for Health Statistics, 1990; Office of Management and Budget, 1990). Since the federal government contributes approximately one-third of the total spent on AIDS, total spending during that time approaches $36 billion.

Hellinger estimates that the direct cost of AIDS will have been $5.8 billion in 1991, with the cost of treating an HIV-infected person averaging $5150 yearly and the cost of treating a patient with full-blown AIDS averaging $32,000 yearly.

Future Costs Forecasts of the future costs of AIDS vary. Foreman (1991) estimated total personal care costs to be $8.5 billion in 1991. They projected an additional $2.3 billion to be spent on personal care activity. Winkenwerder, Kessler, and Stolec (1989) estimated that federal spending on HIV-related illnesses reached $4.3 billion in 1992, and total national expenditures were estimated to be three times higher. Hellinger estimated the cumulative lifetime medical care expenses (in 1988 dollars) for all people diagnosed with AIDS to be $4.3 billion in 1990, $5.3 billion in 1991, $6.5 billion in 1992, and $7.8 billion in 1993. He additionally projected that expenditures for medical care alone to AIDS patients in 1994 would total $10.4 billion (Foreman, 1991). In spite of the armed forces' policy of discharging HIV-infected persons, the US General Accounting Office (US GAO) projects that AIDS will cost the US military and veterans' health care system $3 billion by the end of the 1990s (U.S. General Accounting Office, 1990).

Altogether, in 1989 alone, private insurers paid over $1 billion in AIDS-related health and life insurance claims, 71% more than in 1988 (Carrol, 1989).

The CDC estimated that over 500,000 persons in this country are HIV infected and do not know it (K. Golan, personal communication, August 1991). In 1990, 9% of deaths in the world were related to HIV/AIDS (Over, 1999, p. 219). The Henry J. Kaiser Family Foundation (2005) reported:

> The first cases of what would later become known as AIDS were reported in the United States in June of 1981…Since that time, more than 1.5 million people in the U.S. have been infected with HIV, including more than 500,000 who have already died. (p. 1)

Thus, HIV-related expenses are expected to continue to increase until some type of cure of solution is found. The government has a fundamental role to prevent the spread of HIV infection among those most likely to contract and spread the virus while protecting them from discrimination and stigmatization (Over, 1999, p. 222). Resulting from the former, the most vital aspect is that of information. Being educated properly would benefit those occupying the heterogeneous population.

Social Consequences of Teenage Sexuality

Adolescents who engage in sexual activity are most likely to have lower grades in school, lower expectations of achievement, and lower levels of parental control, and to lack strong religious beliefs. They are likely to see their parents and peers in conflict. Many adolescents' mothers have low self-esteem and are inclined to be passive and hold traditional stereotypical views of male–female roles (Lockhart & Wodarski, 1990).

There are even more detrimental consequences to repeat teenage pregnancies. Teenage mothers with more than one child are less likely to return to high school and graduate, and therefore find it more difficult to economically support their families. Therefore, the children of teenage mothers frequently do poorly in school and experience less support at home (Katz et al., 2011).

Assessment Measures

This section describes those measures that we have found helpful in evaluation of current interventions to reduce teenage pregnancy and sexually transmitted disease. We have chosen these measures based on the criteria of adequate reliability and ease of administration. A brief description of each is provided to assist professionals in determining whether to incorporate these assessment measures in evaluation.

Sex Knowledge

Sex Knowledge Test (Kirby, 1985) This inventory is a 34-item, multiple-choice scale. It includes the following areas: adolescent physical development, adolescent marriage, the probability of pregnancy, birth control, and sexually transmitted disease. The test was developed after literature and overall goals of sexuality education were examined. The test–retest reliability of the knowledge test was determined by administering the test to 58 adolescents on two occasions, 2 weeks apart, and then calculating the correlation coefficient between their scores on the first administration and their totals on the second administration. The reliability is 0.89.

Behavior Inventory (Kirby, 1985) Three aspects of behaviors were considered in developing the sex knowledge measures: the skills with which the behavior is completed, the comfort experienced during that behavior, and the frequency of that behavior. The Behavior Inventory measures these three aspects as demonstrated in:

1. Skills in taking responsibility for personal behavior.
2. Social decision-making skills.

3. Sexual decision making.
4. Communication skills.
5. Assessment skills.
6. Birth control assertiveness skills.
7. Comfort engaging in social activities.
8. Comfort talking about sex and birth control.
9. Comfort expressing concern and caring.
10. Comfort being assertive sexually.
11. Comfort having current sex life.
12. Comfort getting and using birth control.
13. Existence and frequency of sexual activity.
14. Frequency of use of birth control.
15. Frequency of communication about sex and birth control with parents.
16. Frequency of communication about sex and birth control with boyfriends or girlfriends.
17. Frequency of communication about sex and birth control with friends.

The questions that measure skills use a 5-point scale; the questions that measure comfort use 4-point Likert-type scales. The questions measuring sexual activity, use of birth control, and frequency of communication ask how many times during the previous month the respondent engaged in the specific activity.

Test–retest coefficients indicate that the items have a great range of reliability coefficients. The scale measuring skills ranges from poor (0.57) to excellent (0.88). Scales measuring comfort range from a low of 0.38 (comfort getting and using birth control) to a high of 0.70 (comfort having current sex life). The questions involving sexual activity have excellent reliability. The questions about whether respondents have ever had intercourse had a reliability of 1.00. The items measuring frequencies of communication have adequate, but not excellent, reliability (Kirby, 1985).

Attitude and Values Inventory (Kirby, 1985) This instrument includes 15 different scales, each consisting of 5-point Likert-type items measuring the following:

1. Clarity of long-term goals.
2. Clarity of personal sexual values.
3. Understanding of personal sexual values.
4. Understanding of emotional need.
5. Understanding of personal social behavior.
6. Understanding of personal sexual responses.
7. Attitudes toward various gender role behaviors.
8. Attitudes toward sexuality in life.
9. Attitudes toward the importance of birth control.
10. Attitudes toward premarital intercourse.
11. Attitudes toward the use of pressure and force in sexual activity.
12. Recognition of the importance of the family.
13. Self-esteem.
14. Satisfaction with personal sexuality.

15. Satisfaction with social relationships.

The reliabilities of the 15 different scales were determined in two different ways. First, the test–retest reliabilities were found by administering the questionnaire twice, at an interval of 2 weeks, to 51 participants in different programs, and then calculating the correlation coefficient between the first administration and the second administration of each scale. Second, the overall reliability of each scale was calculated by randomly selecting about 100 pretest and posttest questionnaires from each site, combining the questionnaires into a single file, and then calculating Cronbach's alpha for the items in each scale. Basically, using all of the measures of reliability, scales of the clarity of goals and values range from a coefficient of 0.54 to 0.90; scales addressing the understanding of needs, social behavior, and response range from 0.51 to 0.84; attitude scales range from 0.30 to 0.94; self-esteem scales range from 0.73 to 0.80; and satisfaction scales range from 0.64 to 0.88.

Youth HIV/AIDS Knowledge and Attitudes

Knowledge, Attitudes, Beliefs, and Practice (WHO, 1989) The Knowledge, Attitudes, Beliefs, and Practice (KABP) is a standardized survey instrument developed by the World Health Organization (WHO) for measuring AIDS-related knowledge, attitudes, beliefs, and practices of adolescents (World Health Organization, 1989). The instrument measures self-efficacy in avoiding pressure to have sex, in AIDS knowledge, and in attitudes and perceived social norms toward sexual intercourse. Behavior-specific questions elicit responses related to smoking, drug use, sexual intercourse, intention to engage in sexual intercourse in the next 3 months, and intention to use condoms when having sex (Seha, Klepp, & Ndeki, 1994).

Instructional Evaluation for Students (Kirby, 1985) This class evaluation contains two parts. The first part asks the respondents to rate numerous teaching skills of the instructor, characteristics of classroom interaction, and program structure and materials. The second part asks participants to assess as accurately as possible the current or future effects of the course. In particular, it asks how the course affected their:

1. Knowledge.
2. Understanding of personal behavior.
3. Clarity of values.
4. Attitudes toward birth control.
5. Communication about sexuality.
6. Communication with parents.
7. Probability of having sex.

Approaches to Prevention

Past Approaches to Prevention

Despite extensive documentation of early childbearing consequences, efforts to prevent or ameliorate teenage pregnancy have been ineffective (Schinke, 1997; Stout & Rivara, 1989). One reason for this failure appears to be the lack of a complete conceptual framework for understanding and preventing this growing social problem. An extensive literature review reveals that, rather than recognizing the factorial complexity of the phenomenon, most approaches to understanding and preventing teenage pregnancy can be characterized as either reductionistic models stressing a single underlying explanation or developmental models emphasizing a normal adolescent maturational process (Schinke & Gilchrist, 1977). The reductionistic approach explains teenage pregnancy as resulting from one problem condition or factor that leads to a single, straightforward assumption: Given easy, low-cost access to sex and contraceptive education and services, adolescents will be informed, responsible, and self-regulating in avoiding unplanned pregnancies. Prevention, as emphasized in traditional sex education, attempts to change attitudes by exposing adolescents to the unattractive consequences of their behaviors. This so-called scare tactic approach has not been effective in preventing teenage pregnancies (Dryfoos, 1983; Gilchrist, Schinke, & Blythe, 1979).

The search for a pathology that underlies teenage sexual activities has directed many efforts and has guided many of the reductionistic prevention programs. Researchers have looked for personality correlates of adolescents' vulnerability to having intercourse (Goldfarb et al., 1977), pregnancy risk (Rosen & Ager, 1981), and decision making about childbearing (Perlman, Klerman, & Kinard, 1981). Research has uncovered little reason to suspect that adolescents' sexual behavior is pathological (Gilchrist, 1981; Gilchrist & Schinke, 1983; Litt, Cuskey, & Rudd, 1980; Olson, 1980; Schinke, 1979). Nevertheless, a host of social service programs for teenagers has been based on the pathological orientation. Unfortunately, pathologically oriented sex education programs have had little or no effect on adolescents' sexual behavior (Kirby, 1980; Reid, 1982; Zelnik & Kim, 1982).

The developmentalists, in contrast, have strongly stressed the complexity of multiple interactional factors that influence adolescents' behavior (Jones & Bonte, 1990). They suggest that situational, social, interpersonal, and maturational factors may interact to lead adolescents into premarital sexual activities and can be factors that prevent adolescents from effectively applying their contraceptive knowledge and understanding (Cvetkovich & Grote, 1980; Sandberg & Jacobs, 1971). Cvetkovich and Grote (1980) further suggest that female adolescents may be placed at pregnancy risk "not by any form of pathology, moral or otherwise, but, by a unique convergence of factors which are 'normal' to the lives of many" (p. 2). Adolescence is a period of growth that demands mastery of critical developmental tasks, two of which are learning sexual functioning (Wagner, 1970) and the relational nature of sexual activities (McAlister, Perry, & Maccoby, 1979). Often times

it is seen a deviant for a female to act upon her sexual desires due to the sexist constructions of society. To construct sexual desire as a normative feature of female adolescence, then, is to challenge psychology's covert but persistent collusion with a culture that alternately denies and denigrates girls' sexual feelings (Tolman, 2000, p. 70). McAlister et al. (1979) suggest that if prevention efforts are to be effective, their developers must consider factors that include the interpersonal aspects of risk taking, the social significance of many problem behaviors, and the role of peer pressure. In the Cvetkovich and Grote study (1980), females reported they became sexually active because they could not say no, because they wanted to please and satisfy their boyfriends, or because it seemed as though sexual activity was expected of them.

Current Prevention Strategies

Prevention programs may be classified into three general groups: sex education and information, contraceptive services, and the broadening of life options such as general education and employment during pregnancy and after childbirth (Dryfoos, 1983). Sex education is considered the primary prevention strategy of teenage pregnancy. In 1989, every state had a policy supporting HIV education, and two-thirds of states had policies supporting sexuality education. However, in 1990, a conservative backlash began that resulted in legal battles over sexuality education in more than 500 communities (Haffner, 1997). This resulted in the collision of whether there should be sexuality education in schools to what should be taught in such classes.

Sex education is one prevention strategy of teenage pregnancy that offers two major advantages: It can reach all young people before they become sexually active, and information can be provided to them at relatively low cost through the school, churches, and other delivery systems. In the past, sex education attempted to help adolescents understand the physical changes accompanying puberty, the biology of reproduction, and the responsibilities of family life. In an international study, researchers found that comprehensive sex education programs were significantly more successful in reducing teenage pregnancy when compared with no sex education and when compared with abstinence-only sex education programs. The comprehensive sex education programs were also more successful in reducing teenage sexual activity when compared to no sex education (Kohler et al., 2008).

Several studies aimed at HIV/AIDS prevention have incorporated skills-building elements with some notable successes. According to Auslander (1993), short-term, information-only interventions are ineffective in increasing HIV/AIDS-related knowledge and reducing high-risk activities. She suggests that, in addition to information, youth need to acquire skills to apply what they have learned when faced with situations that place them at risk. She states further that adolescents need to learn specific interpersonal skills to resist peer pressure to engage in unsafe sexual practices and take drugs, and they need skills to negotiate less risky activities with

friends of partners. Auslander reviews three studies that suggest that HIV/AIDS prevention programs based on a cognitive-behavioral framework hold some promise. In the first, Rotheram-Borus and coworkers (Rotheram-Borus & Koopman, 1991) focused on improving knowledge and coping skills through video and art workshops, information about community resources, and reduction of the number of individual barriers to safer sex. The frequency of engaging in high-risk patterns of sexual behavior decreased as the number of intervention sessions increased. In the second study, Jemmott, Jemmott, and Fong (1992) provided inner-city Black male youths with a 5-h program designed to increase knowledge of STDs, reduce unsafe attitudes, and encourage problem solving related to risky sexual behavior through role playing, videotapes, games, and exercises. Their intervention resulted in greater knowledge, less risky attitudes, and less inclination to engage in risky behavior. Moreover, at 3-month follow-up, the adolescents were engaging in fewer occasions of sexual intercourse, had fewer sexual partners, used condoms more frequently, and engaged in anal intercourse less often than the adolescents in the control condition. Finally, Auslander (1993) compared a skills-training format (role plays, practice, demonstrations) to a discussion-only format to reduce HIV risk among adolescents who engage in delinquent activities. They found that the discussion group format was equally as effective as the skills-training group in imparting knowledge, changing attitudes, and increasing interpersonal skills to cope with HIV-risk situations.

The skills-training format, however, was more effective in changing the youths' intentions to engage in HIV-risk behaviors.

Another study that was conducted was by Hogben and Byrne in 1988. A five-step behavioral process was identified that aimed at effective contraception. Cognitive elements are engaged in the first and second steps, which concern gathering and processing information about contraception and acknowledging the likelihood of engaging in sexual intercourse (Hogben & Byrne, 1998, p. 63). Social learning variables related to modeling, expectancies, and reinforcement (direct or vicarious) are brought into play during the third and fourth steps, respectively, obtaining the contraceptive and communicating with a partner about contraception (Hogben & Byrne, 1998, p. 63). The fifth step is correct use of the contraceptive. The whole step-by-step process could easily be modeled in a behavioral social learning framework.

Most Americans today believe that sex education should address the complex problems of human sexuality that teenagers face. But a few people still believe that sex education, particularly when it covers methods of contraception, actually increases teenagers' sexual activity, causes an upswing in unintended pregnancies, and undermines the family unit (Kenney & Orr, 1984). Consequently, sex education remains controversial, despite the enormous diversity of nationwide program offerings. Many parents and teenagers believe, however, that sex education plays an important role in the prevention of unwanted teenage pregnancies (Bachman, Johnston, & O'Malley, 1980; Gallup Opinion Index, 1978).

There are some conflicting roles on whom, and how, is the appropriate individual to inform our adolescents of sexual behavior/information. From the former we know that adolescents are putting themselves at risk for HIV, pregnancy, and

sexually transmitted diseases (STDs). We also know that the age that this occurs is getting younger and younger. Deciding on what messages to give students has proved to be a cause of conflict and polarization in many communities (Rea-Holloway, Blinn-Pike, & Berger, 2000, p. 246). These confusing messages range widely: Remain abstinent until emotionally and developmentally ready for sex; remain abstinent until marriage; remain abstinent, but be informed about contraception and disease prevention; and use that information to effectively protect against disease and unwanted pregnancy (Rea-Holloway et al., 2000, p. 246). The ascendant popularity of abstinence in sexuality education is closely linked to the discoveries of the alarming rates of unwanted pregnancy and STD transmission among adolescents (Bay-Cheng, 2001, p. 242). Resulting from this, in 1996 the federal government earmarked $50 million per year to support school-based abstinence curricula as part of welfare reform (Haskins & Bevan, 1997).

Another recent surge in funding for abstinence-only sex education demonstrates that this issue is an ongoing political controversy that will likely continue to change with the political climate (Dailard, 2006). However, the data shows that abstinence-only sex education programs were significantly less successful in reducing teenage pregnancy than were comprehensive sex education programs that taught teenagers about contraceptive use (Kohler et al., 2008). It has been shown that many teenagers who pledge to remain abstinent until marriage end up breaking their pledge and engaging in sexual activity before marriage, and the majority of those teenagers do not use contraceptives (Kohler et al., 2008).

Sex education rarely involves parents as primary sex educators of their children (McAnarney & Schreider, 1984). Research has revealed that fewer than 20% of parents tell their teenage children about intercourse, discuss birth control, or provide them with sex education literature (Schinke & Gilchrist, 1984). McAnarney and Schreider (1984) suggest several reasons for this: (a) Parents may not have adequate information to share, (b) parents may not know how to educate their child about sexuality, (c) parents may be uncomfortable with the subject, and (d) adolescents may be uncomfortable when parents assume the roles of sex educators, especially no discussion of the subject has occurred before puberty. Parents need to be prepared for their roles as sex educators before their children reach teenage years. Thus, an effective prevention program will include a parental component.

Very few sex education programs have been systematically evaluated (Kirby, 1985). With the exception of the aforementioned follow-up study by Jemmott et al. (1992), virtually no attempts have been made to conduct follow-up studies to ascertain the long-term effects of sex education on adolescents' knowledge, attitudes, and behavior. Evaluative studies of sex education have concluded that there was no evidence to support the belief that sex education would increase or decrease the sexual activities of teenagers (Kirby, Alter, & Scales, 1979; Stout & Rivara, 1989) or to support the claim that the decision to engage in sexual activities is influenced by sex education in school. However, females who are sexually active and had sex education that covered contraceptive methods appeared somewhat more likely to use contraceptives the first time they engaged in sexual intercourse. They also experience fewer pregnancies than sexually active females who did not have formal sex

education (Zelnik & Kim, 1982). A need element of evaluative research of sex education programs is the study of long-term retention of knowledge.

The Comprehensive Parent, Peers, and School Prevention Model

Acknowledgment of a problem is the first step toward its resolution. Substantial research has been devoted to teenage pregnancy. Individuals who are associated with adolescents can demonstrate their concern about combating the problem of teenage pregnancy by developing prevention programs aimed at three groups: adolescents, parents, and schoolteachers and counselors. Another population of educators that should be introduced is physicians. So often it is forgotten that physicians represent an important member in schools or the family. In addition to meeting the health needs of students, faculty, and staff, they reinforce and provide credibility to health promotion messages (Taskforce of Pediatric AIDS, 1993, pp. 626–630). The combination of one-on-one interaction, and the confidentiality of the physician/patient relationship, can encourage frank and honest discussions (Taskforce of Pediatric AIDS, 1993, pp. 626–630). Physicians play an important role in reducing adolescents' sexual risks.

For effective pregnancy prevention training, information input and behavior change output must be considered. More important, training must address influential intervening variables, that is, cognitive and moral processed mediating the understanding and use of information in decision making. Thus, a comprehensive education program that gives teenagers, parents, and schoolteachers and counselors accurate sex education through a curriculum that is attractive, through social skills training in terms of assertiveness and problem solving, and through practice in applying this information in at-risk situations is needed.

In 1988, the Memphis City Schools developed and implemented the Family Life Curriculum, a knowledge- and skills-based sexuality education program designed for students from kindergarten through 12th grade with the stated purpose of reducing the high adolescent pregnancy rate (Oliver, Leeming, & Dwyer, 1998, pp. 143–147). This initiative was adopted in anticipation of the passage of a 1989 Tennessee state law mandating school-based sex education in counties with adolescent pregnancy rates exceeding 19.5 pregnancies per 1000 young women aged 15–17 (Oliver et al., 1998, pp. 143–147). After 5 years, the program was re-evaluated and it was found that the curriculum was only sporadically implemented. Thus, the program's effectiveness in reducing teenage pregnancy could not be properly assessed.

Notwithstanding, the report also called attention to the absence in the program of any initiatives to encourage parents' involvement with their children's sexuality education. While many school-based programs lack such a component, a small body of recent research suggests that the promotion of parental involvement may be an important component of school-based sexuality-education programs (Oliver et al., 1998, pp. 143–147). Therefore, the overall recommendation is that parents should engage in the sex education of their children.

More recent data shows that in 2006, US high schools were teaching curriculum related to issues of teenage sexuality, pregnancy, and STIs. The research shows that 76% of schools discussed the various risks related to teenage pregnancy, 58% taught a number of methods of contraceptive use, 38% specifically taught correct condom use, 87% taught abstinence as the most effective (but not the only) method to avoid pregnancy and STIs, 56% provided pregnancy prevention services, and 5% provided condoms at the school (Center for Disease Control, 2012).

Timing, Context, and Content

Research has indicated that if adolescents are to adopt the idea of pregnancy prevention, then sex education must be an integral part of their personal development and must begin before or during puberty (McAnarney & Schreider, 1984; Thornburg, 1981). In practice, most sex education curricula and programs have occurred too late in the developmental cycle (Blythe, Gilchrist, & Schinke, 1981; Gilchrist et al., 1979; Gilchrist & Schinke, 1983; Schinke, 1982; Schinke, Blythe, Gilchrist, & Burt, 1981). Auslander (1993) suggests that it is imperative that prevention programs address the social environments and culture of the contexts in which adolescents interact. This involves educating the staff, the foster parents, the biological parents, and all institutions in which adolescents will reside. She states further that, to maintain attitudinal and behavior change over time, realistic and culturally specific prevention practices need to be consistently reinforced among youth within their social environment. Coie et al. (1993, p. 1019) state that "the public schools offer a logical setting for broad-scale prevention interventions because 9 of 10 children in our society are found there." Moreover, they suggest that schools provide the greatest access to children who may be reliably identified as being at risk, while at the same time providing access to those who might be overlooked in the risk assessment protocols. DiClemente (1993) adds that "the school is only institution regularly attended by most young people, and virtually all youth attend schools before they initiate the behaviors that may place them at risk." The introduction of sex education prevention programs at the middle school level would be appropriate. This follows the suggestion by Doty and King (1985) that to have an impact on adolescent pregnancy rates and to circumvent our traditional practices of providing "too little, too late," sex education programs must begin to span preadolescence, early adolescence, and adolescence. Programs could be incorporated into health education courses or group discussions within local youth organizations associated with churches, as well as through other formal and informal community organizations (Doty & King, 1985).

Auslander (1993) reminds us that there is no one strategy that will be effective with all individuals. Rather, different strategies should be developed in response to the unique characteristics of the target population. She suggests that early prevention programs for youths who are not yet sexually active might be designed differently than those for youths who are sexually active, and interventions needed within schools would be different from those delivered in clinics.

Although it is often said that sex education programs should be values-free, Scales (1983) and McAnarney and Schreider (1984) have pointed out that sex education is not values-free. Each program and community, as well as the parents, will stress their beliefs, which are embodied in the program's goals (Scales, 1983). Therefore, the ideal program is grounded in a set of values. Students need not agree initially with these values, but they should be clearly stated so that they can make decisions based on a known standard. The following values will be incorporated into the prototypic sex education program:

1. Being a teen parent is not a good idea; it brings with it social, emotional, educational, financial, and medical consequences.
2. No one should be pressured into a sexual act against his or her will or principles.
3. Postponement of sexual intercourse should be strongly encouraged until adolescents have at least completed high school.
4. The double standards for males and females, which still exist in our society, are not to be condoned.
5. Having unprotected intercourse is like skydiving without a parachute—it is political, social, emotional, and financial suicide (Scales, 1983).

Peers

Prevention programs should assist adolescents in identifying and examining peer pressure and in exploring ways to make individual, deliberate decisions, especially since peers have a significant impact on each other's behaviors. According to DiClemente (1993), the use of peer educators as behavior change agents is perhaps the most underutilized to be understood by their classmates. Thus, we posit that sex education should be offered through a peer group experience. The former is posited due to a Choice Program that was completed by the Peer Education Program of Advocates for Youth. The program consisted of peer to peer instruction and interaction. The topic was "Condoms as They Relate to Pregnancy and STD Prevention" (Evans, 1999, p. 32). Related games were played, role plays, and informative discussions were held. The conclusion was that the Choice program was successful in instruction because the adolescents were met on the same level (i.e., by members of their peers). Peer learning structures should create a learning situation in which the performance of each group member furthers the attainment of overall group goals. This increases individual members' support for group performance, strengthens performance under a variety of similar circumstances, and further enhances the attainment of group goals. Group reward structures capitalize on peer influence and peer reinforcement. These are considered to be some of the most potent variables in the acquisition, alteration, and maintenance of prosocial norms among youths (Buckholdt & Wodarski, 1978). Peer programs that foster a sense of self-worth, awareness of one's own feelings, and assertiveness will help adolescents learn to act in their own interests, with a stronger sense of control over their own lives. Moreover, a prevention program must be aimed at males as well as

females. Adolescent males are presently less aware of the risks of pregnancy, less informed about contraceptives, and less supportive of the use of contraceptives than are females, and they have the most to learn from a sex education program (Freeman, 1978).

Parent Component

Parents greatly influence their children's behavior. Next to those of peers, parental involvement and communication are most critical and should be strengthened to help adolescents become more responsible. Yoshikawa (1994) suggests that prevention interventions that combine comprehensive family support with early education may bring about long-term prevention through short-term protective effects on multiple risks. In a survey by Yankelovich, Skelly, and White (1979), 84% of the parings of teenagers said it was up to them to teach their children about sex-related topics, even though they supported sex education in public schools. Although parents want to be involved in educating their children about sex-related topics, they find it very difficult (Fox, 1980; Fox & Inazu, 1980). Parents need the skills to establish open communication with their children regarding sexual issues. The main thrust of the program with parents should be toward enhancing communication skills between parents and children, because lack of communication has been consistently shown to have an effect on teenage sexual activities (Cvetkovich & Grote, 1980; Fox & Inazu, 1980; McAnarney & Schreider, 1984). Focusing on increasing parents' skills in communicating, especially in the areas of values clarification and moral consciousness and the relational aspect of sexuality, as well as other sex-related topics, should be a major part of the program for the parental group of the prevention model. Parents, who are often less informed than their teenagers (Dryfoos, 1982a, 1982b), need to be involved in prevention programs in order to become more informed and comfortable with discussing sexual issues with their children. Parental involvement is a necessary element of any successful prevention model so that accurate and open communication, as well as the learning process, can be supported at home. Furthermore, fathers should be present with their sons and mothers with their daughters. Concluding, interactant communication styles (home, peer, professional, and multi-source) is a significant aspect that needs to be strengthened. It has been shown that adolescents who had interactant communication styles had greater birth control knowledge than those with a noninteractant learning style (Werner-Wilson, Fitzharris, & Morrissey, 2004, p. 63).

Summary

In order to alleviate the dilemma of teenagers having children, it is evident that the following points must be considered:

1. The timing of sex education is critical; sex education should occur in the middle school years.

2. Attractive curricula taught by qualified teachers are necessary.
3. Curricula should center particularly on gender roles, premarital sexual activity, contraception, abortion, AIDS, psychological issues (e.g., self-esteem and judgment), decision making, and problem solving. Moreover, curricula should include help-seeking strategies, life options, family relationships, and alternatives to pregnancy and parenting (Haslett, 1991; Herdt, 1989).
4. More research is needed on constitutional predisposition for risk taking and how such predisposition for risk taking and how such predispositions interact with the social contexts of adolescent development.
5. The incorporation of the peer group experience as a learning vehicle is necessary since peer norms influence sexual behavior (Benda & DiBlasio, 1991).
6. Sex education should involve the opportunity to practice appropriate behaviors for high-risk situations.
7. A final component of the comprehensive model should be the involvement of parents in the education of their children. One of the reasons that sex education has failed our youngsters is that educators have not employed enough foci to make it meaningful to them. The solution to the problem of pregnancy among teens requires an all-out effort by those societal forces capable of effecting change. Families, schools, peers, communities, businesses, and the media all possess powers to eradicate this social problem. The campaign cannot be waged from only one front, however; combined efforts are essential. The responsibility must be shared both for previous condoning of actions that have perpetuated the problem and for working toward mutual goals and solutions.

For better or worse, adolescence will occur as a vital aspect of human development. Although many parents, teachers, politicians, and adolescents themselves might prefer that sexuality were not involved in the process of moving from childhood to adulthood, it is. On a societal level, there is an obligation to provide safe passage for this transition (Tolman, Striepe, & Harmon, 2003, p. 4). How this happens depends on how adolescent sexual health is conceptualized. Conceptual models affect both the questions researchers ask and what society knows about adolescent sexuality (Tolman et al., 2003, p. 4).

References

American Medical Association. (1991). Adolescent health care: Use, costs and problems of access. In *Profiles of adolescent health* (Vol. 2). Chicago, IL: Author.

Armstrong, E., & Pascale, A. (1990). *Adolescent sexuality, pregnancy, and parenthood: The facts*. Washington, DC: Center for Population Options.

Armstrong, E., & Waszak, C. (1990). *Teenage pregnancy and too-early childbearing: Public costs, personal consequences*. Washington, DC: Center for Population Options.

Auslander, W. (1993). Challenges in HIV prevention among youth: Abuse survivors and participants in delinquent behavior. *Prevention Forum, 13*(4), 12–17.

Bachman, J. G., Johnston, L. D., & O'Malley, P. M. (1980). *Monitoring the future: Questionnaire responses from the nation's high school seniors, 1978*. Ann Arbor, MI: University of Michigan Institute for Social Research, Survey Research Center.

Barth, R. P., & Schinke, S. P. (1983). Coping with daily strain among pregnant and parenting adolescents. *Journal of Social Service Research, 7*(2), 51–63.
Bay-Cheng, L. Y. (2001). Sexed.com: Values and norms in web-based sexuality education. *Journal of Sex Research, 38*(3), 242.
Benda, B. B., & DiBlasio, F. A. (1991). Comparison of four theories of adolescent sexual exploration. *Deviant Behavior, 12*(3), 235–257.
Blythe, B. J., Gilchrist, L. D., & Schinke, S. P. (1981). Pregnancy-prevention groups for adolescents. *Social Work, 26*(6), 503–504.
Buckholdt, D., & Wodarski, J. S. (1978). The effects of different reinforcement systems on cooperative behavior exhibited by children in classroom contexts. *Journal of Research and Development in Education, 12*(1), 50–68.
Campbell, A. (1968). The role of family in the reduction of poverty. *Journal of Marriage and the Family, 30*(2), 236–246.
Carrol, W. (1989). *AIDS related claims survey: Claims paid in 1989*. Washington, DC: American Council of Life Insurance Association of America.
Center for Disease Control: National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. (2012, June). *HIV testing among adolescents: What schools and education agencies can do.*
Centers for Disease Control and Prevention. (1992). Publicly funded HIV counseling and testing. *Patient Education Counsel, 19*, 219–228.
Chilman, C. S. (1979). *Adolescent sexuality in a changing American society: Social and psychological perspectives*. Washington, DC: U.S. Government Printing Office.
Clark, J. K., Brey, R. A., & Banter, A. E. (2003). Physicians as educators in adolescent sexuality education. *Journal of School Health, 73*(10), 389.
Coie, J. D., Watt, N. F., West, S. G., Hawkins, G., & David, J. (1993). The science of prevention: A conceptual framework and some directions for a national research program. *American Psychologist, 48*(10), 1013–1022.
Cvetkovich, G., & Grote, B. (1980). Psychological development and the social problems of teenage illegitimacy. In C. Chilman (Ed.), *Adolescent pregnancy and childbearing: Findings from research* (pp. 15–41; NIH Publication No. 81-2077). Washington, DC: Department of Health and Human Services.
Dailard, C. (2006). Legislating again arousal: The growing divide between federal policy and the teenage sexual behavior. *Guttmacher Policy Review, 9*(3), 12–16.
DiClemente, R. J. (1993). Preventing HIV/AIDS among adolescents: Schools as agents of behavior change. *Journal of the American Medical Association, 279*(6), 760–762.
Doctors, S. R. (1985). Premarital pregnancy and childbirth in adolescence: A psychological overview. In Z. DeFries, R. C. Friedman, & R. Corn (Eds.), *Sexuality: New perspectives* (pp. 45–70). Westport, CT: Greenwood Press.
Doty, M. B., & King, M. (1985). Pregnancy prevention: A private agency's program in public schools. *Social Work in Education, 7*(2), 90–99.
Dryfoos, J. G. (1982a). Contraceptive use, pregnancy intentions and pregnancy outcomes among U.S. women. *Family Planning Perspectives, 14*(2), 81–94.
Dryfoos, J. G. (1982b). The epidemiology of adolescent pregnancy: Incidence, outcomes, and interventions. In I. Stuart & C. Wells (Eds.), *Pregnancy in adolescence: Needs, problems, and management* (pp. 27–47). New York, NY: Van Nostrand Reinhold.
Dryfoos, J. G. (1983). *Review of interventions in the field of prevention of adolescent pregnancy*. Preliminary report to the Rockefeller Foundation [Monograph].
Ehrhardt, A. A. (1996). Editorial: Our view of adolescent sexuality-a focus on risk behavior with the development context. *American Journal of Public Health, 86*(11), 1523–1525.
Evans, K. J. (1999). Speaking each other's language on sexuality. *Social Policy, 30*(1), 32.
Flick, L. H. (1986). Paths to adolescent parenthood: Implications for prevention. *Public Health Report, 101*(2), 132–147.
Foreman, J. (1991, June). Care costs may nearly double by 1994. *Boston Globe*, p. 12.

Fox, G. L. (1980). The mother-adolescent daughter relationship as a sexual, socialization structure: A research review. *Family Relations, 29*(1), 21–80.
Fox, G. L., & Inazu, J. K. (1980). Patterns and outcomes of mother-daughter communication about sexuality. *Journal of Social Issues, 36*(1), 7–29.
Freeman, E. (1978). Abortion: Subjective attitudes and feelings. *Family Planning Perspectives, 10*(3), 150–155.
Furstenberg, F., Brooks-Gunn, J., & Morgan, S. (1987). Adolescent mothers and their children in later life. *Family Planning Perspectives, 19*(4), 142–151.
Gallup Opinion Index. (1978). *Report #156* (p. 28). Princeton, NJ: American Institute of Public Opinion.
Gilchrist, L. D. (1981). Group procedures for helping adolescents cope with sex. *Behavioral Group Therapy, 3*(1), 3–8.
Gilchrist, L. D., & Schinke, S. P. (1983). Counseling with adolescents about their sexuality. In C. S. Chilman (Ed.), *Adolescent sexuality in a changing American society* (pp. 230–249). New York, NY: Wiley.
Gilchrist, L. D., Schinke, S. P., & Blythe, B. J. (1979). Primary prevention services for children and youth. *Children and Youth Services Review, 1*(4), 379–391.
Goldfarb, J. L., Mumford, D. M., Schum, D. A., Smith, P. E., Flowers, C., & Schum, C. (1977). An attempt to detect "pregnancy susceptibility" in indigent adolescent girls. *Journal of Youth and Adolescence, 6*(2), 127–143.
Guttmacher Institute. (1985, March 11). *Report on adolescent pregnancy*. New York, NY: Author.
Guttmacher Institute. (2012). *Facts on American teens' sources of information about sex*. New York, NY: Author.
Haffner, D. (1997). Some progress: Some problems. In *Family life matters*. New Brunswick, NJ: Network for Family Life Education, University of New Jersey.
Haskins, R., & Bevan, C. S. (1997). Abstinence education under welfare reform. *Children and Youth Services Review, 19*, 465–484.
Haslett, D. C. (1991). *Sex education curricula for young teens: Implications for social work* (Unpublished dissertation). University of Illinois at Chicago.
The Henry J. Kaiser Family Foundation. (2005). The HIV/AIDS Epidemic in the United States. *HIV/AIDS Policy Fact Sheet*, 1–2.
Herdt, G. (Ed.). (1989). *Gay and lesbian youth*. New York, NY: Haworth Press.
Hogben, M., & Byrne, D. (1998). Using social learning theory to explain individual differences in human sexuality. *Journal of Sex Research, 35*(1), 63.
Jemmott, J. B., Jemmott, L. S., & Fong, G. T. (1992). Reduction in HIV risk-associated sexual behaviors among black male adolescents: Effects of an AIDS prevention intervention. *American Journal of Public Health, 82*, 372–377.
Jones, M. E., & Bonte, C. (1990). Conceptualizing community interventions in social service needs of pregnant adolescents. *Journal of Pediatric Care, 4*(4), 193–201.
Katz, K. S., Rodan, M., Milligan, R., Tan, S., Courtney, L., Gantz, M., … Subramanian, S. (2011). Efficacy of a randomized cell phone-based counseling intervention in postponing subsequent pregnancy among teen mothers. *Maternal and Child Health Journal, 15*, S42–S53.
Kenney, A. M., & Orr, M. T. (1984). Sex education: An overview of current programs, policies, and research. *Phi Delta Kappan, 65*(7), 491–496.
Kirby, D. (1980). The effects of school sex education programs: A review of the literature. *Journal of School Health, 50*(10), 559–563.
Kirby, D. (1985). Sexuality education: A more realistic view of its effects. *Journal of School Health, 55*(10), 421–424.
Kirby, D., Alter, J., & Scales, P. (1979, July). *An analysis of U.S. sex education programs and evaluation methods* (DHEW Publication No. CD-2021-79-DKFR). Washington, DC: U.S. Department of Health, Education, and Welfare.

Kohler, P. K., Manhart, L. E., & Lafferty, W. E. (2008). Abstinence-only and comprehensive sex education and the initiation of sexual activity and teen pregnancy. *Journal of Adolescent Health, 42*, 344–351.

Litt, I. F., Cuskey, W. R., & Rudd, S. (1980). Identifying adolescents at risk for noncompliance with contraceptive therapy. *Journal of Pediatrics, 96*(4), 742–745.

Lockhart, L., & Wodarski, J. (1990). Teenage pregnancy: Implications for social work practice. *Family Therapy, 17*(1), 30–47.

Maticka-Tyndale, E. (1991). Sexual scripts and AIDS prevention: Variations in adherence to safer-sex guidelines by heterosexual adolescents. *Journal of Sex Research, 28*(1), 63.

McAlister, A. L., Perry, C., & Maccoby, N. (1979). Adolescent smoking: Onset and prevention. *Pediatrics, 63*, 650–658.

McAnarney, E. R. (1985). Adolescent pregnancy and childbearing: New data, new challenges. *Pediatrics, 75*(5), 973–975.

McAnarney, E. R., & Schreider, C. (1984). *Identifying social and psychological antecedents of adolescent pregnancy*. New York, NY: William T. Grant Foundation.

The National Campaign to Prevent Teen and Unplanned Pregnancy. (2011). *Counting it up: The public costs of teen childbearing: Key data*. Washington, DC: The National Campaign to Prevent Teen and Unplanned Pregnancy.

National Center for Health Statistics. (1990). *Health: United States, 1989* (DHHS Publication No. [PHS] 90-1232). Hyattsville, MD: Author.

Office of Management and Budget. (1990). *Budget of the United States Government; fiscal year 1991*. Washington, DC: U.S. Government Printing Office.

Oliver, D. P., Leeming, F. C., & Dwyer, W. O. (1998). Studying parental involvement in school-based sex education: Lessons learned. *Family Planning Perspectives, 30*(3), 143–144.

Olson, L. (1980). Social and psychological correlates of pregnancy resolution among adolescent women: A review. *American Journal of Orthopsychiatry, 50*(3), 432–445.

Over, M. (1999). Confronting AIDS: A global economic perspective. *AIDS Patient Care and STDs, 13*(4), 219–228.

Perlman, S. B., Klerman, L. V., & Kinard, E. M. (1981). The use of socioeconomic data to predict teenage birth rates: An exploratory study in Massachusetts. *Public Health Reports, 96*(4), 335–341.

Rea-Holloway, M., Blinn-Pike, L., & Berger, T. (2000). Conducting adolescent sexuality research in schools: Lessons learned. *Family Planning Perspectives, 32*(5), 246.

Reid, D. (1982). School sex education and the causes of unintended teenage pregnancies: A review. *Health Education Journal, 41*(1), 4–11.

Rosen, R. H., & Ager, J. W. (1981). Self-concept and contraception: Pre-contraception decision making. *Population and Environment, 4*(1), 11–23.

Rotheram-Borus, M. J. (1997). Annotation: HIV prevention challenges-realistic strategies and early detection programs. *American Journal of Public Health, 87*(4), 544–545.

Rotheram-Borus, M. J., & Koopman, C. (1991). Sexual risk behavior, AIDS knowledge, and beliefs about AIDS among runaways. *American Journal of Public Health, 81*, 208–210.

Sandberg, E. C., & Jacobs, R. I. (1971). Psychology of the misuse and rejection of contraception. *American Journal of Obstetrics and Gynecology, 110*(2), 227–242.

Santelli, J., Rosenblatt, L., & Birn, A. E. (1990). Estimates of public cost for teenage childbearing in Baltimore city in FY 1987. *Maryland Medical Journal, 39*(5), 459–464.

Santelli, J. S., Lindberg, L. D., Finer, L. B., & Singh, S. (2007). Explaining recent declines in adolescent pregnancy in the United States: The contribution of abstinence and improved contraceptive use. *American Journal of Public Health, 97*(1), 150–156.

Scales, P. (1983). Adolescent sexuality and education: Principles, approaches, and resources. In C. S. Chilman (Ed.), *Adolescent sexuality in a changing American society* (pp. 207–229). New York, NY: Wiley.

Schinke, S. P. (1978). Teenage pregnancy: The need for multiple casework services. *Social Casework, 59*(7), 406–410.

Schinke, S. P. (1979). Research on adolescent health: Social work implications. In W. T. Hall & C. Y. Yong (Eds.), *Health and social needs of the adolescent: Professional responsibilities* (pp. 320–351). Pittsburgh, PA: University of Pittsburgh Graduate School of Public Health.

Schinke, S. P. (1982). School-based model for preventing teenage pregnancy. *Social Work in Education, 4*(2), 34–42.

Schinke, S. P. (1997). Preventing teenage pregnancy: Translating research knowledge. *Journal of Human Behavior in the Social Environment, 1*(1), 53–66.

Schinke, S. P., Blythe, B. J., Gilchrist, L. D., & Burt, G. A. (1981). Primary prevention of adolescent pregnancy. *Social Work with Groups, 4*(2), 121–135.

Schinke, S. P., & Gilchrist, L. D. (1977). Adolescent pregnancy: An interpersonal skill training approach to prevention. *Social Work in Health Care, 3*(2), 159–167.

Schinke, S. P., & Gilchrist, L. D. (1984). *Life skills counseling with adolescents*. Baltimore, MD: University Park Press.

Seha, A., Klepp, K., & Ndeki, S. (1994). Scale reliability and construct validity: A pilot study among primary school children in Northern Tanzania. *AIDS Education and Prevention, 6*(6), 524–534.

Story, M. (1987). Nutrition issues and adolescent pregnancy. *Contemporary nutrition, 12*(1), 1–2.

Stout, J. W., & Rivara, F. P. (1989). School and sex education: Does it work? *Pediatrics, 83*(3), 375–379.

Taskforce of Pediatric AIDS. (1993). Adolescents and human immunodeficiency virus infection: The role of the pediatrician in prevention and intervention. *Pediatrics, 92*(5), 626–630.

Thornburg, H. D. (1981). The amount of sex information learning obtained during early adolescence. *Journal of Early Adolescence, 1*(3), 171–183.

Tolman, D. L. (2000). Object lessons: Romance, violation, and female adolescent sexual desire. *Journal of Sex Education and Therapy, 25*(1), 70.

Tolman, D. L., Striepe, M. I., & Harmon, T. (2003). Gender matters: Constructing a model of adolescent sexual health. *Journal of Sex Research, 40*(1), 4.

U.S. General Accounting Office (1990). *Defense health care: Effects of AIDS in the military* (CAD/HRD-90-39). Washington, DC: Author.

Wagner, N. (1970). Adolescent sexual behavior. In E. Evans (Ed.), *Adolescents: Readings in behavior and development*. Hinsdale, IL: Dryden Press.

Werner-Wilson, R. J., Fitzharris, J. L., & Morrissey, K. M. (2004). Adolescent and parent perceptions of media influence on adolescent sexuality. *Adolescence, 39*(154), 63.

Winkenwerder, W., Kessler, A. R., & Stolec, R. M. (1989). Federal spending for illness caused by the human immunodeficiency virus. *New England Journal of Medicine, 320*(24), 1598–1603.

World Health Organization (1989). *Interview schedule for knowledge, attitudes, beliefs, and practices on AIDS of young people* (WHO/GPA/SBR). Geneva, Switzerland: Author.

Yankelovich, Skelly, and White, Inc. (1979). *The General Mills American family report, 1978-79.* Minneapolis, MN: General Mills.

Yoshikawa, H. (1994). Prevention as cumulative protection: Effects of early family support and education on chronic delinquency and its risks. *Psychological Bulletin, 115*(1), 28–54.

Zelnik, M., & Kim, Y. J. (1982). Sex education and its association with teenage sexual activity pregnancy, and contraceptive use. *Family Planning Perspectives, 14*(3), 117–126.