View metadata, citation and similar papers at core.ac.uk

brought to you by CORE

provided by DigitalCommons@University of Nebraska

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Faculty Publications, Department of Psychology | Psychology, Department of

September 1993

# Pregnancy Prevention in Early Adolescence: A Developmental Perspective

Lisa J. Crockett
*University of Nebraska-Lincoln*, ecrockett1@unl.edu

Joanne S. Chopak
*The Pennsylvania State University*

Follow this and additional works at: https://digitalcommons.unl.edu/psychfacpub

Part of the Psychiatry and Psychology Commons

Crockett, Lisa J. and Chopak, Joanne S., "Pregnancy Prevention in Early Adolescence: A Developmental Perspective" (1993). *Faculty Publications, Department of Psychology*. 248.
https://digitalcommons.unl.edu/psychfacpub/248

This Article is brought to you for free and open access by the Psychology, Department of at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Faculty Publications, Department of Psychology by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

Published in *Early Adolescence: Perspectives on Research, Policy, and Intervention.* Edited by Richard M. Lerner. Lawrence Erlbaum Associates Publishers: Hillsdale, NJ, & London, 1993. Pp. 315–333.

Copyright © 1993 Lawrence Erlbaum Associates, Inc. Used by permission.

# 18 Pregnancy Prevention in Early Adolescence: A Developmental Perspective

Lisa J. Crockett
Joanne S. Chopak
*The Pennsylvania State University*

Although there is widespread interest in preventing teenage pregnancy, few interventions have been directed toward young adolescents. In part this neglect is understandable because adolescents under age 15 account for only a small percentage of teenage pregnancies (Pittman & Adams, 1988). At the same time, the lack of attention to younger adolescents is unfortunate on several counts. First, an increasing number of young adolescents are at risk. Rates of sexual activity have been rising in this group (Hofferth, Kahn, & Baldwin, 1987) and, because young adolescents are typically not consistent or effective contraceptive users, an increasing number of girls are becoming pregnant. Between 1973 and 1987 the pregnancy rate among girls under age 15 increased 23%, from 14 to 17 per 1,000 (Henshaw, Kenney, Somberg, & Van Vort, 1989). In fact, this is the only group for whom pregnancy rates have not declined in recent years. Second, early adolescence represents an important window of opportunity for adolescent pregnancy prevention. During early adolescence, most young people become capable of reproduction and many become sexually active. Thus, prevention efforts need to start by this age if they are to precede the biological and behavioral onset of pregnancy risk. Furthermore, skills and attitudes developed in early adolescence may have long-term benefits, reducing pregnancy risk throughout the teenage years.

Despite the probable benefits of pregnancy prevention in early adolescence, programming for this age group has been limited. Young adolescents receive less extensive sex education in the schools and have

less access to contraceptive services than do older adolescents (Hayes, 1987). The limited response reflects societal attitudes toward adolescent sexuality and the belief that frank discussion, detailed information, and access to contraceptives will encourage early intercourse. Public ambivalence thus creates special challenges to developing pregnancy prevention programs for young adolescents. Other challenges derive from the characteristics of young adolescents themselves. These youngsters are typically less knowledgeable, less experienced, and less cognitively sophisticated than older teenagers and adults. Moreover, because of differences in their rates of development, they are frequently at different stages of biological, cognitive, emotional, and social maturity. Finally, young adolescents come from diverse social, economic, and cultural circumstances; thus, they bring differing skills, values, and expectations to sexual and reproductive decision making.

Despite the formidable complexity of these issues, there is growing recognition of the need to create pregnancy prevention programs for young adolescents that are developmentally appropriate (Proctor, 1986) and tailored to the economic and cultural circumstances of the target population (e.g., Roesel, 1987). The multiple factors affecting early adolescent pregnancy are reviewed in a companion chapter (Crockett, chapter 6, this volume). In this chapter, we outline some of the developmental and contextual issues that need to be considered in designing programs for young adolescents, review some existing pregnancy prevention programs, and discuss strategies for reaching a younger audience. We suggest that young adolescents are a unique group with special programming needs.

## EARLY ADOLESCENT DEVELOPMENT

### Biological Development

At puberty, hormonal increases stimulate changes in physiology, leading to the development of reproductive capability (Petersen & Taylor, 1980). Most girls experience menarche between the ages of 11 and 15, with the average age being 12½ (Eveleth, 1986). Although early cycles are often irregular and infertile, pregnancy is biologically possible for many girls at age 13 or 14. Individual differences in the timing of puberty mean that some girls become fertile at younger ages than others and spend more of their teenage years biologically "at risk" for pregnancy.

Puberty also affects pregnancy risk through its influence on sexual

behavior. There is evidence that pubertal increases in particular hormones (androgens) are associated with increased sexual motivation and behavior in both boys and girls (Udry, Billy, Morris, Groff, & Raj, 1985; Udry, Talbert, & Morris, 1986). Hormonal changes may also affect sexual behavior indirectly through their impact on the development of secondary sex characteristics. As adolescents begin to look physically mature, they may experience more opportunity for sexual involvement and more pressure to engage in sex, because they are viewed as attractive sexual partners (Udry et al., 1986).

***Implications for Pregnancy Prevention.*** In early adolescence, girls' inexperience with their menstrual cycles, combined with the frequent irregularity of these cycles, may make them less likely to recognize their fertility and the risk of pregnancy associated with it. Thus, special measures need to be introduced to help girls assimilate the reality of their new reproductive capabilities. Program providers also need to recognize that the sexual interests and motivations of many young people are increasing during early adolescence. To be accepted as relevant, programs need to acknowledge adolescents' own interests, goals, and needs related to sexuality, even if these are not optimal from the perspective of adults. Programs must also consider the developing sexual attractiveness of adolescent girls. There is some evidence that older males are turning to younger girls whom they perceive to be cleaner, free of disease, and less demanding (Newcomer, personal communication, August 1, 1991). Given this situation, girls need to be equipped with the interpersonal skills and knowledge necessary to avoid unwanted sexual experiences. The high rates of nonvoluntary sexual activity among U.S. adolescents (Moore, Nord, & Peterson, 1989) attest to this need. Finally, early maturers may require earlier or more intensive intervention efforts than later maturers.

## Cognitive Development

Studies of cognitive development indicate that thinking becomes more sophisticated during adolescence (Keating, 1990). Young people become increasingly able to think hypothetically, understand abstract concepts, and apply a more extended time perspective. These advances should enable them to comprehend risks, reflect on their behavior, and consider the consequences of their actions, all of which should facilitate responsible sexual decision making. There is ample evidence, however, that young adolescents are not proficient in this domain. Relative to older adolescents, they are less competent in decision making and

problem solving generally (Weithorn & Campbell, 1982); they are also less likely to use birth control (Hayes, 1987). One reason may be that young adolescents who are just beginning to develop the ability to reason abstractly cannot do so consistently and continue to reason concretely in many situations. Thus, they are less able to generate alternatives, systematically evaluate the consequences of alternative courses of action, and estimate the likelihood of various outcomes, all of which are key features of wise decision making (Keating, 1990).

Even when young adolescents have developed the ability to reason abstractly, they may be unlikely to apply this reasoning in sexual situations. *Stressful topics and time-pressured decisions elicit less sophisticated reasoning from adolescents and adults alike (Keating, 1990),* and adolescent sexual decision making typically occurs in such a context. In addition, young adolescents' attitudes or beliefs may profoundly shape the decision-making process. Some may not recognize a sexual situation as one involving choice or may prefer not to acknowledge that they have a choice; thus, they fail to go through the decision-making process. Others may be influenced by community values regarding adolescent sexuality and contraception; their decisions may be rational given the cultural system in which they live, but still place them at risk. Finally, some youngsters lack knowledge about birth control methods, the risk of becoming pregnant, or the consequences of early childbearing, and, consequently, base their decisions on faulty information.

***Implications for Pregnancy Prevention.*** There is an obvious need to provide accurate information about pregnancy risk and contraceptive methods to young adolescents. Because abstract reasoning in sexual matters cannot be assumed, however, information about sex and contraception will need to be presented as concretely as possible, with the links between behavior and its consequences carefully and systematically articulated. Short-term consequences may be more salient to young adolescents than long-term ones that require an extended time perspective. In addition, sexual decision making should be modeled and rehearsed, so that adolescents become familiar with the issues they will have to confront in sexual situations and with possible courses of action. Finally, programs must consider young adolescents' beliefs concerning the costs and benefits of sex, contraception, and pregnancy as these are influenced by the norms and values of the communities in which they reside. Improved decision-making skills will only lead to responsible sexual behavior among those who are motivated to avoid unprotected intercourse and who have adequate resources and supports for doing so.

### Conceptions of Self

During adolescence, young people become concerned with discovering who they are. In early adolescence, they become more aware of their psychological and emotional characteristics, as well as their talents and values (Harter, 1990). Later in adolescence, young people confront the task of integrating these self-observations into a coherent sense of who they are and who they will be in the future (Erikson, 1968). Young adolescents engaged in learning about themselves need opportunities to uncover their talents, to develop competencies, and to take pride in their accomplishments. They also need to feel accepted and valued by others. Support from family and peers and competence in valued domains both contribute to adolescent self-esteem (Harter, 1990). Young adolescents may also be ready to begin thinking about what they want for themselves in the future.

***Implications for Pregnancy Prevention.*** To engage young adolescents, pregnancy prevention programs need to be sensitive to their interests in self-discovery and personal competence. Discussions can focus on young people's emerging sexual concerns, interests, and values. In addition, skills development and contraceptive use can be presented as dimensions of personal competence. It may also be possible to stimulate thinking about the future. Although young adolescents cannot be expected to have well-articulated career goals, they may be able to identify general hopes as well as outcomes they wish to avoid. The links between unprotected intercourse and blocked opportunities can then be made. In any case, the goal would be to link young adolescents' emerging sense of self to sexual behavior.

## CONTEXTUAL FACTORS

Young adolescents' development is intimately connected with the social world in which they are growing up: with their family, peers, school, and community, as well as the broader society. These contexts not only influence adolescent sexual behavior, thereby affecting pregnancy risk; they also define the setting in which prevention programs are to be developed and maintained.

### Family Relations

The family continues to be an important source of guidance and support throughout adolescence. Parents provide a set of values, models, and

expectations that guide current behavior and shape future goals. Furthermore, most adolescents report that they respect their parents and feel close to them (Offer, Ostrov, & Howard, 1981). Nonetheless, early adolescence is often a period of increasing tension and conflict with parents, as young people negotiate for greater autonomy and more power in the family (Montemayor, 1983). It is important to recognize that, despite such tensions, most adolescents continue to report positive relationships with their parents and to turn to them for advice and support (Steinberg, 1990). Thus, parents can continue to play an important guiding role through communication and through monitoring their children's behavior. Unfortunately, not all parents are successful at these tasks, and this failure affects girls' risk of pregnancy. Lack of monitoring, poor parent–child relationships, and living in a nonintact family increase girls' likelihood of early sexual activity. Poor parent–child communication is also associated with inconsistent use of contraceptives and with early pregnancy (Chilman, 1986).

***Implications for Pregnancy Prevention.*** The data on parent–child relationships suggest that parents can influence early adolescent sexual and reproductive behavior. Parental expectations for their children's achievement, parental monitoring practices, and parent–adolescent communication can be modified to buttress program messages about sex, contraception, and early pregnancy. Conversely, where parent values and practices conflict with these messages, the success of the program is jeopardized. Parents must be convinced that program goals are healthy for their children and do not undercut their own childrearing goals and values. Parents also need to recognize their powerful impact on their children and the crucial role they can play in pregnancy interventions. Parents thus need to be informed and encouraged to participate. They can be recruited to serve on community boards that advise the program developers; they may also become key players in the intervention itself.

## Peers

Peers can also exert a powerful influence on adolescent behavior. Although adolescents typically follow parents' values concerning long-term educational and occupational goals, they turn to peers for guidance in the day-to-day activities of being a teenager (Kandel & Lesser, 1972). Thus, peer norms can have important effects, and this may be particularly true in the areas of sexual and contraceptive behavior, where parents often fail to provide guidance and information. A high teen

pregnancy rate among peers in the neighborhood or at school, for example, gives the dual message that adolescents are sexually active and that early childbearing is not so deviant. Furthermore, the attitudes and behavior of an adolescent's circle of friends may be influential, especially for girls (Smith, Udry, & Morris, 1985). Finally, romantic partners can be a source of direct pressure to engage in sex.

The influence of peers may be particularly potent in early adolescence when conformity to peer opinion is higher than at any other time (Berndt, 1979). Young adolescents place a great deal of importance on belonging to a peer group and being accepted (Brown, 1989); they are thus especially susceptible to peer group pressure. Because they are relatively inexperienced in the teenage social role, young adolescents may rely heavily on peers as models of appropriate behavior. In addition, the capacity for intimate friendship emerges in early adolescence (Berndt, 1982), and these close, deeply valued relationships may be a powerful force in young people's lives.

***Implications for Pregnancy Prevention.*** In designing pregnancy prevention programs, the importance of peer influence needs to be taken into account. Messages that are not accepted by one's friends are unlikely to be heeded; thus, it may be necessary to intervene directly with peer attitudes or at least with young adolescents' perceptions of peer norms (e.g., Hansen, 1990). On the other hand, peers who promote responsible sexual behavior can be an enormous advantage. Older peer models may be extremely effective in encouraging attitudes and behavior associated with reduced pregnancy risk (Klepp, Halpern, & Perry, 1986).

It may also be possible to target young adolescents' susceptibility to peer influence. Peer resistance skills (e.g., Botvin & Tortu, 1988) can help young people identify and resist pressure to engage in unprotected intercourse. Sexuality can also be discussed as a behavior that requires "true autonomy"; that is, making decisions that are not overly influenced by either parents or peers. Training in decision-making skills may be helpful in facilitating the development of true autonomy.

### Community

The neighborhood or community in which family and peers are embedded may exert an additional influence. Communities are characterized by economic resources, ethnic mix, and shared norms and values, each of which may affect adolescent sexual and reproductive behavior. For example, early adolescent intercourse is more common among

Blacks than among Whites or Hispanics (Hayes, 1987). It is also more prevalent among adolescents of lower socioeconomic status (Chilman, 1986) and among adolescents residing in poor neighborhoods (Hogan & Kitigawa, 1985). Thus, the young adolescents at risk for pregnancy are disproportionately poor and from minority populations. Economic resources also influence the quality of schools, employment opportunities, and the array of adult role models to which adolescents are exposed, all of which can affect adolescents' perceptions of opportunities and expectations for the future (Ianni, 1989). In addition, community resources influence the alternative (nonsexual) activities and rewards currently available to adolescents, for example, extracurricular activities and youth groups. Finally, community norms may be important. A high prevalence of nonmarital childbearing and single-parent families may influence adolescents' perceptions of their normal, expectable life course. Expectations for the future may in turn affect current behavioral choices. A recent study found that neighborhood conditions (specifically, the prevalence of single mothers and the absence of middle-class neighbors) affected teenage childbearing even after family socioeconomic status was controlled (Brooks-Gunn, Duncan, Kato, & Sealand, 1991).

***Implications for Pregnancy Prevention.*** Community variables affect both pregnancy risk and the kinds of interventions that are likely to be acceptable. Some communities will tolerate the direct distribution of contraceptives to adolescents; others will be extremely resistant to such programs. Recruiting and maintaining community support is essential for success; thus, showing sensitivity to local values, establishing trust and rapport, and maintaining an ongoing relationship with community leaders and institutions are crucial (SEICUS, 1991).

## The Media

The media may also exert an important influence on adolescent sexual behavior. Television programs portray adolescent and young adult sexual relationships with virtually no mention of contraceptive use (although unwanted pregnancy is a common topic). Commercials, magazine advertisements, and MTV also exploit adolescent sexuality through images of young men and women in tight clothes, or in intimate settings. And teen magazines provide endless tales of adolescent love and romance. Although the impact of such images has not been well documented (Frith & Frith, chapter 24, this volume), an effect seems probable. Clearly, more research is needed on this topic.

***Implications for Pregnancy Prevention.*** The media portrayals of adolescent sexuality are likely to arouse young adolescents' interest and curiosity and may also affect their understanding of appropriate teenage behavior. One approach to minimizing the potency of such images is to demystify them by helping young adolescents to analyze the content of the messages and identify the techniques of persuasion employed. Alternatively, it may be possible to recruit the local media to include public service messages on preventing pregnancy (e.g., Vincent, Clearie, & Schluchter, 1987).

## PREGNANCY PREVENTION PROGRAMS

How might information on early adolescent development and social contexts inform pregnancy prevention efforts? Pregnancy prevention programs in the United States typically involve one or more of the following strategies: knowledge interventions, access to contraceptives, and enhancing life options (Dryfoos, 1990). A brief review of these strategies is provided, followed by recommendations on how programs could be modified in light of information on early adolescent development and social contexts.

### Knowledge Interventions

Knowledge-based programs are those designed to disseminate information on sexuality, reproduction, relationships, and contraception in an attempt to influence adolescents' sexual attitudes and behavior. These programs may be implemented by a variety of community organizations such as schools, churches, boys/girls clubs, and public health agencies (Hayes, 1987).

Most schools offer some form of sex education. By the early 1980s, roughly 75% of all school districts were providing some sex education. Most programs, however, are included in a general health education class and emphasize the basics: anatomy, physiology, pubertal development, and reproduction (Hayes, 1987). Junior high school programs tend to concentrate on puberty, reproduction, and dating, but not on contraceptive methods and family planning, whereas high school programs are more comprehensive. Evaluations of such programs indicate that they increase knowledge about reproduction, especially among younger adolescents. There is little evidence, however, that they affect sexual and contraceptive behavior (Kirby, 1984; Zelnik & Kim, 1982).

Sex education is also provided by some community-based programs

that label themselves as family life education programs. These programs not only offer the basics of sex education, they also emphasize roles and responsibilities in the family, social problems within the family, and career and financial planning. Many of these programs have been effective in increasing adolescents' knowledge, both about sexuality and about the consequences of their actions (Hayes, 1987).

### Access to Contraception

Contraceptive services are provided to adolescents through school-based clinics, health service organizations such as Planned Parenthood, public health clinics, and private physicians. Most adolescents prefer clinics because they are less expensive than private physicians and because they generally do not require parental consent before prescribing contraceptives, whereas many private physicians do (Hayes, 1987). In addition to contraceptives, many of these family planning clinics offer a wide range of services including testing and counseling for sexually transmitted diseases. School-based clinics operate as comprehensive ambulatory care facilities with many of the same attributes (low cost, convenient, comfortable, confidential) of other family planning agencies. In addition to reproductive health care, these clinics may offer athletic physicals, treatment for nonacute illnesses, laboratory and diagnostic screenings, immunizations, and other services. Preliminary evaluations of school-based clinics indicated that they were associated with decreased adolescent fertility, but the full evaluation has been less positive (Hyche-Williams & Waszak, 1990).

### Programs to Enhance Life Options

Life options enhancement programs are designed to increase adolescents' motivation to avoid early pregnancy. By improving decision-making skills, helping young people to set attainable future goals, improving school performance and the value placed on education, enhancing self-esteem, and providing positive role models, these programs seek to introduce alternatives to adolescent childbearing. Programs with these aims have been offered by youth-serving agencies (e.g., 4-H, Boys/Girls Clubs of America). No evaluations of the success of these programs in lowering fertility rates have been completed thus far (Dryfoos, 1990).

## Programs With Promise

Most adolescent pregnancy prevention programs are targeted toward teenagers aged 15 and older. Several programs, however, have included younger adolescents. One of the most successful pregnancy prevention programs has been the Self Program in Baltimore, Maryland (Zabin, Hirsch, Smith, Street, & Hardy, 1986a, 1986b). The preventive intervention took place over a 3-year period in one junior high school and one senior high school, with another junior high and senior high serving as control schools. Both treatment schools had an all-Black enrollment, with most students coming from low-income households. The program consisted of school-based sex education combined with access to contraceptive services and counseling. These additional services were offered at a clinic conveniently located between the two treatment schools.

Zabin and her colleagues reported that after almost 2 years' exposure to their program, pregnancy rates had decreased by 23 percentage points in the experimental schools as compared to an increase of 39 percentage points in the control schools. Smaller reductions were seen among the seventh and eighth grade girls than among the older girls, but this difference may be attributed to the smaller proportion of sexually active girls in the lower grades.

Another highly successful program was the School/Community Program for Sexual Risk Reduction Among Teens conducted in South Carolina (Vincent et al., 1987). The strategy in this program was to saturate the community with pregnancy prevention efforts designed to delay the initiation of first intercourse and to promote the consistent use of contraceptives. To accomplish these objectives, the program sought to improve decision-making skills, interpersonal communication, self-esteem, and knowledge about reproduction and contraception. Adults in the community were an important component of the program. Teachers, clergy, church leaders, and parents were included in training to improve their skills as parents and role models in the community. In addition, the local media were used to promote public service messages about preventing pregnancy.

After 4 years, the pregnancy rate among 14- to 17-year-olds in the experimental community was reduced from 61 to 25 (per 1,000), as compared to the control community which experienced an increase from 35 to 50 (per 1,000). Vincent et al. (1987) attributed the success of this program to the complete involvement of all levels of the community. The reduction in fertility, however, may also have been directly influenced by the school nurse who distributed condoms and took girls

to the local family planning clinic (Koo, personal communication, October, 1991).

A third program, Reducing the Risk, draws on social learning, social inoculation, and cognitive-behavioral theory and involves setting explicit norms against unprotected intercourse. Initial evaluation results (based on 13 California high schools) indicate that the school-based curriculum significantly increased knowledge about contraception, as well as parent–child communication about abstinence and contraception. Importantly, the curriculum was also associated with significant reductions in initiation of intercourse and in the rate of unprotected intercourse among those who had not initiated intercourse prior to the start of the program (Kirby, Barth, Leland, & Fetro, 1991).

These findings suggest that early adolescent sexual and contraceptive behavior can be influenced by preventive interventions that emphasize norm-setting, interpersonal skills, and access to contraceptives, in addition to knowledge. Enlisting elements of the social context (parents and other community figures and resources) appears to enhance program impact (Dryfoos, 1990).

## RECOMMENDATIONS FOR EARLY ADOLESCENT PROGRAMS

Pregnancy is the endpoint of a sequence of events that includes engaging in sexual intercourse and failure to practice effective contraception. Thus, prevention efforts may focus on reducing the frequency of intercourse (through delay or desistance) or on facilitating contraceptive use. Each of these behaviors involves both motivational and ability components (Dryfoos, 1990). Adolescents must have the desire to delay or reduce sexual intercourse or to use effective contraception; they must also have the information and skills needed to translate this desire into action, as well as access to effective contraceptives. Based on these considerations, pregnancy prevention programs need to include direct and honest information about sexuality; access to convenient, confidential, and low-cost family planning services; and options that enhance teenagers' motivation to delay premature pregnancy and childbearing (Haffner & Casey, 1986). When young adolescents are the focus, these tasks are complicated by their biological, cognitive, and social immaturity. Family and community norms, values, and resources introduce additional complexities. To be successful, prevention strategies need to be attentive to this constellation of issues. Our review leads to several specific recommendations for modifying current pregnancy prevention strategies to reach young adolescents.

## Improving Knowledge

In addition to the basic information on sexuality that is typically presented in sex education courses, young adolescents would benefit from more explicit information concerning contraception. Information should include instruction in effective contraceptive methods and how to obtain them, as well as instruction and practice in their appropriate use. For knowledge to be useful to young adolescents, all information regarding sex, contraception, and pregnancy should be presented as concretely as possible, with explicit links made to their personal experiences. As an aid to instruction, girls and boys could be encouraged to mentally rehearse the sequence of behaviors they will need to engage in prior to intercourse and should be given opportunities to role-play these behaviors. Of course, such programming will be controversial in many communities; thus, program development will need to include open discussion with parents and other community members and sensitivity to their concerns (SEICUS, 1991).

## Enhancing Ability

To improve young adolescents' ability to avoid pregnancy, access to effective contraceptives and instruction in their use is essential. In addition, attention needs to be given to helping boys and girls develop the cognitive and social skills they will need for responsible sexual behavior. Two key areas in which skills are necessary are decision-making ability and resistance to peer influence. Responsible decision making can be hampered by a lack of reflectiveness or an inability to generate alternative courses of action. To counteract these problems, young adolescents must learn to conceptualize sex as involving choice and responsibility. In addition, they need practice in reflecting on their behavior and considering its possible consequences (i.e., thinking before acting), along with practice in generating alternatives to unprotected intercourse. Programs for teaching effective decision making have shown success (Mann, Harmoni, Power, Beswick, & Ormond, 1988) and could be modified to address sexual decision making. Self-management training in which adolescents mentally reward themselves for stopping and thinking during emotionally charged situations (e.g., de Armas & Kelly, 1989) may also be useful, along with role-play of alternative courses of action.

Susceptibility to peer influence can be reduced through peer-resistance training. Adolescents can be taught to analyze peer pressure and to develop the communication and negotiation skills needed to

resist it (e.g., Botvin & Tortu, 1988). Practice through role-play is recommended. In addition, the situations in which sexual pressure or force is likely to occur should be discussed, along with strategies for avoiding such situations.

### Increasing Motivation

Knowledge and skills will only promote responsible sexual behavior among young adolescents who are motivated to use them. Such motivation requires that adolescents realize they are "at risk" and that pregnancy would bring negative consequences. Techniques like individual charting of the menstrual cycle could be used to increase girls' awareness of their fertility (Klaus, 1987). In addition, the links between current sexual behavior and possible consequences should be carefully elaborated, along with their implications for current activities and future educational and career opportunities. For example, adolescents could be encouraged to imagine what it would be like if they became pregnant or got someone pregnant: how their peers, parents, and teachers would react, and how the imagined reactions of these significant individuals would make them feel. They should then be encouraged to think about how pregnancy would affect their current lives. Short-term negative consequences such as physical changes (e.g., weight gain, stretch marks) and loss of leisure time could be discussed. Finally, negative effects on future opportunities could be introduced. Visual approaches such as videos and role-play might be used to stimulate thinking in these domains. To increase motivation to postpone or reduce intercourse, the risk of contracting sexually transmitted diseases could be discussed, along with possible hassles involved in maintaining a sexual relationship. The general goal of these discussions would be to portray sexual relationships realistically, including costs as well as benefits, and to emphasize the advantages of foregoing these relationships. Clearly, this strategy needs to be combined with other strategies: Interventions that only teach adolescents to "say no" have not been effective in reducing sexual behavior (Christopher & Roosa, 1990).

To ensure that girls and boys have future goals they want to protect, interventions to expand life options are needed (Dryfoos, 1990). Aspirations can be raised by linking young people to educational and occupational opportunities, by providing mentors, and by providing funding for postsecondary education. To realistically expand future opportunities, however, actual competencies that lead to better life chances need to be developed (Newcomer, 1987). For example, aca-

demic skills may need to be improved so that high aspirations become more realistic and education becomes a more rewarding activity.

Finally, motivation to delay or desist could be nurtured by providing other rewarding activities that meet young adolescents' needs for intimacy, peer acceptance, and self-enhancement. Involvement in school and in extracurricular or other organized activities meets needs for group belonging and a sense of personal achievement. Volunteer service has also been found to bolster self-worth and to reduce problem behaviors, although the effects appear to be greater for older adolescents (Allen, Philliber, & Hoggson, 1990). With regard to intimacy, it may be possible to help young adolescents develop alternative ways to express affection, feelings of closeness, and physical intimacy; for example, through petting and other noncoital behaviors. Such "functional equivalents" (Jessor, 1984) may be difficult to find in the case of an intrinsically rewarding activity such as sex, especially once it has been experienced. Nonetheless, some adolescents have had sex only once (Zelnick & Kantner, 1980), and others go for long periods between sexual relationships. Thus, encouraging desistance could prove to be a viable strategy in some cases.

Motivation to delay or desist as well as motivation to use contraception will be enhanced if there is peer support for these behaviors. As suggested earlier, peer leaders and models can be employed to promote the message that these behaviors are acceptable alternatives. Ideally, the attitudes of the larger peer group would be changed so that unprotected intercourse is viewed negatively, whereas decisions to postpone sex and to use contraceptives are seen as "adult" choices. The importance of avoiding early pregnancy could be reinforced by parents and by the media.

## CONCLUSIONS

The most successful programs will probably be those that simultaneously improve young adolescents' knowledge, ability, and motivation to avoid early pregnancy (Dryfoos, 1990). Fortunately, most of these strategies could be incorporated into currently existing programs and services. For example, more open discussions of sexuality and intimacy could be brought into the sex education curriculum in the junior high schools. More explicit information on contraceptive methods and alternatives to intercourse could also be included in the curriculum, although this would be controversial. Finally, both short- and long-term consequences of unprotected intercourse, including the links between family planning and career opportunities, could be concretely articulated, with

the role of choice being emphasized. Sexual decision making and peer-resistance skills could be practiced through role-playing. More generally, formal operational reasoning and decision-making skills could be developed in the broader curriculum, along with academic competence. The latter should boost adolescents' self-esteem and provide a basis for higher educational and occupational expectations. In addition, the school and community could provide alternative activities that are fun, enhance self-confidence, and involve peers. Together, these strategies should decrease the value placed on intercourse (especially unprotected intercourse) and equip youngsters with the skills necessary for responsible behavior.

The actual provision of contraceptives to sexually active young adolescents could be accomplished through conveniently located family planning centers or school-based health clinics. School-based clinics may be preferable because they are situated in or close to the school, provide a range of health services, and have staff familiar to the students. Community clinics located near schools also appear to be successful, however, and have the advantage of being able to hold informal discussions on sexual topics that might be considered too controversial for the school sex education curriculum.

Clearly, the needs of young adolescents will vary considerably from community to community. In middle-class suburban communities where first intercourse tends to occur relatively late, programming might emphasize postponing intercourse in service of future goals. These communities have the resources to provide good academic instruction, and a host of alternative (nonsexual) activities are typically in place. In some poor, inner-city, or rural populations, however, a different approach may be required. A larger proportion of young adolescents will be sexually active, necessitating inclusion of contraceptive services and education. Traditional classroom instructional techniques may not be successful for communicating the necessary information, and more innovative, flexible strategies such as the use of videos and drama may be required (e.g., Roesel, 1987). Finally, safe, alternative activities will need to be provided, along with programs to enhance motivation to avoid early pregnancy.

A basic challenge to mounting pregnancy prevention programs for young adolescents is recruiting community support for what may be a controversial effort. Some of the basic program strategies, such as providing information on contraception and access to effective contraceptive methods, require community approval. In addition, comprehensive, multidimensional programs may need to target both adolescents and aspects of their social environment, such as peers, parents, schools,

and local media. For these reasons, pregnancy prevention programs need to engage the community.

## REFERENCES


Allen, J. P., Philliber, S., & Hoggson, N. (1990). School-based prevention of teenage pregnancy and school dropout: Process evaluation of the National Replication of the Teen Outreach Program. *Journal of Community Psychology, 18,* 505–524.

Berndt, T. J. (1979). Developmental changes in conformity to peers and parents. *Developmental Psychology, 15,* 608–616.

Berndt, T. J. (1982). The features and effects of friendship in early adolescence. *Child Development, 53,* 1447–1460.

Botvin, G. J., & Tortu, S. (1988). Preventing adolescent substance abuse through life skills training. In R. Price, E. L. Gowen, R. P. Lorian, & J. Ramos-McKay (Eds.), *A casebook for practitioners* (pp. 98–110). Washington, DC: American Psychological Association.

Brooks-Gunn, J., Duncan, G. J., Kato, P., & Sealand, N. (1991). *Do neighborhoods influence child and adolescent development?* Unpublished manuscript.

Brown, B. B. (1989). The role of peer groups in adolescents' adjustment to secondary school. In T. J. Berndt & G. W. Ladd (Eds.), *Peer relationships in child development* (pp. 188–215). New York: Wiley.

Chilman, C. S. (1986). Some psychosocial aspects of adolescent sexual and contraceptive behaviors in changing American society. In J. B. Lancaster & B. A. Hamburg (Eds.), *School-age pregnancy and parenthood: Biosocial dimensions* (pp. 191–217). New York: Aldine de Gruyter.

Christopher, F. S., & Roosa, M. W. (1990). An evaluation of an adolescent pregnancy prevention program: Is "just say no" enough? *Family Relations,* 39, 68–72.

de Armas, A., & Kelly, J. A. (1989). Social relationships in adolescence: Skill development and training. In J. Worell & F. Danner (Eds.), *The adolescent as decision-maker: Applications to development and education* (pp. 84–109). San Diego: Academic Press.

Dryfoos, J. G. (1990). *Adolescents at risk: Prevalence and prevention.* New York: Oxford University Press.

Eveleth, P. B. (1986). Timing of menarche: Secular trend and population differences. In J. B. Lancaster & B. A. Hamburg (Eds.), *School-age pregnancy and parenthood: Biosocial dimensions* (pp. 31–52). New York: Aldine de Gruyter.

Erikson, E. (1968). *Identity: Youth and crisis.* New York: Norton.

Haffner, D., & Casey, S. (1986). Approaches to adolescent pregnancy prevention. *Seminars in Adolescent Medicine, 2*(3), 259–267.

Hansen, W. B. (1990). Theory and implementation of the social influence model of primary prevention. In K. H. Rey, C. L. Faegre, & P. Lowery (Eds.), *Prevention research findings: 1988.* Rockville, MD: Office for Substance Abuse Prevention.

Harter, S. (1990). Self and identity development. In S. Feldman & G. Elliot (Eds.), *At the threshold: The developing adolescent* (pp. 352–387). Cambridge: Harvard University Press.

Hayes, C. D. (Ed.). (1987). *Risking the future: Adolescent sexuality, pregnancy, and childbearing* (Vol. 1). Washington, DC: National Academy Press.

Henshaw, S. K., Kenney, A. M., Somberg, D., & Van Vort, J. (1989). *Teenage pregnancy in the United States: The scope of the problem and state responses.* New York: Alan Guttmacher Institute.

Hofferth, S. L., Kahn, J. R., & Baldwin, W. (1987). Premarital sexual activity among U.S. teenage women over the past three decades. *Family Planning Perspectives, 19*(2), 46–53.

Hogan, D. P., & Kitigawa, E. M. (1985). The impact of social status, family structure, and neighborhood on the fertility of black adolescents. *American Journal of Sociology, 90,* 825–855.

Hyche-Williams, J., & Waszak, C. S. (1990). *School-based clinics: 1990.* Washington, DC: Center for Population Options.

Ianni, F. A. J. (1989). *The search for structure: American youth today.* New York: Free Press.

Jessor, R. (1984). Adolescent development and behavioral health. In J. D. Matarazzo, S. M. Weiss, J. A. Heid, N. E. Miller, & S. M. Weiss (Eds.), *Behavioral health: A handbook of health enhancement and disease prevention.* New York: Wiley.

Kandel, D., & Lesser, G. (1972). *Youth in two worlds.* San Francisco: Jossey-Bass.

Keating, D. P. (1990). Adolescent thinking. In S. Feldman & G. Elliot (Eds.), *At the threshold: The developing adolescent* (pp. 54–89). Cambridge: Harvard University Press.

Kirby, D. (1984). *Sexuality education: An evaluation of programs and their effect.* Santa Cruz, CA: Network Publications.

Kirby, D., Barth, R. P., Leland, N., & Fetro, J. V. (1991). A norms and skills based sex education curriculum: Its impact upon sexual risk-taking behavior. *Family Planning Perspectives, 23,* 253–263.

Klaus, H. (1987). Fertility awareness/natural family planning for adolescents and their families: Report of a multisite pilot project. *International Journal of Adolescent Health, 3,* 103–119.

Klepp, K. I., Halpern, A., & Perry, C. L. (1986). The efficacy of peer leaders in drug abuse prevention. *Journal of School Health, 56*(9), 407–411.

Mann, L., Harmoni, R., Power, C., Beswick, G., & Ormond, C. (1988). Effectiveness of the GOFOR course in decision-making for high school students. *Journal of Behavioral Decision-Making, 1,* 159–168.

Montemayor, R. (1983). Parents and adolescents in conflict: All families some of the time and some families most of the time. *Journal of Early Adolescence, 3,* 83–103.

Moore, K. A., Nord, C. W., & Peterson, J. L. (1989). Nonvoluntary sexual activity among adolescents. *Family Planning Perspectives, 21,* 110–114.

Newcomer, S. (1987, Spring). Teen pregnancy: Not simply a result of adolescent ignorance. *Education Horizons,* 114–117.

Offer, D., Ostrov, E., & Howard, K. (1981). *The adolescent: A psychological self-portrait.* New York: Basic Books.

Petersen, A. C., & Taylor, B. (1980). The biological approach to adolescence: Biological change and psychological adaptation. In J. Adelson (Ed.), *Handbook of adolescent psychology* (pp. 115–155). New York: Wiley.

Pittman, K., & Adams, G. (1988). *Teenage pregnancy: An advocate's guide to the numbers.* Washington, DC: Children's Defense Fund.

Proctor, S. (1986). A developmental approach to pregnancy prevention with early adolescent females. *Journal of School Health, 56*(8), 313–316.

Roesel, R. (1987, Spring). Poor and at risk for pregnancy. *Educational Horizons,* 118–120.

SIECUS. (1991). *Winning the battle: Developing support for sexuality and HIV/AIDS education.* New York: Author.

Smith, E. A., Udry, J. R., & Morris, N. M. (1985). Pubertal development and friends: A

biosocial explanation of adolescent behavior. *Journal of Health and Social Behavior, 26,* 183–192.

Steinberg, L. (1990). Autonomy, conflict, and harmony in the family relationship. In S. Feldman & G. Elliot (Eds.), *At the threshold: The developing adolescent* (pp. 255–276). Cambridge, MA: Harvard University Press.

Udry, J. R., Billy, J. O. G., Morris, N. M., Groff, T. R., & Raj, M. H. (1985). Serum androgenic hormones motivate sexual behavior in boys. *Fertility and Sterility, 43*(1), 90–94.

Udry, J. R., Talbert, L., & Morris, N. M. (1986). Biosocial foundations for adolescent female sexuality. *Demography, 23*(2), 217–230.

Vincent, M. L., Clearie, A. F., Schluchter, M. D. (1987). Reducing adolescent pregnancy through school and community-based education. *Journal of the American Medical Association, 257*(24), 3382–3386.

Weithorn, L. A., & Campbell, S. B. (1982). The competency of children and adolescents to make informed treatment decisions. *Child Development, 53,* 1589–1598.

Zabin, L. S., Hirsch, M. B., Smith, E. A., Street, R., & Hardy, J. B. (1986a). Evaluation of a pregnancy prevention program for urban teenagers. *Family Planning Perspectives, 18*(3), 119–126.

Zabin, L. S., Hirsch, M. B., Smith, E. A., Street, R., & Hardy, J. B. (1986b). Adolescent pregnancy prevention program: A model for research and evaluation. *Journal of Adolescent Health Care, 7,* 77–87.

Zelnick, M., & Kantner, J. F. (1980). Sexual activity, contraceptive use, and pregnancy among metropolitan-area teenagers: 1971–1979. *Family Planning Perspectives, 12,* 230–237.

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